How to...
... create a bug-friendly pond

buglife

Why make a pond?

A garden pond can be brimming with wildlife! Many invertebrates rely on these freshwater habitats as a permanent home or a breeding place. They are also essential for breeding amphibians and provide a watering hole for a range of wildlife to drink and bathe. As ponds are being lost from our countryside or falling foul of pollution or mismanagement, garden ponds are increasingly important for wildlife. You don't need much space for a bug-friendly pond. If you don't already have a pond, why not make one? If you've already got one, **learn how to maintain it on page 3**.
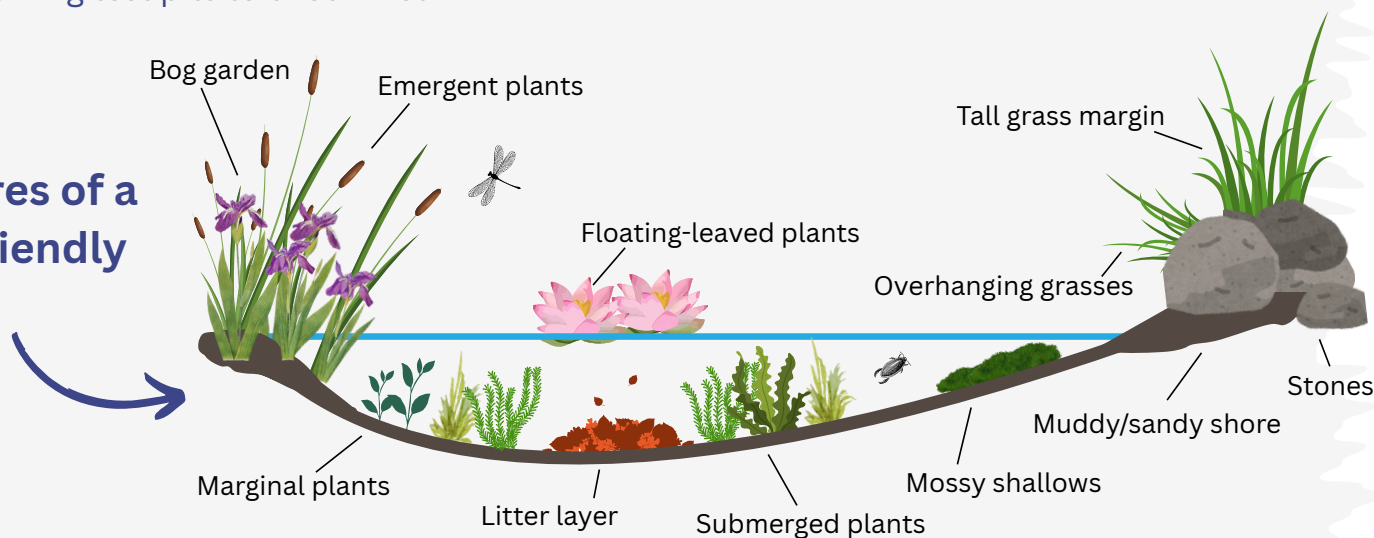
© Geek2Nurse

Choosing your pond

✓ **Container ponds** - an old sink, trough or garden planter can still be good for aquatic invertebrates as well as decorative. Ideal for limited space, balconies, decking or hard-standing.

✓ **Pre-formed ponds** - plastic ponds bought from aquatic shops and garden centres can be quick and easy to install, though may not be an ideal shape. Choose one with shelving at the sides.

✓ **Lined ponds** - a pond made yourself using a liner can provide all the features pond life needs.

✓ **Unlined ponds** - the most natural way. If your garden has water-holding soil you may not need a liner. Dig test pits to check first!

Features of a bug-friendly pond

Bog garden

Emergent plants

Floating-leaved plants

Tall grass margin

Overhanging grasses

Stones

Muddy/sandy shore

Marginal plants

Litter layer

Submerged plants

Mossy shallows

Creating your pond

## Before starting your pond be mindful of the three golden rules for wildlife ponds:

- Shallow is best - the pond need only be up to 30cm deep. This keeps the water oxygen-rich.

- Shelving or sloping - most aquatic life lives around the shoreline rather than in open water. Gentle-shelves or sloping edges provide ideal habitat for pond life.

- Fill with rain - let the pond fill naturally or fill it from a water butt. The chemistry of tap water isn't suitable for most aquatic life. Ideally, be ready with a full water butt.
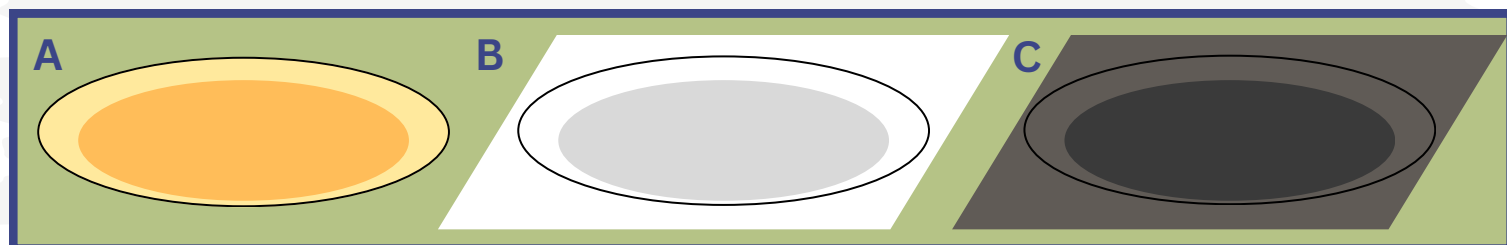
© Steven Falk
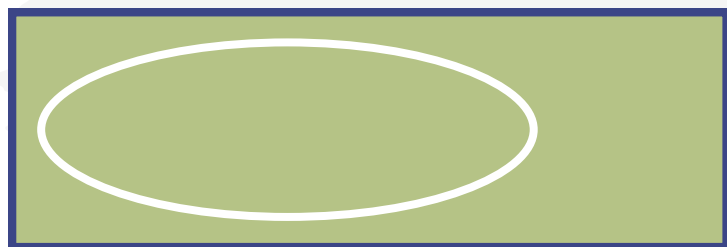
Step 1 – Siting
Choose a place that is less than 25% shaded with enough space to safely walk around it to maintain it. Mark out the pond area.
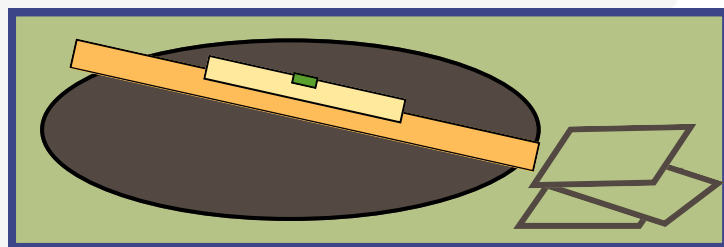
Step 2 – Digging
Remove turf and put some aside, then dig out a hollow. Use a spirit level and plank to check your pond is level. If not, shore up the low side with turves.
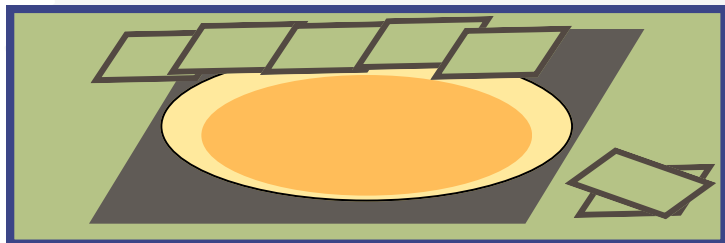
A   B   C

Step 3 – Lining
Remove stones, then line with A sand, B underlay, then C butyl liner. Covering the liner with more underlay will add extra protection and encourages rooting plants. See the pond calculator to work out how much underlay and liner you'll need. Skip this step for pre-formed and container ponds.
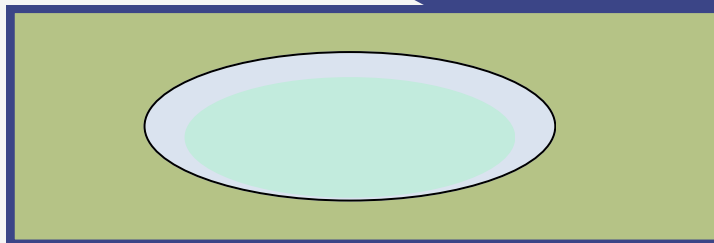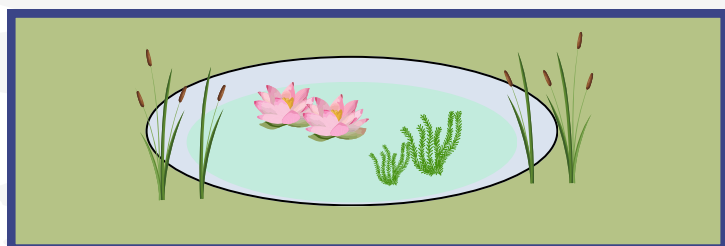
Step 4 – Bedding

Add a bed of children's play sand and/or washed fine gravel for planting. Replace turves along the edges for a natural look, but keep the soil above the water level.
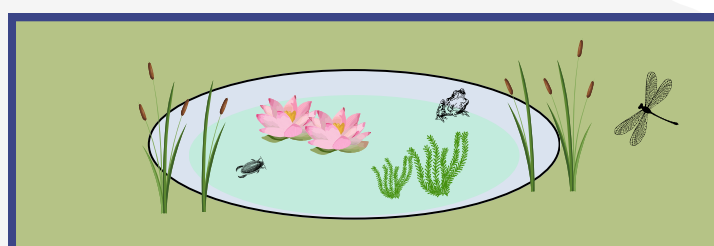

Step 5 – Filling

Let the pond fill with rain, or use a water butt with a hose attachment. The water will be murky at first and needs time to settle.

Step 6 – Planting

Add plants once the water is clear. You can keep them in their pots or wash the roots and plant them directly into the bed. Include a mixture of plant types as outlined on page 1.

Step 7 – Enjoy your pond!

Bugs will soon move into your pond. Watching pond life can be fascinating and relaxing. Why not go pond dipping! Submit records of what you find to iRecord.

Pond calculator

The **pond area** should be at least 5 times the depth

Width of liner = pond width + (2 x pond depth) + 60cm overlap

Length of liner = pond length + (2 x pond depth) + 60cm overlap

© SolStock

Black Darter (*Sympetrum danae*)
© Darren Bradley

Maintaining your pond

buglife

See our pond do's and don'ts to help you maintain a top-notch pond for bugs and other wildlife.

DO:

- ✓ Take care when choosing pond plants - Ideally choose native plants and avoid invasive species. See the Be Plant Wise page.

- ✓ Add submerged plants to provide more areas for underwater bugs to live in.

- ✓ Plant emergent vegetation, such as rushes at the edge of your pond - to provide extra habitat and a way out of the water.

- ✓ If you need to control algae and duckweed in your pond, skim it off with a net and compost it (or use barley straw for algae).

- ✓ Allow the water level to rise and fall with the seasons - this creates 'draw-down zones' along the banks which are important habitat for some flies and water beetles.

- ✓ Leave a little mess - dead plant material is recycled by hungry detritivores such as Water Hoglice (*Asellus aquaticus*) and freshwater shrimps.

DON'T:

- ✗ Add soil to your pond - this adds excess nutrients and clouds the water.

- ✗ Add fish to your pond - they gobble up invertebrates and tadpoles.

- ✗ Top up ponds with a hose - this can change the water chemistry which can impact on pond life.

- ✗ Crack the ice on your pond in winter - ice acts as an insulator, keeping the water temperature stable. Pond plants will provide enough oxygen.

- ✗ Spray pesticides or artificial fertilisers near your pond - these can run-off into the pond and poison pond life or cause algal blooms.

- ✗ Release anything from your pond into the wild. Many commercial pond plants are non-native and can grow from tiny fragments. See the Be Plant Wise page.

- ✗ Carry out any maintenance if you have protected species in your pond e.g. Great Crested Newts, without licensed supervision.

Further Information

Freshwater Habitats Trust - advice and resources:
freshwaterhabitats.org.uk/pond-clinic/

Be Plant Wise:
nonnativespecies.org/beplantwise/

Great Crested Newt
© MikeLane45

What's in my pond?

Invertebrates occupy different zones of the pond.

Many flying insects which live around the banks have aquatic young. In the pond ecosystem, diving beetles and dragonfly larvae are top predators; clams and microcrustaceans are filter feeders, helping keep the water clear; whilst many bottom-dwellers are decomposers, which help to break down organic debris.
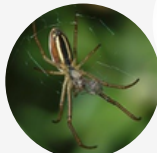
Banks, emergent plants and bog gardens
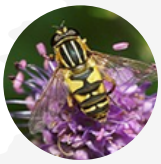
Tiger Hoverfly
(*Helophilus pendulus*)
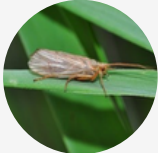
Caddisflies

Rat-tailed maggots

Long-jawed orb weavers

Wandering Snail
(*Peregriana peregra*)

Long-legged flies

Damselflies

Water surface

Water Springtails
(*Podura aquatica*)

Pirate spiders

Whirlygig Beetle
(*Gyrinus substriatus*)

Water Measurer
(*Hydrometra stagnorum*)
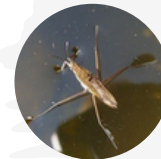
Pond Skater
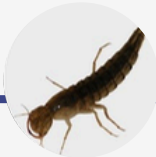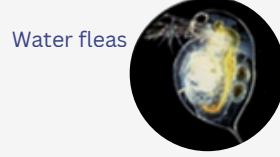(*Gerris lacustris*)

Backswimmers

Open water

Cyclops
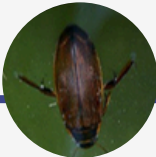
Diving beetles

Diving beetle larvae

Water fleas

Submerged plants

Water scavenging beetles
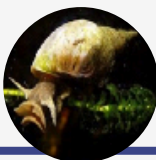
Mayfly nymphs

Water snails
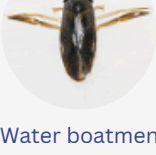
Damselfly nymphs

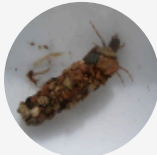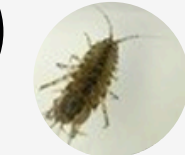Freshwater shrimps

Flatworms

Bed
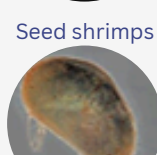
Dragonfly nymphs

Water boatmen

Caddisfly larvae

Pea mussels

Water Hoglouse
(*Asellus aquaticus*)

Seed shrimps