



Habitat for homes

Habitat loss through human activity is the biggest threat to species survival on the planet.

The Broads National Park is extremely rich in wildlife, with over 11,000 species recorded, including the swallowtail butterfly and Norfolk hawker dragonfly, very rarely found outside the Broads fen habitats. But in Britain as a whole over 60 per cent of our species are in decline.

One of the statutory purposes of the Broads Authority is to conserve and enhance the natural beauty, wildlife and cultural heritage of the Broads. So we have a duty to ensure that impacts on biodiversity from new developments (of any size) are minimised, and that wildlife is protected and habitats are enhanced through the planning process.

For these reasons, as part of your planning application, you may be asked to show how you will enhance biodiversity.

National policy

The National Planning Policy Framework says:

109. 'The planning system should contribute to and enhance the natural and local environment by:

- minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including

by establishing coherent ecological networks that are more resilient to current and future pressures'

But what can you actually do – or avoid doing?

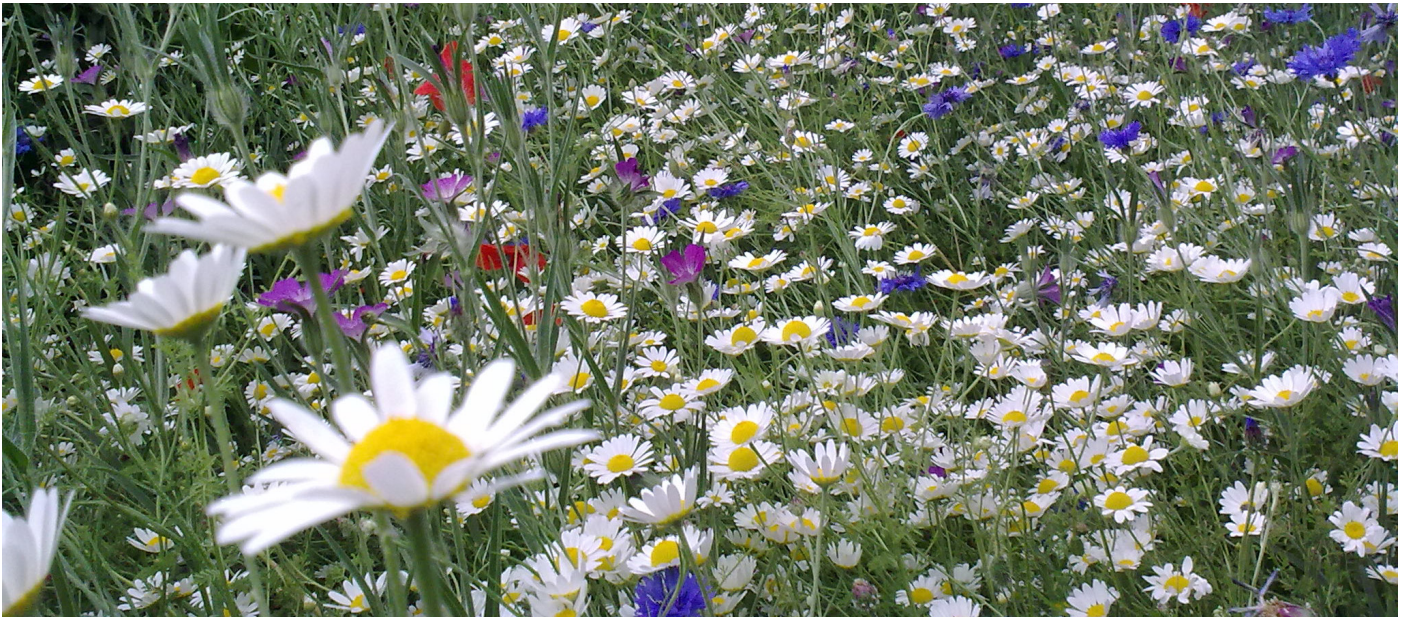
Many rare species are found on conservation sites in the Broads, but gardens, churchyards, parks, school grounds and other open areas form an important network of different habitats, providing feeding and breeding sites, and green corridors for wildlife to move between areas. So everyone living in villages and towns within and adjacent to the Broads, and also people visiting the Broads, can play an important part in helping to conserve this internationally important wetland for future generations – of people and wildlife too.

Advice for different habitats

Meadows

Meadows are big business. The economic value of pollinating insects to farmers and other growers is £510 million – that's the same amount annually as visitors bring to the Broads. And the value of pollinators to our well-being from visiting wild places cannot be underestimated.

- Meadows are also bee heaven. Wild flowers provide an essential supply of nectar for hundreds of insects including bees, butterflies and hoverflies.
- Creating your own mini wildflower meadow will not only look attractive, but will provide a nectar highway for pollinating insects to move between



habitats. Choose an area in full sun, preferably with low fertility and few weeds.

- Use a British wild flower seed mix appropriate for your soil type. Add yellow rattle (*Rhinanthus minor*) to your seed mix as it will help wild flowers to establish as it reduces the strength of grasses which can outcompete wild flowers.
- Make sure the area is free of coarse-leaved grasses, thistles and docks before you sow.
- Rotavate, rake to ensure fairly fine soil and water if necessary.
- Sow seed from August to October at the density recommended by the supplier.
- Cut the new growth, keeping it short until the end of March to prevent the stronger grasses from outcompeting the wild flowers.
- In the first summer you should have yellow rattle, a few daisies and clover. In the second, thanks to your hard work, you should have a beautiful wild flower meadow full of different flowers to admire.
- Cut the meadow again in August (or use a strimmer). Leave the hay where it falls for a week, turning it as it dries to help the wild flower seeds drop back down into the soil. After a week, rake the hay away so as not to increase fertility and use it for compost.
- If you're impatient for results, use plug plants. Plant five plugs per square metre in the spring or autumn. Plug plants will flower in the first spring or summer after planting. But be aware that rabbits are very partial to plug plants.

www.wildseed.co.uk

www.sarahraven.com/flowers/seeds/wild_flowers

www.plantwild.co.uk/meadows/how-to-create-a-wild-flower-meadow

Ponds

One third of ponds are thought to have disappeared from the British countryside in the last 50 years.

- Wildlife is wild about ponds – creating a pond is one of the best ways to help wildlife, including a whole range of insects. All ponds will help, but one that is at least two metres square will provide the essential breeding habitat for most amphibians including frogs, toads and newts.
- The other main points to consider are depth, shape, location and plant species. A pond with gently sloping shelved sides and a deeper central area (at least 60cm), with floating and taller native plants, is the most beneficial.
- Autumn is the best time for pond cleaning as fewest species will be affected. Avoid removing silt from the bottom as this will contain eggs and larvae of pond insects. Remove excess leaves which could lead to nutrient enrichment and subsequent algae blooms in the spring. Trim plants if necessary. Leave trimmings and leaves at the side of the pond for a couple of days to allow insects to return to the pond.
- Winter freezing of ponds can create dangerous conditions for animals as ice can cause a build-up of toxic gases released by the continued decomposing of plants and animals. To help alleviate

this, remove snow from the ice to allow plants to continue producing oxygen. You can create a hole in the ice by leaving a pan of hot water on the surface. Never smash the ice as this can harm wildlife and puncture a pond liner. Never use salt, antifreeze or other chemicals.

- Algae can be a blooming nuisance! Algal blooms are caused by excess nutrients in the water and soil. Algae can quickly reproduce causing cloudy conditions. Duckweed and blanket weed are indicators of excess nutrients. Remove duckweed by carefully running a net across the surface to scoop it up. To remove blanket weed twist a cane amongst it to pull it out. Leave weed next to the water's edge for a couple of days to allow any animals caught up in it to return to the pond. You can also reduce algal blooms by adding larger plants as they use up nutrients during their growth. Or add a bundle of netted barley straw which releases algae-fighting chemicals as it decomposes.



Native plants for ponds

Deeper water (submerged and oxygenating plants): common water crowfoot, curled pondweed, water starwort, water violet.

Floating-leaved plants: broad-leaved pondweed, yellow water lily, frogbit.

Marginal plants: amphibious bistort, brooklime, creeping Jenny, lesser pond sedge, lesser spearwort, marsh marigold, water forget-me-not, water plantain, yellow flag iris.

Invasive non-native plants to avoid

Floating pennywort, parrot's feather, New Zealand pygmy weed, water fern, Nuttall's, Canadian pondweed, water primrose.

www.froglife.org/info-advice/creating-or-improving-ponds/

www.rspb.org.uk/makeahomeforwildlife/advice/gardening/pondsforwildlife/making.aspx

www.nonnativespecies.org/home/index.cfm

Hedgerows

One hundred and thirty Biodiversity Action Plan priority species for conservation are associated with hedgerows.

- Native hedgerows support a high proportion of woodland birds, mammals and butterflies, providing an abundance of food, shelter and nesting sites, as well as an important green corridor for wildlife. A hedgerow with a thick base is best for wildlife. The ditches and banks

associated with hedgerows provide important habitat for frogs, toads, newts and reptiles.

- Hedgerows also provide living fences, rather than wooden fences which can be expensive and require maintenance. Planting evergreen species such as ivy will ensure the hedgerow provides privacy and is beneficial for wildlife throughout the year.
- Hedgerows should ideally be planted between autumn and spring, in prepared ground, free from weeds. Water well and add a thick mulch to prevent competition from weeds. Gaps can be filled in later.
- Planting a hedgerow with at least seven native species will help to ensure a wildlife rich habitat. Many hedgerow shrubs and trees flower at different times, ensuring a nectar supply for insects, as well as fruits and berries for birds over the autumn and winter months. And maybe some for human consumption too!
- Trim at the end of the winter after the supply of berries and nuts has gone, and to avoid the bird nesting season. Ideally hedgerows should be cut every other year to encourage fruits and berries. Avoid disturbing the base of the hedgerow which may be home to hibernating hedgehogs and amphibians.
- Feed the plants annually and top up the mulch for the first three years.
- New developments should aim to



incorporate and enhance existing hedgerows. Generally the older the hedgerow, the more species rich it will be and therefore better for wildlife. You can improve old hedgerows by filling in any gaps with a different woody species to increase their diversity. Ensure that existing plants do not shade out new plants, and for the first three years protect new plants from grazing by rabbits and deer.

Native hedgerow species

Pollen rich shrubs: blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*), sallow (*Salix caprea*), wild privet (*Ligustrum vulgare*), field maple (*Acer campestre*), crab apple (*Malus sylvestris*), common buckthorn (*Rhamnus cathartica*), holly (*Ilex aquifolium*)

Trees: oak (*Quercus robur*), ash (*Fraxinus excelsior*), hazel (*Corylus avellana*), wild cherry (*Prunus avium*)

Climbers: wild rose (*Rosa canina*), traveller's joy (*Clematis vitalba*), honeysuckle (*Lonicera periclymenum*)

www.ptes.org/wp-content/uploads/2014/06/Hedgerow-guide-web-version.pdf

www.suffolkwildlifetrust.org/Hedgerow-planting

Advice for different species

Birds

Norfolk holds 40% of the national barn owl population.

- Over the years many traditional nesting and roosting sites for birds (and bats as well) have been lost. It is extremely important that new building developments incorporate permanent homes for wildlife, such as swift nesting chambers and bat lofts. These can be simple and cost effective to provide.

Boxes

- Birds need boxes for breeding and roosting.
- Boxes made from woodcrete (a mixture of cement and wood) are best – they

can last over 20 years (wood lasts about four years) and require little maintenance apart from cleaning out.

- Consider location, height and orientation. Place them in trees where possible. Small boxes suitable for blue tits and great tits can also be attached to the outside of a building. Most boxes should face between north and north-east. Fix them three metres from the ground to avoid disturbance and predators. You can also have a metal plate round the entrance hole to deter woodpeckers and squirrels. If you are putting up more than one box they should not be sited too close together, as this may cause aggressive behaviour between neighbours.
- Most birds need a clear flightpath to the entrance hole – trim any overhanging vegetation.
- Robins and wrens prefer an open-fronted box, sited two to three metres high on a tree trunk or wall, hidden behind overhanging vegetation such as ivy.
- Many owls rely on boxes (larger size) due to the loss of mature trees and old buildings.
- Site boxes for barn owls close to open areas of rough grassland required for hunting.
- Site boxes for tawny owls in woodland.
- Site boxes for little owls in open farmland areas with hedgerows, scattered trees and orchards.

Nest sites and artificial nests

- Swifts, swallows and house martins are summer visitors to the Broads.
- Swallows and house martins need mud to construct their nests which can be in short supply, particularly during a dry spring. Providing a muddy area close to the nest site will encourage swallows and swifts to nest.
- Barns, stables, and boat houses can provide suitable nest sites for swallows. Swallow nests should be placed inside the building under the eaves with open access during the spring and summer months. Multiple nests should not be installed at less than one metre intervals, to avoid disputes between neighbours.
- Swift and house martin nests can be installed under the external eaves of most buildings. Swifts and house martins live in colonies, so provide boxes and nests to accommodate multiple pairs.
- Installing swift bricks under the eaves of new builds provides important summer nesting sites for swifts. Swift bricks are self-contained nesting spaces and should be located high within the gable wall of the property, ideally at 5 metres high and above, avoiding the hottest aspects.

www.manthorpe.co.uk/Building/Products/Conservation/Swift-Nest-Brick.html

www.swift-conservation.org

www.rspb.org.uk/makeahomeforwildlife/

[advice/helpingbirds/nestboxes/
smallbirds/making.aspx](#)

www.birdventures.co.uk

[www.hawkandowl.org/sculthorpe/nest-
boxes-for-sale](http://www.hawkandowl.org/sculthorpe/nest-boxes-for-sale)

[www.rspb.org.uk/makeahomeforwildlife/
advice/helpingbirds/nestboxes/
owlskestrels](http://www.rspb.org.uk/makeahomeforwildlife/
advice/helpingbirds/nestboxes/
owlskestrels)

[www.nhbs.com/browse/subject/426/bird-
boxes](http://www.nhbs.com/browse/subject/426/bird-
boxes)

[www.rspb.org.uk/discoverandenjoynature/
discoverandlearn/birdguide/name/s/
swallow/encouraging.aspx](http://www.rspb.org.uk/discoverandenjoynature/
discoverandlearn/birdguide/name/s/
swallow/encouraging.aspx)

[www.cornwall.gov.uk/media/3626630/
Accommodating-swallows-swifts-and-
house-martins.pdf](http://www.cornwall.gov.uk/media/3626630/
Accommodating-swallows-swifts-and-
house-martins.pdf)

Bats

Pipistrelle bats, the most common British species can eat over 3,000 midges in one night!

- All British bats (18 species) are protected under British and European law. Breeding female bats only produce one offspring a year so it is essential to protect their habitat to maintain populations. Buildings and trees provide roosting and breeding sites.
- Don't put bats under the spotlight! Artificial light has a detrimental effect on wildlife, changing normal behaviour patterns which can affect the ability to survive. Avoid illuminating trees and hedgerows used by many species,



including bats. Artificial lighting can cause bats to delay their emergence from roosts to hunt and feed, missing the peak in insect prey abundance, and resulting in a possible reduction in body mass. Artificial light should never shine on a known bat roost in a building or a bat box. Consider sensitive lighting early on as part of your development design. Use low level LED lights where possible. Minimise the spread of light, ensuring only task areas are lit. Use lanterns or light hoods to shield or direct light where it is required. Use reactor lights or limit the time that lights are on to provide dark periods – and save energy and money too.

[www.bats.org.uk/pages/bats_and_
lighting.html](http://www.bats.org.uk/pages/bats_and_lighting.html)

www.rhs.org.uk/advice/profile?pid=513

Boxes

- As for birds, boxes made from woodcrete are best.
- Place on trees at least five metres high, in groups of three facing south-east to south-west to provide the range of

roosting temperatures that bats require.

- If boxes are to be positioned on buildings choose locations next to hedges or trees. Bats use them to forage for insects and to commute between favoured roosting sites.

www.nhbs.com/browse/subject/421/bat-boxes

www.bats.org.uk/pages/bat_boxes.html

Insects, amphibians, reptiles and fungi

The average garden may hold over 2000 species of insect!

- Over 60 per cent of insect species are in decline, so wild flower habitats and nesting sites are becoming ever more important.
- Invertebrates are attracted to artificial light at night and it is estimated that as many as a third of these will die as a result.
- Insect boxes provide homes for hibernation for adults or larvae. You can buy boxes or they are easy to make from recycled materials.
- Small boxes suitable for solitary bees and wasps are best placed in a sunny spot close to flowering plants.
- To provide homes for a wide range of species, build your own 'bug hotel' by stacking old pallets and filling them with a range of recycled materials such as bamboo canes, logs and dried leaves to

provide cracks and crevices. Build hotels in semi-shade close to hedges or ponds so passing animals can find them easily.

- Retain natural plant and habitat features where possible. Dead or hollow stems such as elder or buddleia provide overwintering sites for adult insects or larvae. Dry, sunny banks or warm patches of bare earth are favoured by solitary bees and wasps for burrowing.
- Log piles simulate fallen trees in the wild, creating valuable habitat for insects, amphibians, reptiles and many fungi. Roughly stack native wood including beech, oak, ash and elm in a shady spot so it remains cool and damp. Log piles situated close to ponds or under hedgerows will attract hibernating frogs and toads so it is important that they remain undisturbed. By adding a pile of leaf litter you may also attract hibernating hedgehogs and ladybirds. Add new logs over the years as the old ones decay.

www.wildlifetrusts.org/how-you-can-help/wildlife-gardening

www.rspb.org.uk/makeahomeforwildlife/advice/gardening/deadwood.aspx

www.rspb.org.uk/makeahomeforwildlife/advice/gardening/insects/building_homes.aspx

www.nhbs.com/browse/subject/436/insect-boxes

Contact us:

For more information and advice please
contact the Broads Authority
on 01603 610734 or visit our website
www.broads-authority.gov.uk/contact-us