

Make a **big splash** for nature



A guide to creating wonderful mini-wetlands bringing wildlife to all kinds of outdoor spaces





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Why create a mini-wetland?

Wetlands can help us restore nature and boost biodiversity, protect communities from flooding and drought, clean our water, make us feel better and combat climate change. Here are six ways your mini-wetland can help.

We've lost lots of our small wetlands

50% of ponds were lost in the UK in the 20th century and we continue to lose more, filled in or paved over for development and agriculture. As urbanisation and intensive farming practices have increased, our life-giving network of wetland features has decreased. Creating mini-wetlands will help reverse this trend.

Wetland species are in trouble

The UK is one of the most nature depleted countries in Europe and one quarter of wetland plants and animals around the world are at risk of extinction. Mini-wetlands will tempt wildlife back and make your neighbourhood more biodiverse.

It can help create habitat corridors

Wildlife doesn't just need healthy habitats to live, they also have to be able to move around. Creating small wetlands adds little pockets of habitats that play a vital role in wildlife corridors.

It can help reduce flooding and protect against drought

Wetlands act as sponges, holding water on the land to help prevent flooding and increase drought resilience. In towns and cities, rain washes off buildings and straight into the drains, which can overwhelm drainage networks in times of heavy rainfall.




Diverting your water into a wetland directs the rainwater back into the ground, and reduces the demand on our drains and sewers. Mini-wetlands can provide drinking water for wildlife during water-stressed periods, and provide important stepping stone habitats for semi-aquatic species such as newts and frogs when other wetted areas have dried up, allowing temporary refuge in drought.

It can improve water quality

Wetlands help to clean our water and restore wildlife by filtering out pollutants.

They improve your wellbeing

Being around nature has been proven to slow your heart rate and relieve stress. And blue spaces like mini-wetlands have been shown to be especially soothing. In fact, just 10 minutes by a wetland is enough to boost your mood.



It's estimated
that we've lost

75%

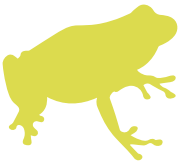
of our wetlands
in the UK

What kind of wetland can you make where you live?



We often think of ponds as big, complicated projects but all nature needs is a place that holds fresh water. Even the smallest wetland can attract frogs, birds and insects to where you live, allowing them to feed, drink, shelter and create new life.

Here are five types of mini-wetland you can create, with a project to suit every type of outdoor space and budget.



1. Barrel pond

Quick project
No digging required

If you have a balcony or area of hard standing, like a patio, you can make a mini-wetland environment in a wooden barrel, re-used old tub or old sink.

[See page 10](#)



2. Drainpipe rain-garden

Longer activity
No digging required

Got access to a drainpipe outside your home or in your community? You can make a drainpipe rain-garden with its very own floodplain.

[See page 12](#)



3. Tiny pond

Quick project

If you have access to a small area of ground to dig into, you can make a tiny pond from a spare container. It's a great project to make space for wetland wildlife, such as insects, frogs and all sorts of garden-visitors who need to drink or bathe.

[See page 16](#)



4. Bog garden

Longer activity

A bog garden is an area where moisture-loving plants and wildlife thrive, without any standing water. It's a great way to bring some colour and life to a small patch of garden.

[See page 18](#)



5. Wildlife pond

A day or two's project

If you have access to a larger diggable area, a wildlife pond will transform your garden into a magnet for all kinds of water-loving creatures.

[See page 20](#)





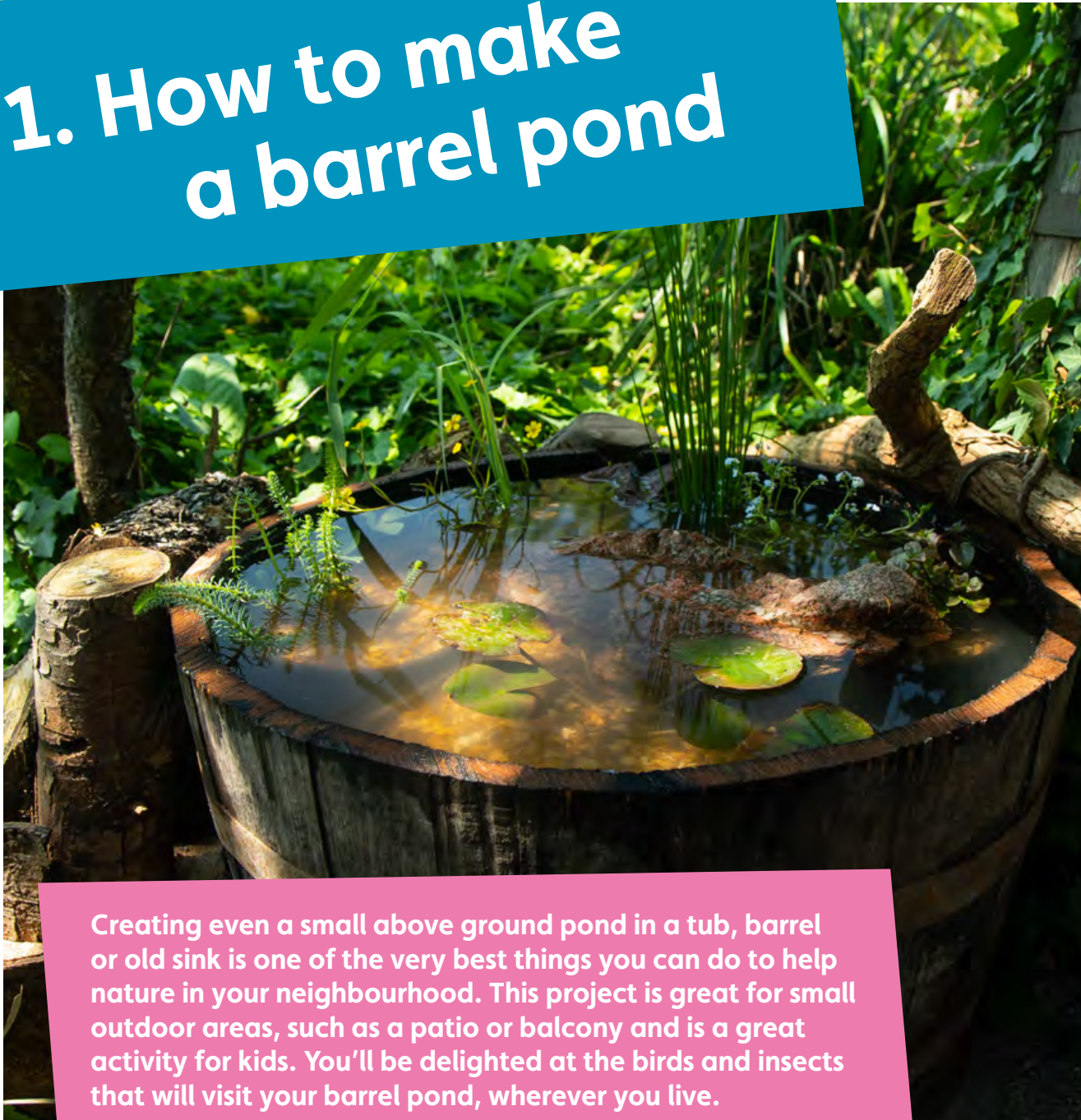
Choose your water wisely

For any mini-wetland you create, rainwater is best. Water straight from the tap contains chemicals, such as chlorine and nitrogen that encourages algae to grow. If you don't have a water butt, or a method of collecting rainwater, let the tap water stand for 48 hours before you use it, which lets the chlorine dissipate.





1. How to make a barrel pond



Creating even a small above ground pond in a tub, barrel or old sink is one of the very best things you can do to help nature in your neighbourhood. This project is great for small outdoor areas, such as a patio or balcony and is a great activity for kids. You'll be delighted at the birds and insects that will visit your barrel pond, wherever you live.

This project is...



Easy



Great for children and people experiencing limited mobility



Any hard surface, such as a balcony or patio



Quick activity
– under one hour to assemble



Insects, birds, aquatic plants and amphibians will love this wetland

What you'll need:

- A water-tight container, such as a wooden barrel (use a liner if there are holes), large plastic tub, or old sink
- Bricks or rocks
- Small stones or gravel
- Pebbles, rocks or sticks (for an escape route)
- Aquatic plants
- Rain water





Step one

Prepare your container

Place your water-tight tub where it will get plenty of light but where it isn't in direct sun all day. Put a layer of clean gravel or small stones in the bottom of the tub.

Step two

Create levels

Use pebbles, rocks or pieces of wood to make an escape route for any visiting creatures and also bricks to create levels for some of your plants to sit on (some like to be submerged and others thrive just near the surface).



Step three

Add your plants

A few aquatic plants will provide habitat and oxygenate the water for wildlife. You could choose frogbit (similar to a lily) to float on top and spiked milfoil (green and feathery) as a submerged plant.

See [pages 24-25](#) for more planting ideas.

Step four

Fill it with rainwater

Rainwater is best as it has fewer chemicals, so collect some in advance if you can.

See [page 8](#) for more information on water.

For more help, watch our [‘How to make a barrel pond’ video](#)

2. How to build a drainpipe rain-garden



Create a wetland with little or no garden space by turning a drainpipe into a multi-layer rain garden. It's fun to make and easy to maintain.

This project is...



A bit more work



Hard standing with access to a rainwater pipe that flows into a drain or across grass



A longer activity
– set aside two hours



Insects, birds, aquatic plants and amphibians will love this wetland

This wetland has three parts:

1. A gravel filter pot that keeps your pond free from debris, which drains into...
2. ...a rainwater-fed pond with aquatic plants, which drains into...
3. ...a mini floodplain, which releases the water slowly

You'll need to build it near a drain, or at the top of a slope into a garden.

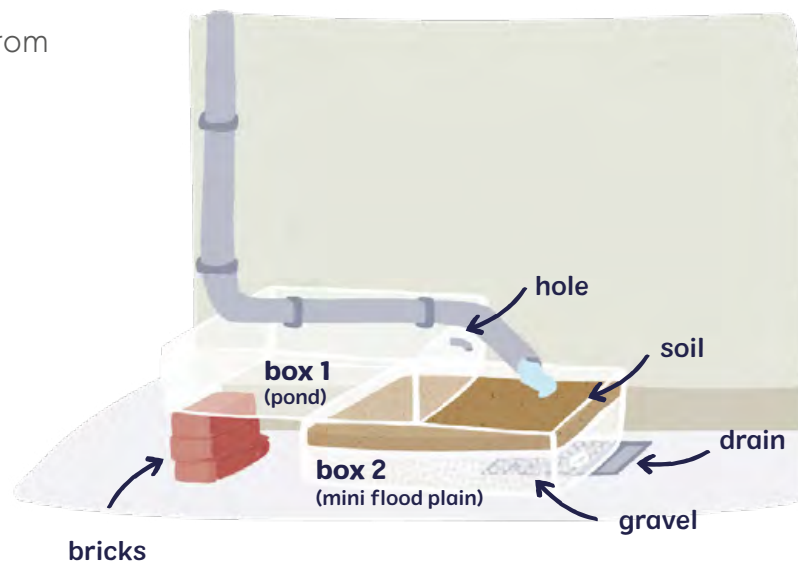
What you'll need:

- Two broad containers – this is a great way to reuse large plastic containers or tubs
- Poor soil (sandy or clay rather than fine topsoil) for the floodplain (box 2). Avoid any soil that may have been sprayed with herbicides or pesticides.
- Aquatic and water loving plants – keep back a couple of the pots they come in
- Peat-free aquatic soil for your plants
- Wood, stone, brick, mud or any material you can recycle to clad your mini-wetland
- A small cheap sheet of membrane (allowing water to pass through) from a garden centre
- Horticultural grit
- Gravel

Step one

Build your mini floodplain

Find your drainpipe and estimate the height of the outflow using the two stacked boxes. Cut a 3 to 4 cm hole in the bottom of **box 2** at one end and line the box with a permeable sheet (something that lets water pass through), then fill it with gravel or small stones. This will allow the water to drain away slowly but not completely. You can position the end with the hole over the drain or, better still, over an area where you can create a bog garden, which wetland wildlife will love. Then add some poor soil (sandy or clay) to the mini floodplain box for your plants to grow in.



Step two

Create your pond

Position **box 1** slightly on top of **box 2**, and prop it up with something – old bricks or logs are good. Make sure it's secured in place. Carefully cut a hole at the top of **box 1**, at the end where it overlaps with **box 2**, so that water can flow out into the mini floodplain.

Step three

Make your filter pot

Make holes in a recycled plant pot or use a mesh pot (your aquatic plants may come in one of these) and fill with gravel. Prop this under the drainpipe to filter the rainwater entering the pond box. Stack up the pond, floodplain and rainwater filter pot to see where you'll need to cut the drainpipe. (Don't do this til the very end).



More steps to follow...

Top tip

Peat-free aquatic soil (a heavy, dense version) won't disperse into the water or release too many nutrients into the pond that encourage algae to grow. A layer of horticultural grit on top will help to weigh the pond plants down.

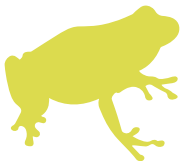
Step four

Plant the pond plants in box 1

For both boxes, consider what textures, colours and spread of plants you want. Repot them into larger mesh pots, so that they have space to grow but won't take over your rain garden.

For **box 1**, your pond, choose small, UK native pond plants that like the shallow water, such as yellow flag iris.

See [pages 24-25](#) for more planting ideas.



Step five

Plant your floodplain plants in box 2

For **box 2** (your mini floodplain), use plants that can cope with bursts of heavy water and dry spells, such as ferns. Plant the floodplain box plants directly into the soil with space to grow.



Step six

Clad your wetland

Secure **box 1** and **box 2** in place and surround them with bricks, stones, wood, mud, plants and other materials to give your wetland the look you want.



Step seven

Cut the drainpipe

When you're happy with the height and position, use a hacksaw to cut the drainpipe to the right height so it drains into the gravel filter pot. You may need to buy a replacement shoe (the spout) if you can't slide the old one off to reattach – these cost around £3.

Step eight


Wait for rain

Let the pond fill with rainwater rather than tap water. It may be cloudy at first but will clear.

See [page 8](#) for more information on water.

Top tip

Cut back the plants as per their instructions. For many plants this will be once a year at the end of the growing season.



You can build this mini-wetland in even the tiniest urban space, without any garden, creating your very own wetland reserve

For more help, watch our video on [‘How to build a mini drainpipe wetland’](#)

3. How to create a tiny pond

This tiny pond is suitable for any size of garden that you can dig. At ground-level you'll attract all kinds of water-loving creatures to your outdoor space, such as frogs and newts or thirsty hedgehogs.



This project is...

-  Quick and easy
-  Great to get children involved, with adult support
-  Only a tiny diggable area
-  Quick activity
– under 30 mins to assemble
-  Birds, frogs, bees and butterflies will love this wetland

What you'll need:

- A washing up bowl or wide garden dish (or any other similar sized watertight container)
- Small stones or gravel
- Pebbles, rocks or twigs (to act as stepping stones)
- Aquatic plants



Step one

Find the right spot

Your tiny pond should get plenty of light, but not be in direct sunlight all day. Avoid placing the pond under a tree, as it will fill up with leaves. Dig a hole just bigger than the container and lower in, filling in any gaps around the edges.

Step two



Make it safe for creatures

Put a layer of clean gravel or small stones in the bottom of the container. Put yourself in the place of a creature such as a frog that might live in the pond or a creature such as a hedgehog that might fall in. How will you get out? Make an escape route using pebbles, rocks or twigs.

Step three



Fill it with rainwater

Water from a water butt is ideal. Or you could let it fill up naturally from direct rainfall - this won't take much rain to fill

See page 8 for more information on water.

Top tip

Depending on where you live, you'll spot different wildlife using your mini-pond. You might see birds drinking from it on days when rain is scarce, or dragonflies laying eggs.



Step four

Add your plants

Add a few aquatic plants to your pond to oxygenate the water and provide shelter for wildlife. You could choose frogbit (similar to a lily) to float on top and spiked milfoil (green and feathery) as a submerged plant.

See pages 24-25 for more planting ideas.

For more help, watch our [‘How to make a tiny pond’ video](#)

4. How to create a bog garden

A bog garden is a fantastic alternative to a pond and safer for small children, too. Plus, if you've got a pesky part of your garden that always seems to collect water, this is a fantastic way to use that space – creating something more attractive that provides valuable wildlife habitat.



This project is...



A bit more work



Very safe wetland for children
– no standing water



A damp area of ground



A longer activity
– set aside a few hours



Dramatic damp loving plants
will love this wetland, as will
amphibians in winter

What you'll need:

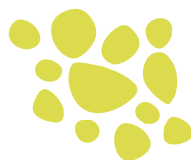
- A length of rope or hose
- Peat-free compost
- Garden grit or gravel
- A piece of pond liner (you can re-use old liner with holes)
- Damp-loving plants – see suggestions

Step one**Choose your spot**

Outline the area where you want your bog garden to go using rope or hose. Choose a location away from overhanging trees as you need as much sun as possible.

Step two**Dig and line your hole**

Dig a shallow hole 45-50cm deep. This will suit the roots of most damp-loving perennials. Then line with a pond liner that is slightly bigger than the space, pierce 2-3 times with a fork for drainage (if using an undamaged liner).

Step three**Add grit**

Add a three cm layer of grit or gravel. This will help prevent the soil from blocking the drainage holes.

Step four**Return the soil**

Put the soil back in the hole, trim back the liner and mix in just a small amount of compost. Too many nutrients will make the fast-growing plants of your bog garden hard to control.

**Step five****Plant it up**

Plant up your garden and keep watering the plants until established, if they are drying out (if not, just leave them be). Leave the area to get naturally waterlogged over winter.

Choosing the right plants

The moisture-loving plants of the bog are colourful and dramatic. Many grow big and tall and can make a real statement in your garden. Create contrasts with a variety of uprights, foliage, bold, broad-leaved plants and filigree ferns. Here are some examples:

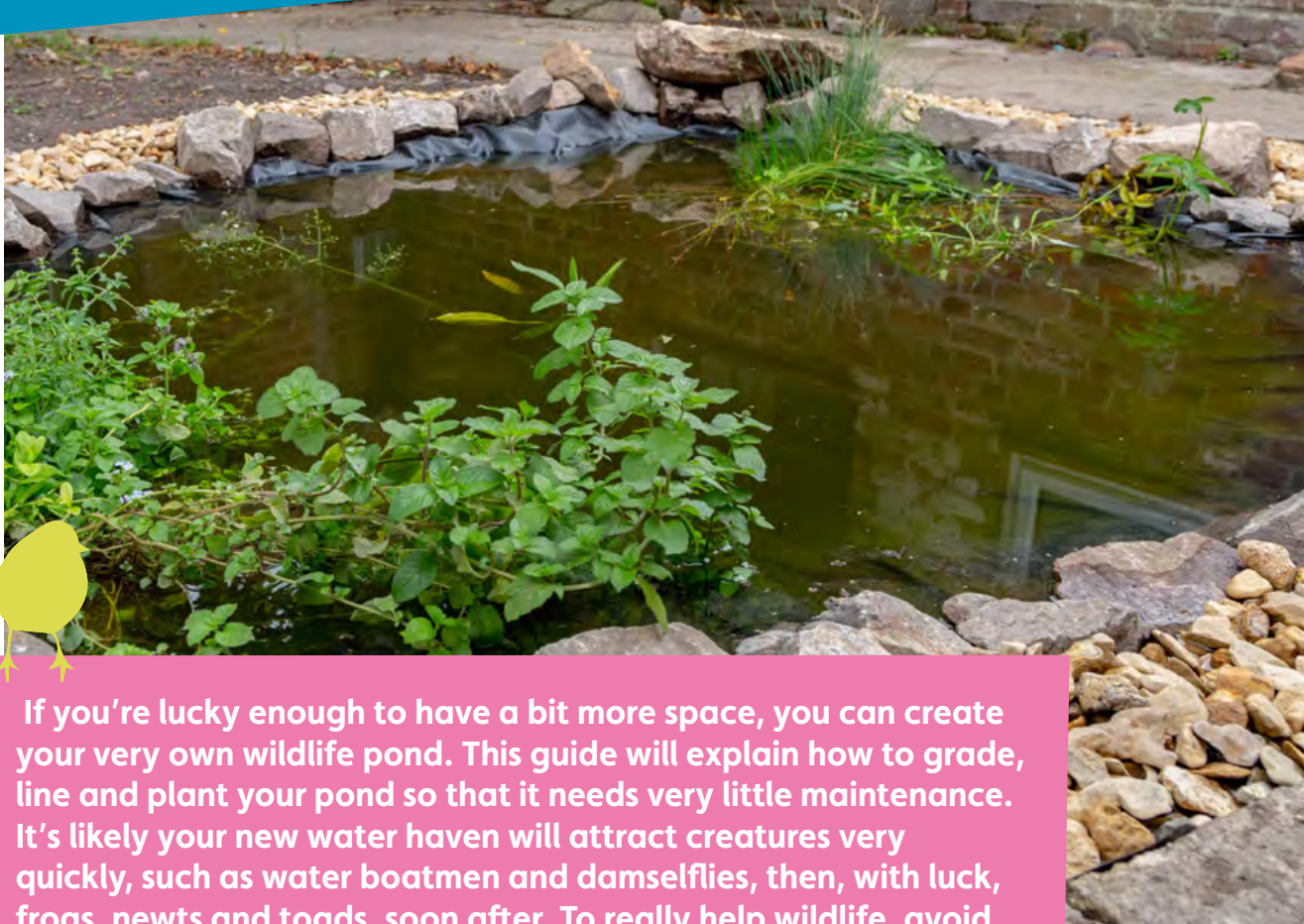
- Yellow iris – great for perches and to give summer colour
- Purple loosestrife and meadowsweet – good to create height
- Creeping jenny – great ground cover
- Marsh marigold – good early blooms in spring
- Hemp agrimony – fantastic autumn colour

Top tip

You can even make a bog garden in a container – an old barrel that isn't water-tight, or a larger planter with some old ripped plastic as a liner and you're good to go. You could also fill in an old or leaky pond.

For more help, please watch our [‘How to create a bog garden for wildlife’ video](#)

5. How to build a wildlife pond



If you're lucky enough to have a bit more space, you can create your very own wildlife pond. This guide will explain how to grade, line and plant your pond so that it needs very little maintenance. It's likely your new water haven will attract creatures very quickly, such as water boatmen and damselflies, then, with luck, frogs, newts and toads, soon after. To really help wildlife, avoid introducing fish to your pond as they will feed on insects and amphibian eggs and young.

This project is...



More muscle power



Adult guidance needed
(phone a friend or two)



A bigger area to dig



Longer activity
– set aside a day or two



All kinds of wildlife, from frogs to insects, birds and mammals like hedgehogs, will love this wetland environment

What you'll need:

- A pond liner
- A spade (or more than one if you have helpers)
- Builders' sand (or old carpet/underlay)
- Aquatic plants
- Peat-free aquatic soil
- Larger containers for plants
- Large stones, rocks or bricks



Step one

Collect rainwater

Before you begin it's a good idea to collect rainwater in a butt or several large containers (whatever you can find).

See [page 8](#) for more information on water.

Step two

Choose your site



An edge or corner location is easier to block off for safety and will protect your pond from frost and summer heat. You could also site it near a drainpipe for a continuous source of water (see the drainpipe rain-garden project on p12). Some shade through the day will keep the pond cooler but avoid overhanging trees that will drop leaves. Make sure your pond can get at least a few hours of direct sunlight.

Step three

Mark out the area

Decide on whatever space works for the area you have. Before you start digging, look at the dimensions of your pond liner, because it needs to be approximately twice the size of your pond to allow for depth.





Step four

Get digging

This is the time to call on a friend or two for extra muscle power. As you dig, build in some shallower ledges and make the edges lightly curved. Make sure you include a ramp out of the pond as an escape route for frogs, toads or any creatures that may want to visit. Then, remove any sharp stones or glass that may cut through the liner. Next, add old carpet, underlay or builders sand to create a soft, smooth base for your liner.

Step five

Add the liner


Press the liner into place (don't trim the edges yet), before adding rainwater water slowly, pressing the liner into the base, removing folds if you can. Add stones around the edge to weigh the liner down, leaving gaps between them for plants and amphibians. Trim the liner and use the excess soil to merge the liner into the surroundings for a natural look.



Step six

Arrange your plants

Repot your plants into larger containers to give them room to grow and use aquatic compost, which is heavier and won't leach nutrients into the water. **Look at our planting guide on pages 24-25 for ideas on which plants to use and where to put them.**

A photograph showing two men in a garden. The man on the left is wearing a bright blue polo shirt with a logo and dark shorts, kneeling and holding a tall, thin plant with purple flowers. The man on the right is wearing a light blue button-down shirt and dark shorts, kneeling and gesturing towards a similar plant. They are in front of a brick wall and a white door. A large green banner is at the bottom of the image.

Once a year cut the plants back and top up your pond with rainwater in periods of very dry weather.

For more information watch our [step-by-step video](#)



Looking after
your mini-wetland

Choosing the right plants

For wildlife, choose native plants. Some dramatic ornamental pond plants can be a real problem when they escape into the wild. Native plants are the best choice to create authentic habitat and the safest choice for wildlife.

Here are some of the most striking and easy to maintain native wetland plants.



Marginal pond plants

These like to be submerged in shallow water and you'll see them at the edges of wetlands. Some will spread, so check the label to see if they suit containers best – see below for our recommendations.

- Yellow flag iris (container)
- Water forget-me not
- Arrowhead
- Flowering rush
- Sedges (container)
- Gypsywort
- Lesser spearwort
- Articulated rush (container)
- Spike rush (container)
- Pennyroyal
- Water plantain
- Marsh marigold
- Water mint (container)



Marsh plants

These are perfect for damp patches and to create a bog garden.

- Ragged robin
- Creeping jenny
- Hemp agrimony
- Marsh marigold
- Meadowsweet
- Snakes-head fritillary
- Water avens
- Marsh pennywort

water crowfoot



Floating plants

These provide great shelter for creatures living in your pond and are ideal for a barrel pond, tiny pond or wildlife pond.

- White water lilies
- Frogbit
- Water crowfoot

water violet



Submerged plants

These live under the surface and oxygenate the water.

- Hornwort
- Water starwort
- Marestalk
- Water crowfoot
- Water milfoil
- Water violet

bugle



Floodplain plants

These plants can withstand regular flooding and dry spells, so suit a drainpipe rain-garden wetland

- Ferns (especially for shady sites)
- Royal fern
- Male fern
- Broad buckler fern
- Pendulous sedge
- Soft rush
- Bugle
- Sneezewort
- Bellflower
- Yellow flag Iris



For more planting ideas watch our [‘choosing pond plants’ video](#)

Looking after
your mini-wetland

Wetland care throughout the seasons



Spring

Spring is the time that animals such as dragonflies, frogs and newts will want to use your wetland for breeding, so you will want to do very little to disrupt them. It is a great time to sit back and enjoy spotting wildlife.



Summer

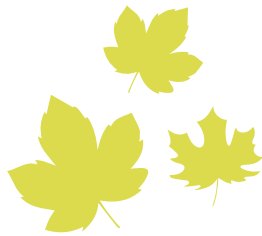
If you want to top up your wetland during dry spells, it's best to use rainwater from a water butt or downpipe. [See p8](#) for more information on using water.





Autumn

Skim off fallen leaves using a net, washing any invertebrates off the leaf matter using rainwater. Compost the leaves but don't put them next to the wetlands as nutrients will drain into the water. Cut back any dead or overgrown areas and always compost unwanted plants with care, to avoid spreading seeds.



Winter

Leave something floating in the pond so that if it freezes, the object can be removed to leave a hole for air-breathing creatures and other wildlife to drink from. It's best not to disturb your wetland in winter, as there may be amphibians hibernating there.

All year round

Did you know that you can build most mini-wetlands at any time of the year?

- Check your mini-wetland regularly to see how it's settling and what wildlife you might have attracted.
- Once a year cut back plants and top up your pond with rainwater in periods of very dry weather.
- Take photos of any wildlife you spot using your mini-wetland and share them with us using #WetlandsCan and #MiniWetlands on our social media channels, and tag and follow us @wwtworldwide



One small wetland can help us take a huge step forward

Every wetland no matter how small can make a big difference for nature. Britain is one of the most nature depleted countries in the world. This needs to change and by building a mini-wetland you are helping make this change happen. Thank you.

Freshwater wetlands support more life per square kilometre than any other type of habitat. Smaller wetlands are often even more wildlife-rich, with ponds supporting two thirds of all wetland plants and animals found in Britain.

Encourage your friends and neighbours to get involved too. With time running out to bring nature back from the brink there has never been a more important time to create a patchwork of mini-wetlands in our towns and cities.

Standing up for wetlands

As small and mighty as your mini-wetland is, it is just part of the solution. Here in the UK 75% of our wetlands have been lost and those remaining are still under threat. Globally, wetlands are disappearing three times faster than forests.

We need collective action to create large scale wetlands, as well as smaller ones, to capture carbon, clean our water, protect us against flooding and boost our health and wellbeing.

Sign the Wetlands Can pledge!

Join a growing movement of wetland champions by adding your name to the Wetlands Can! pledge and help us push for the creation of 100,000 more hectares of healthy wetlands in the UK.

Together, we can secure the government investment and partnerships needed to unlock the powers of wetlands big and small.

wwwt.org.uk/WetlandsCan

And finally...

Please do share the wetlands you create with us using **#WetlandsCan** and **#MiniWetlands** on our social media channels, and tag and follow us **@wwtworldwide**

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