Flooding in Gardens

How to cope with excess water in the garden



Environment Agency

Gardening WHICH?

Is your garden threatened by floods?



Two million homes in England and Wales are at risk of flooding from rivers or the sea. The Environment Agency is responsible for flood defence, warning and communications to the people living in these properties.

You can find out if you are at risk by calling **Floodline** on **0845 988 1188** or visiting the Environment Agency's website at www.environment-agency.gov.uk/flood.

If your home is at risk, there are simple steps you can take to lessen the distress and expense it may cause to you and your family. Even if your home itself is not flooded, floodwater can cause havoc in the garden, destroying years of dedicated effort and costly planting and landscaping. This guide shows how you can plan your garden to withstand the worst ravages of flooding and how to restore it if the worst happens.

FLOODING. You can't always prevent it, you can prepare for it

In England and Wales the Environment Agency operates a flood warning service in areas at risk of flooding from rivers or the sea. If flooding is forecast, warnings are issued through the media or direct to people at home or work using a set of four easily recognised codes.



Flooding possible. Be aware! Be prepared! Watch out!



Flooding expected affecting homes, businesses and main roads. Act now!



Severe flooding expected. Imminent danger to life and property. Act now!



An all-clear will be issued when flood watches or warnings are no longer in force. Floodwater levels receding. Check all is safe to return. Seek advice.

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Preparing for a flood

Why flooding is a problem

In autumn 2000, Britain experienced some of the heaviest rainfall in years, leading to severe and widespread flooding. A further outbreak of flooding in autumn 2001 had even more impact than the previous year's floods in some areas.

In the worst affected places, gardens were completely devastated by the direct impact of the floods; others became overgrown and neglected as people moved out of their homes for months. Frequently, gardens were used as temporary parking spaces for caravans housing flood victims. Long after the water levels subsided, gardeners found that plants had suffered damage from the storms and waterlogging.

Scientists are predicting that climate change will lead to more frequent floods in the future. Although flooding is a natural event that can't be prevented, you can be prepared for it. Follow the advice in this booklet to protect the plants and hard landscaping in your garden when floods are forecast, and take action now to reduce further damage if you live in a flood risk area. After the floods have passed, use our guide to help you return your garden to its former glory.

This booklet explains how to cope with unexpected flooding from overflowing rivers or canals, run-off from agricultural or industrial land, and water from the sea or estuaries reaching low-lying coastal areas. Some of the advice in the section on drainage applies equally well to situations where there is groundwater flooding (when an already high water table in poorly draining soil rises above ground level following heavy rainfall).

Before a flood

- Call Floodline on 0845 988 1188 for free information, including a factsheet pack, a Flood Directory about the warning service in your area and a handy guide on how to flood-proof your home.
- Keep a list of useful telephone numbers to hand – your local authority, emergency services, insurance company and Floodline.
- Talk to your family, friends and neighbours about what you would do, and prepare a flood plan together. Discuss what you might need in the event of a flood.
- Make up a flood kit. Include a torch, blankets, a portable radio, important personal documents stored in closed polythene bags and waterproof clothing including rubber gloves and boots. Store the kit in a place safe from floodwater.
- Buy or make sandbags to block patio and garden doors and airbricks.

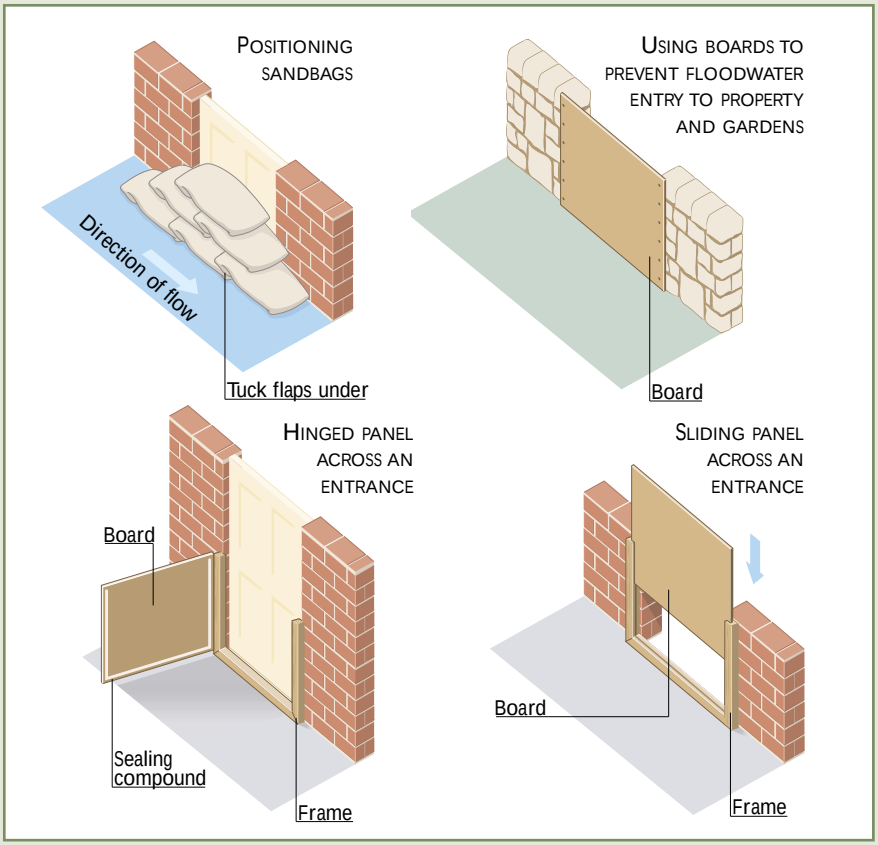
Insurance

Your household insurance policy will usually cover damage to outbuildings, garages and sheds. It does not generally cover storm or flood damage to gates, fences, hedges, garden plants, containers or ornaments unless you have taken out an extension to your household policy.

Using sandbags & floodboards

Keep a stock of unfilled hessian or plastic sandbags, sand, a shovel, bricks, blocks of wood, nails and a saw in the shed. In an emergency, make sandbags from old pillowcases, empty compost bags or black plastic sacks. These can be filled with sand or earth.

- Two people are needed to fill sandbags: one to hold the bag open, one to fill. Wear gloves when handling sand, as it is abrasive. Take care when lifting heavy bags.
- Protect large areas of sheet glass in patio doors by placing sandbags, plywood or metal sheeting outside doors and window frames. Weak or damaged banks and retaining walls can be shored up with sandbags.
- Greenhouse doors can also be protected with floodboards. Even if you cannot create a complete seal, the boards will reduce the amount of floodwater entering the building.
- After the flood has passed, remove sandbags and debris piled up against airbricks in buildings to allow free air circulation.



If floods are imminent



In the garden

- Unplug any exterior electrical connections such as outdoor lighting and pond pumps and filters. Direct-drive pumps can remain submerged in water but bring low-level equipment indoors if possible.
- Check that non-return valves are fitted on outdoor taps. Turn off the water supply to the garden.
- Weigh down manhole covers with sandbags or heavy objects. If they lift up during a flood, the drain may be left open which could create a hazard.
- Move free-standing items such as pots, dustbins, rotary driers, statues, obelisks, furniture and play equipment to a sheltered location or weigh them down *in situ* with sandbags.
- Move small containers to higher ground, or onto strong, stable structures such as a brick-built barbecue, heavy picnic table or built-in greenhouse staging.
- Tie in climbing plants.
- Check tree ties are secure on newly planted trees.
- Anchor fruit cages and coldframes against storm damage or dismantle them if time permits. Take up cloches and bean supports and store them in a safe place.
- Take valuable objects (or those of sentimental value) indoors, or move them to a higher place in the garden. Move treasured border plants to raised beds, plant stands or heavy containers.
- Peg netting securely over ponds to save plants and fish from being swept away.

Shed and greenhouse

- Move powered machinery indoors or raise it on pallets.
- Empty petrol mowers. Keep all paperwork relating to machinery filed indoors.
- Lock gardening tools away.
- Remove any chemicals, fertilisers, pesticides, oils, paints and petrol and lock them away safely indoors. If left outside, they could be swept into the floodwater and pollute watercourses.
- Close off the flow valves on gas cylinders in the greenhouse and unplug all electrical equipment. Remove low-level electric heaters and grow-lights.
- Check that wind braces and anchors on the greenhouse are secure and close vents and windows. Protect greenhouse bases with sandbags.
- Move small containers, bags of compost, watering cans etc, onto greenhouse benching. Harvest any crops that can be ripened indoors, such as tomatoes.

After a flood

Mark the high water level on outside walls for reference. This will also act as a reminder when replanting. If you are making an insurance claim, do not throw anything away until you have been told that you may. If in doubt, take photographs or video footage of damaged items.

Water levels may fluctuate for several weeks, depending on rainfall and drainage conditions. Check weather reports and call Floodline on 0845 988 1188 for the latest flood warnings. Wait to start repairs until you are sure that the floods are over.

Health and safety

Wear rubber boots and disposable rubber gloves when working outside, as floodwater may be polluted with oil, chemicals, and untreated sewage. Cover any open wounds with waterproof plasters. If you are not inoculated against tetanus, contact your local health centre.

Keep off flooded lawns and borders as far as possible. Keep out of fast-flowing water or deep still water, and be aware that standing water may contain mud, broken glass or lumps of debris. Young children, pregnant women, the elderly and anyone with a weakened immune system should stay away from flooded areas altogether.

If crossing standing water, move slowly and carefully and use a stick to check for holes, dislodged manhole covers and sharp objects. Once water levels have returned to normal, lawns, paths and patios may remain slippery from sediment. Give hard surfaces a thorough hose down and allow them to dry before resuming normal use.

Check outdoor buildings and structures by examining roofs, walls, fencing, doors and windows for any changes. Flooding may also have damaged soil-retaining walls and eroded banks or terracing. You may need to contact a professional who can assess any structural damage.

Limit the time spent working in damp, wooden buildings, as moulds can worsen chest complaints. Although the risk of illness is minimal, if you accidentally swallow floodwater and feel unwell, contact your doctor.

You may find mice or rats, stray cats or dogs, or homeless wildlife sheltering in your garden after a flood. Contact your local authority's pest control officer or dog warden, the RSPCA, or your local Wildlife Trust if you need help.

Electricity

Following a flood, turn off the electricity supply to the garden. Do not use any appliance that has been affected until it, and the power supply, have been checked out by a competent electrician.

Waste collection

Flood debris and other waste is classified as 'controlled waste' as it may contain small amounts of chemicals, oil, solvents and sewage. Local authorities sometimes provide skips for the disposal of flood waste, or can give advice on where to get them. Otherwise, specialist waste management firms can advise (see *Yellow Pages* or www.yell.com).

Dispose of wet sandbags, affected bags of compost and fertiliser, sand from children's sand pits and bark chippings covering play areas. Clear mud and leaves blocking drains and gutters.

If a lot of mud or silt has piled up on both sides of a wall, remove it gradually from both sides to avoid overloading one side, which could cause damage.

Restoring your garden

Brick and wooden structures

Hose down and scrub mud from rendered and brick walls. Brick or block walls will gradually dry out naturally, though this may take many months. Efflorescence, a white bloom, is caused by soluble salts within the clay being transported to the surface of wet bricks: it will stop appearing when the wall has dried and can then be removed with a bristle brush. Green algae and moss can be removed with a stiff brush and the wall washed down with disinfectant.

Brickwork, especially old bricks, may suffer damage from the pressure of the floodwater. In particular, if a hard frost follows a flood, bricks may shrink or crack as they dry. Make a note of any cracking and fill it once the brick has completely dried out, then repoint the brickwork. More serious cracking and buckling may have weakened the wall and damaged parts should be repaired or, if necessary, rebuilt by a reliable contractor.

Fences, gates, pergolas and other wooden structures can suffer damage if in prolonged contact with water. Check for loose planks, panels and rotting posts and replace them with wood that has been pressure-treated with timber preservative.

In greenhouses and outbuildings, wooden window frames may jam when wet and warp as they dry. This may lead to flaking paint. Check for signs of rot, and repair and treat the timber. Once dry, the frames can be repainted. Open vents in the greenhouse once the weather improves and remove and destroy any damaged or diseased pot plants. Wash down glass and benching with disinfectant.

Check wooden furniture and play equipment for loose nails, rot and fungal growths. Clean with detergent, and leave to dry, then treat with a fungal inhibitor.

Soil and borders

As the floods recede, make a note of low-lying areas in the garden to help with replanning later. If you have hired a pump to clear water from your house, check whether you can use it out of doors as it will greatly speed up the drainage process.

Sodden soil can lead to shallow rooting, making plants unstable and prone to drought in dry spells. It also encourages slugs and snails and fungal diseases such as phytophthora, which kills plant roots. Deep digging can loosen soil compacted by flooding, but wait until it dries out. Turn over the earth to the depth of your spade and avoid bringing heavy subsoil to the surface. Try not to tread directly on sodden soil. Where possible, work from boards to avoid compaction, or place stepping stones among borders.

There is nothing practical you can do to counteract the effects of salt left by seawater flooding, though it will disperse in time. Precious plants can be lifted, the soil washed off, then replanted in containers. Raised beds made from uncontaminated soil are a longer-term solution.

Ponds

In general, most aquatic life can cope with freshwater flooding. Depending on the location, you may well find that fish have not swum away, but remained in their flooded pond, surviving strong currents by burrowing into the mud. Sea water is more likely to cause fatalities among the fish population. Most aquatic plants, however, are dormant in autumn and winter, and should recover by the following spring.

What to do with your plants

Perennials

Most plants will survive a few days' immersion in water, but the roots need oxygen and will begin to die if left in cold, waterlogged soil, especially if you have been flooded by salt water. Rescue your most valuable plants. Gently fork them out of the soil, wash silt and debris from the roots and foliage, then heel them in in a drier part of the garden, or pot up small plants in containers with fresh compost until they can be planted out. Digging a shallow trench around vulnerable plants will help drain water away from their crowns. Lightly forking around larger shrubs and trees will help to break up any surface compaction and relieve local drainage problems.

If there are obvious signs of dieback, such as browning leaves, check the viability of stems or branches by removing a sliver of bark. On living stems, the bark will be firm, the underside green and the wood beneath green or white and moist. On dead stems, the bark will either be soft and shiny, or dry and tough, the underside will be brown or black, and the wood brown or white and dry. Remove any dead stems and branches and prune the plant into a balanced shape. Once new growth develops from the old wood, give the plant a liquid feed. Depending on the severity of the damage to the roots, the effects on parts above the ground may take time to emerge, and plants may still die long after the floods have receded.

Nutrients will have been washed out of the soil, so add slow-release fertiliser to coax your plants back to health. Beneficial soil organisms such as worms may also have been drowned or washed away, so dig in plenty of organic material such as garden compost, grass clippings, or well-rotted manure to encourage them back.

Containers

Raise flooded containers onto bricks, gravel or wooden pallets to drain away excess water, then remove the top 5-8cm of compost and replace it with fresh compost mixed with grit or perlite to improve drainage. Shrubs and climbers in containers will appreciate a liquid feed in the growing season.

If the floods have wreaked havoc in your garden, planting up a few pots of new plants will give you something to lift your spirits while you tackle the rest.

Lawns

If the lawn is waterlogged for several days, wait until water levels have completely subsided so that you can walk on it without leaving wet footprints. Hose or rake off silt and debris, then aerate the turf, either by hand using a garden fork, plunging it 13cm deep every 5-8cm across the lawn, or hire a mechanical slitter. Using a stiff brush, work a lawn top dressing or some coarse lime-free sand into the holes and reseed any bald patches. Mixtures for family or utility lawns are more flood resistant than fescues and other fine lawn grasses.

Lawns submerged for over a week or covered with more than 2.5cm of silt may have to be replaced. As the silt may be contaminated, it is best removed first. If the lawn is flooded after September (October in milder districts), wait until March to attempt any major lawn repairs.

Vegetables

As a precaution, throw away any vegetable crops that have been covered by floodwater. Remove silt and other debris in case it is contaminated. Let weeds germinate as this will help to dry out the soil, then hoe them off before they flower.

Minimising future flood damage

Improving drainage

The time taken for a flooded garden to drain will vary according to the type of topsoil and the permeability of the subsoil in your area, as well as the weather conditions following a flood. Sand or chalk soils will dry out sooner than clay soil, for example, as clay holds more water. Slow drainage can sometimes be caused by a compacted 'pan' of soil about 50cm below ground level, which needs breaking up mechanically to allow water into lower layers.

If you do have very slow-draining soil, you could consider installing land drains. These are perforated plastic pipes laid in gravel in a herringbone pattern, connected to a soakaway, an empty pit which discharges excess water (either by gravity or assisted by a pump) into a ditch or storm drain. Soakaways need to be positioned in a lower part of the garden than the area to be drained in order to work efficiently. They should be about 1.8m deep and must be sited at least 5m away from buildings to avoid saturating the foundations. Before starting work, check with the local authority whether water can be piped into the surface water drainage system, and contact local landscapers with experience of constructing similar systems who can show you examples of their work.

If your garden regularly suffers damage from groundwater flooding following heavy rainfall, you may have a high local water table. In this case, a soakaway system alone may not be sufficient to drain floodwater. One solution is to install a narrow drainage channel running alongside a garden path or border, connected beneath soil level to the storm drain. These can be bought at builder's merchants and can be disguised by a layer of decorative gravel. Some gardeners with severe and persistent drainage problems have imported large quantities of topsoil and gravel to raise the entire level of the garden: besides the time and cost involved, work on this scale will cause serious disruption to existing paths and borders.

Raised beds

Raised beds are ideal for plants or vegetables that cannot cope with waterlogging, as they will keep the roots out of water and help the soil to warm up more quickly in spring. They can be anything from 20cm to 1m high, and can be edged with timber gravel boards, breeze blocks or railway sleepers. More substantial raised beds need some sort of drainage, for example through weep-holes in brickwork one course above ground level. Fill the beds with a mixture of garden soil, organic matter and grit; water, and leave the soil mixture to settle for about two weeks, then add extra soil to raise the level when planting. No further digging should be necessary, and beds can be topped up with well-rotted organic matter every year that will be incorporated into the soil by worms. Large concrete drainage chamber sections, found in builder's merchants, make sturdy, functional containers. Fill them with a mixture of two parts loam-based compost (John Innes No. 3) and one part 3mm grit.

Bog gardens

The natural solution to permanently wet soil is to create a bog garden in a low-lying area, which can then be planted with water-loving bog plants such as hostas and primulas. These plants will put on a lush display of foliage and flowers, and if the planting area is enriched with a good supply of organic matter they should be perfectly happy in drier spells, too. See page 11 for more planting suggestions.

Electricity

Once all electrical safety checks have been made, be sure to install a residual circuit device (RCD) for any electrical equipment intended for garden use. When installing an electrical supply to the garden, site sockets and connections at least a metre above ground level. Use water-resistant plugs outdoors. Consider using low-voltage (12V) systems for pond pumps and garden lighting.

Fences and hedges

If you are replacing fencing, and flooding is likely to be a regular problem, consider more waterproof alternatives. For example, concrete posts and concrete gravel boards extend the life of wooden panel or post and rail fencing as less wood is in direct contact with the soil. The concrete can be painted with exterior masonry paint to blend in with the fencing.



Alternatives to timber include metal or recycled plastic for fencing, pergolas and other upright structures. Hedging and ornamental structures such as arbours can be made from living willow, which is virtually floodproof, easy to grow in damp areas and looks attractive all year. Plant more conventional hedges on a ridge 15-30cm high, which will help keep at least some of the roots out of the waterlogged danger zone in the aftermath of a flood.

Decking

When using decking in damp areas, choose good-quality hardwood, or softwood that has been pressure-treated with timber preservative to avoid rotting. Decking with a ridged surface will prevent slipping in wet conditions and, for added safety, you could consider constructing a handrail around the decking area.

Paths and patios

Bark chippings make ideal temporary paths over recently flooded ground. However, loose path or mulch materials, including gravel, are likely to be washed away by flooding. Coarser grades of gravel may stay put but they are very difficult to clean up if covered in silt. Conversely, smooth surfaces made from stone, bricks or concrete slabs can be lethally slippery after flooding, especially in cold weather when they can freeze over. So if you are putting in new paths or paved areas, choose paving with a rough, riven finish for a better grip.

In front gardens, try to resist laying concrete or tarmac over the whole surface, as this just reduces the area from which floodwater can drain away. If you do need to lay paving, choose small slabs (paviours) or bricks laid on sharp sand. This will allow water to drain away and reduce puddles.

Flood-resistant planting

Working with wet soils

When planting out in wet or heavy soil, both timing and soil preparation are crucial. Avoid planting out into cold, wet soil in late autumn, winter or early spring, as dormant plants cannot establish a root run, and may rot before growth can start. Try growing seedlings on in trays until they have a well-developed root system and planting them out later, rather than sowing seeds directly into claggy soil. If you have container-grown plants awaiting homes, put them in larger pots in a well-protected holding area until you are sure that it is safe to plant them out in the open ground.

If you must plant out bare-rooted trees and shrubs into wet soil, mix in dry compost and/or grit with the soil taken out of the hole before backfilling, so that it is dry enough to trickle in amongst all the fine roots without crushing them or leaving lots of air spaces. Alternatively, use dry, loam-based compost. When planting is complete, water well to settle the soil and top up if necessary.

Even when soil conditions are good, roots need some help in adapting to their new conditions. Don't plant pot-grown shrubs and perennials from the garden centre straight into holes dug in uncultivated clay soil: these will fill with water during a flood, causing the roots to rot off. Before planting, dig over a wide area around the planting site, forking in plenty of 3mm grit at the same time to improve the drainage around the roots. Tease out the roots and mix some potting compost in with the soil in the planting hole. If freezing weather follows a flood, light composts will turn to icicles and leave you with freeze-dried roots. Infiltrating some soil into the rootball can help avoid this. Planting on a slight mound will help to drain water from vulnerable crowns but ensure at the same time that the roots are covered with soil.

Flood-resistant plants

If you are planting in a flood-prone area, it is worth choosing plants that can withstand a degree of waterlogging. Even if you have one low-lying spot in the garden, selecting plants that enjoy damp soils will keep your garden looking good all year round and reduce plant casualties in the future.

On the opposite page is a list of plants that prefer a constant supply of moisture throughout the year. Some of them will suffer a check to their growth if the soil dries out, so incorporate plenty of organic matter when planting and keep them well watered in very dry spells.

Few trees, except the large swamp cypress (*Taxodium distichum*), will thrive with their roots in water for long but several species cope well with damp soil and intermittent soakings, including alder (*Alnus*), ash (*Fraxinus*), river birch (*Betula nigra*), silver birch (*B. pendula*), hornbeam (*Carpinus*), rowan (*Sorbus aucuparia*), willow (*Salix*) and wing nut (*Pterocarya*).

With the possible exception of some willow and dogwood species, most shrubs will deteriorate in constantly boggy ground. However, many grow well on moist soil provided it is not permanently waterlogged. See opposite for some suggestions. If the boundary of your garden has boggy patches, grow hedging on ridges to help drain water away from the roots.

Many of the perennials listed will spread rapidly in favourable conditions, so ensure that you leave plenty of space between them when planting.

Shrubs

Amelanchier lamarckii (snowy mespilus) ◐
Bamboo ◐
*Clethra (*sweet pepper bush) ◐
Cornus (dogwood) ◐
Physocarpus ◐
Sambucus (elder) ◐
Salix ◐
Spiraea x *vanhouttei* ◐
Symphoricarpos (snowberry) ●
Viburnum opulus (guelder rose) ○

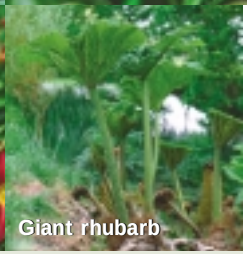
Perennials

Aruncus dioicus ●
Astilbe ○
Astrantia major ○
Bergenia (elephants' ears) ○
Caltha palustris (kingcup) ○
Campanula lactiflora ○
Carex (sedge) ●
Cimicifuga (bugbane) ●
Cirsium rivulare ○
Darmera peltata (umbrella plant) ○
Eupatorium purpureum ◐
Euphorbia griffitthii, E. palustris, E. robbiae ◐
Filipendula
Gentiana asclepiadea (willow gentian) ●
Geranium (cranesbill) ◐
Geum rivale (water avens) ●
Gunnera manicata (giant prickly rhubarb) ○
Helenium autumnale (sneezewort) ○
Hemerocallis (day lily) ○
Hosta (plantain lily) ●
Houttuynia cordata ○
Inula ○
Iris sibirica ○
Ligularia ○
Lobelia cardinalis (cardinal flower) ○
Lychnis chalcedonica (Maltese cross) ○
Lysimachia (yellow loosestrife) ◐
Lythrum salicaria (purple loosestrife) ◐
Mimulus (monkey flower) ●
Miscanthus ○
Myosotis (water forget-me-not) ○
Osmunda regalis (royal fern) ●
Persicaria (bistort) ○


Bamboo


Sneezewort


Daylily


Giant rhubarb

Phormium tenax (New Zealand flax) ○
Primula (primrose) ◐
Rheum (ornamental rhubarb) ◐
Rodgersia ●
Thalictrum (meadow rue) ●
Viola (violet) ●

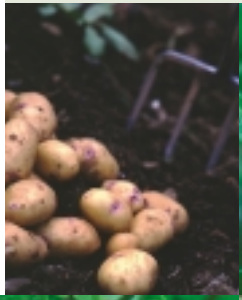
Key ○ sun, ◐ sun or shade, ● shade

Plants to avoid

Cherries and beech are vulnerable to flooding, as are *Forsythia*, *Cistus* and *Genista* (broom). As a general rule, plants which are tolerant of drought conditions are particularly susceptible to damage by flooding, and by wet soil in general. This includes grey and silver-leaved shrubs such as *Senecio* and *Buddleja*, perennials like *Eryngium* (sea holly), *Echinops* (globe thistle) and many herbs and subshrubs from Mediterranean climates such as thyme, rosemary and lavender. Bulbs which originate from dry areas, such as tulips, are also vulnerable. However, you can still have all these plants in your garden by growing them in containers or raised beds.

Vegetables

Avoid growing crops that need to overwinter, such as Japanese onions, or any vegetables that need good drainage throughout their growing season. Use a green manure such as winter tares instead, or cover the soil with well-secured thick polythene sheeting or old carpet to keep down the weeds. Planting on a mound can help shallow-rooting plants such as raspberries and strawberries to survive winter waterlogging. Mulch them well in spring to counteract the drying effect of the mound in hot weather. Raised beds are ideal for growing vegetables. Apart from hoeing off annual weeds, little cultivation is necessary once the edging is in place and the bed filled with soil. Make sure that you can cultivate the crops easily – a length of 3-3.6m and a width of 1.2m is ideal for each bed, with paths about 45cm wide to allow for access.









Lawns

If a waterlogged lawn is a regular problem, stepping stones would be a useful addition, and it's worth considering alternatives, such as decking or paving. Alternatively, use more of your garden for planting and install raised walkways to give you year-round access.

Wildlife

It is easy to forget that flooding is a natural phenomenon, and most wildlife has evolved to cope with it better than humans – badgers, for example, usually build their setts above flood level. Moles, rabbits and other mammals that tunnel underground, can be at risk from sudden floods, although all adult mammals are capable of swimming if necessary. Most small creatures are likely to move quickly to higher ground at the first sign of a flood, and in autumn and winter will have a good store of body fat to help them through a lean period. Ground-feeding birds will appreciate extra rations on areas of unflooded ground, but will have a field day once the floods recede, collecting up drowned and disorientated worms, and insects and seeds washed out of the soil.

If you are considering planting a bog garden, there are many attractive native species which thrive in these conditions, and attract wildlife. These include:

Bugle (*Ajuga reptans*) blue, Apr-Jun
Globe flower (*Trollius europaeus*) yellow, May
Lady's smock (*Cardamine pratensis*) lilac, Apr
Meadowsweet (*Filipendula*) cream, Jun-Jul
Purple loosestrife (*Lythrum salicaria*) purple, Jun-Aug
Ragged robin (*Lychnis flos-cuculi*) pink, May
Water avens (*Geum rivale*) deep pink, Apr-Jun
Water mint (*Mentha aquatica*) pink, Jul-Sep

The Environment Agency & Gardening Which?



The Environment Agency is the largest environmental organisation and regulator in the UK, with a remit spanning emissions from nuclear power stations and incinerators to the cleanliness of coastal bathing waters and the risk of flooding across England and Wales. The Agency is responsible for warning the public of flooding from rivers or the sea and building and maintaining flood defences in low-lying areas to reduce the risk to homes and businesses.

The National Flood Warning Centre
Environment Agency
Swift House
Frimley Business Park
Frimley
Surrey
GU16 7SQ

Floodline 0845 988 1188

Email
nfwc@environment-agency.gov.uk
Website
www.environment-agency.gov.uk/flood

Gardening Which? magazine is published by Consumers' Association, a not-for-profit, independent organisation whose mission is to campaign and research on behalf of the consumer, empowering people to make informed consumer decisions. As part of the advisory service it offers to members, *Gardening Which?* has been building up the expertise to provide information on the best way of reducing the impact of flooding, and dealing with the aftermath, and has drawn on this expertise for this booklet. For more information about *Gardening Which?*, or to take out a subscription, please contact us at:

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More copies of this guide, and the companion booklets

Damage Limitation – How to Make Your Home Flood Resistant

After a Flood – How to Restore Your Home

are available free from
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