



# How to make a bat box

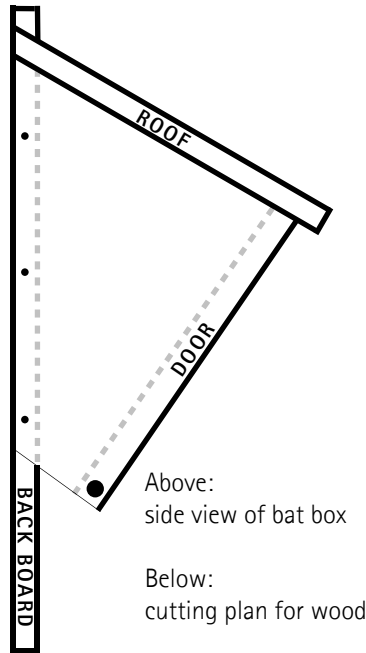
## Providing bat habitats in your back garden

Bat boxes are artificial roosts, usually made of wood or woodcrete (a mixture of wood chips and concrete). They are designed to provide bats with alternative resting places to replace natural ones in tree holes, and also to encourage bats into areas where there are few such natural sites. Bat boxes have a useful place in bat conservation, but it should be remembered that bats take to boxes less readily than birds.

### What makes a good bat box?

Recent research has shown that good insulation and avoidance of draughts are more important for attracting bats to boxes than is the material from which they are made. Bats do not like draughts, and prefer well-insulated boxes where temperature and humidity remain constant. Well-sealed joints are therefore important, as is the avoidance of large, loose-fitting front panels. The warmest area in a box, and the area that bats use most, is at the top – therefore a well-insulated top is important. Removable lids should be avoided, again to reduce draughts, but also to prevent disturbance or unintentional injury to bats when the box is opened. A special licence is required to disturb or handle bats in the UK, and any disturbance without a licence is illegal. For more information on bats and the law call the Bat Helpline (0845 1300 228).

All timber used in bat boxes should be rough-sawn to allow bats to cling and climb, and must also be untreated, since bats are very sensitive to the chemicals used for timber treatment. A 'bat ladder' or other landing area is essential, as is an entry slit wide enough to admit bats but narrow enough to keep out predators.



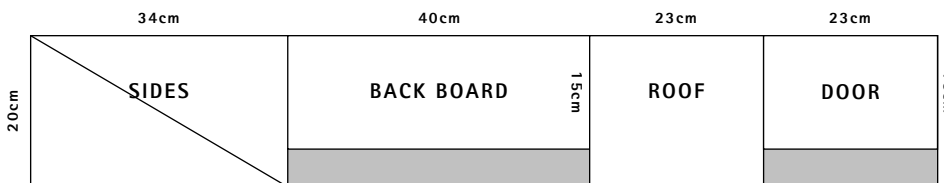
### Making a bat box

Bat boxes take many shapes and sizes; here we give the details for a simple wooden wedge-shaped design that has been known to work well.

The cutting plan above is self-explanatory, except that the acute angled ends of the triangular sides are cut off to give the entrance slot of the required width, after allowing for the thickness of the door (ie cut off higher for a wider opening). The top edge of the back board and the rear edge of the roof must be bevelled to fit. The roof and back board are next to each other on the cutting plan so that, with a tilting circular saw or jigsaw, the bevels can be cut in one go. The cutting angle is approximately 62%.

The front-opening door is pivoted at the bottom on two clout nails. A hole is drilled high up through one side of the box and into the side of the door. This takes a loose-fitting clout nail which holds the door firmly closed against the door stops. These are cut from 10-12mm strip and are fitted at the top and sides of the door-opening to act as a door frame and aid weather-proofing. The side door stops are cut off about 3cm short of the bottom to allow freedom of movement of the door. A small screw is fitted as a knob for opening the door.

The only other point is to ensure that the door is a loose fit to allow for the wood swelling – the door stops take care of the gaps. We recommend gluing as well as nailing to ensure that there is the minimum of heat leakage – we suggest Extramite, which is an odourless wood glue.



With thanks to the Gwent Bat Group for this bat box design

### Where should I put my bat box?

Boxes are most likely to be used if they are located in places where bats are known to feed. Woodland, parkland and river banks are good places, as are gardens close to ponds, rivers or parks. Sites should be sheltered from strong winds and exposed to sunlight for as much of the day as possible to increase their internal temperature. They should also be close to a hedge or tree line, as some species of bat use these to navigate and are reluctant to cross open spaces to get to and from roosts. Boxes should be positioned so that the bats' approach to them is clear of impediments such as tree branches, and should be as high as possible not only to maximise their exposure to sunlight but also to ensure security from cats or human vandals.

Ideally, two or three boxes should be clustered, facing in different directions in order to allow bats to select a range of roosting temperatures at different times of year – preferably south, south-east and south-west. Try to avoid due west, as this is the prevailing direction of the wind & rain!

**For more information on bats, bat boxes and encouraging bats to your garden, visit [www.bats.org.uk](http://www.bats.org.uk) or call 0845 1300 228**