



Sheffield & Rotherham

Good practice enhancement for biodiversity in developments

At Sheffield and Rotherham Wildlife Trust, we [comment on a number of planning applications](#) every year. We are not against well thought-out development, but for most schemes we think there is an opportunity to provide ecological mitigation and enhancement, and green infrastructure through a number of on-site biodiversity enhancements. The Wildlife Trusts have a publication - [Homes for People and Wildlife](#) - which provides a good overview. Different options will be suitable for different types and scales of development, and some may be suitable as part of on-site biodiversity net gain. Thought should be given to aftercare and ongoing management where required, as well as potential monitoring of the success of the measures. Our Advocacy staff Nicky and Ian can be contacted via 0114 2634435 or takeaction@wildsheffield.com, and our consultancy [Wildscapes](#) can be contacted via 0114 3035123 or info@wildscapes.co.uk.

Species	What we would like to see	Further resources and suppliers
Hedgehogs	Soft permeable living boundaries over hard boundaries were possible, for example native hedgerows or shrubs. For housing and other developments with hard boundaries e.g. fences between each garden we recommend a 'hedgehog holes' to be implemented in the scheme, by creating suitable sized holes at the bottom of fences. A hole measuring 13cm x 13cm (5 inches square) is the right size for a hedgehog to pass through but too small for most pets. For a large housing estate, a 'hedgehog highway' can be planned around the estate. Other features for hedgehogs can be incorporated including ponds, habitat piles and hedgehog homes.	www.hedgehogstreet.org Once cut, a fence plate such as this one from NHBS can be installed, indicating the purpose of the hole to deter homeowners/tenants from blocking the holes in future. Buy a hedgehog home from Wildscapes or build one: www.hedgehogstreet.org/wp-content/uploads/2018/06/Hedgehog-Street-Hedgehog-houses-instructions-2018.pdf
Garden birds	Install appropriate nest boxes on buildings, retained or new trees, fences or other boundary features, as high as possible to deter predators. Locations should be sheltered from direct sunlight and the prevailing weather. A mix of boxes with entry holes of different sizes or open fronts should be used to attract a range of species.	www.nhbs.com stock a variety of bat boxes. Wildscapes can make wooden bird boxes or you can make your own.



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Starling	Incorporate multiple boxes at soffits/eaves level leaving at least 1.5m between each box. At least three metres above ground level with somewhere to perch in the immediate vicinity. Needs to be shaded, an easterly aspect is best, avoid direct south-facing aspect. Starlings can be noisy so their nests are best sited where this will not be an issue.	NHBS supply a range, for example: www.nhbs.com/vivara-pro-woodstone-starling-nest-box
Swifts and sparrows	As swifts and sparrows nest in groups, nest bricks should be clustered in suitable areas of the development, two to four bricks per dwelling, resulting in an equal number overall of nest sites and residential units.	An impartial booklet, 'Facts about Swift Bricks' (Newell 2019a) listing many brands and suppliers can be downloaded from the Action for Swifts website: Action for Swifts website Day J., Mayer, E. and Newell, D. (2019) <i>In Practice</i> CIEEM 104 p38-42.
Barn swallow and house martins	Incorporate pre-formed swallow nest cups and purpose built ledges inside appropriate open access buildings, such as car ports, porches, storage areas. House martin cups at soffit/eaves level. Suitable for buildings in close proximity to open space or other green infrastructure, particularly where there are standing or running water features nearby. At least five metres above ground level. Adequate shelter from sun and prevailing weather, avoid direct south elevations. Avoid fixing directly over doors and windows.	NHBS supply a range, for example: www.nhbs.com/house-martin-nests www.nhbs.com/eco-swallow-nest
Kingfisher	For projects on or near rivers or lakes, consider making provisions for Kingfisher which will use tunnels placed in a vertical bank.	This one from CJ Wildlife is good.
Barn Owls	In rural and rural fringe areas e.g. barn conversion, barn owl boxes may be required if a barn owl are present, but can also be considered as an enhancement. These will be even more effective if combined with suitable barn owl habitat.	www.barnowltrust.org.uk/barn-owl-nestbox/



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Bats	Bat boxes can be erected on buildings retrospectively but it is even better to incorporate them in the design of the construction of the walls and roofs. Several products are available. Bat boxes can also be erected on trees. Woodcrete or stonecrete products last longer than wooden boxes, but wooden boxes can be easily made. Consider the position of lighting when erecting bat boxes (bats prefer dark areas).	www.nhbs.com stock a variety of bat boxes including wall cavity boxes e.g. www.nhbs.com/build-in-woodstone-bat-box www.bats.org.uk/our-work/buildings-planning-and-development/accommodating-bats-in-buildings
Invertebrates	By incorporating the habitat recommendations below you will be providing habitat, food and shelter for invertebrates but there are more specific things you can do. Retain patches of bare earth for invertebrates to bask, nest and forage. Consider generating scrub habitat adjacent to existing wildlife rich habitat. Irregular micro-topography such as hollows, banks and slopes are better than homogeneous flat ground, especially significant if they are south or south-east facing. Consider bug houses or hotels.	www.buglife.org.uk/resources/planning-hub/good-practice-planning-for-invertebrates/ Action for Insects Guide: www.wildlifetrusts.org/take-action-insects www.bumblebeeconservation.org/gardeningadvice/
Amphibians and reptiles	Providing a pond and suitable surrounding habitat is one of the most important things you can do, but more specialist advice is available on this topic.	www.froglife.org/info-advice/ Wildscapes have a lot of experience of creating and managing ponds and scrapes.
Habitats		
Trees	Provide native, wildlife friendly tree and shrub species of varying height and structure. A variety of species will also provide a protracted supply of pollen, nectar and fruit. Different tree species also provide different ecosystem services.	Appendix 7 of the Sheffield Street Tree Strategy shows the different benefits provided by different tree species. Sheffield Trees and Woodlands Strategy Appendix 3 'Right tree, right place'.
Hedgerows	Plant hedges consisting of a number of wildlife friendly native species so that fruit, seed and nectar will be provided throughout most of the year; a minimum of four species is recommended to grow at least 2m wide with a margin. Hawthorn, blackthorn and holly provide boundary security.	Wildscapes can help with planting new hedgerows.



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Shrubs	Plant native shrubs and avoid non-native invasive species such as some species of cotoneaster .	
Wildflowers	Can be fantastic for both botanical and invertebrate diversity, but require proper planning and management. Soil should have low fertility (no good quality top soil) and a mowing regime of twice annually with collections of risings is usually optimum, unless early flowering species are present. Also choose native seed from a reputable supplier.	Reputable suppliers of native seeds are: Emorsgate and Naturescape Refer to the Sheffield and Rotherham grassland habitat plans for priority species.
Green or brown roofs	These can be great habitats if thought goes into their design to ensure optimum species choice and a diversity of microhabitats. Our recommendations are in the Sheffield Green Roof BAP.	Sheffield Green Roof Biodiversity Action Plan www.greenestatelandscapes.co.uk/services/green-roofs/
SUDS	Sustainable Urban Drainage schemes can provide fantastic habitat for wildlife if planned with ecology in mind.	Specialist advice should be sought in the first instance from your local authority.
Ponds and scrapes	Offer a wide range of wildlife water, shelter and a habitat for certain stages of their life cycle.	www.froglife.org/info-advice/ www.wildsheffield.com/getinvolved/actions/how-to-build-a-pond/ Wildscapes have a lot of experience of creating and managing ponds and scrapes.

Further general information

www.wildlifetrusts.org/housing-and-wildlife-examples

www.wildlifetrusts.org/sites/default/files/2018-05/homes_for_people_and_wildlife_lr_-_spreads.pdf

Gunnel, K., Murphy, B. and Williams, C. (2013) [Designing for biodiversity: a technical guide for new and existing buildings 2nd ed](#) Bat Conservation Trust and RIBA Publishing London

[Rotherham Natural Environment SPD](#) which we credit with some of this advice

www.buildingwithnature.org.uk/about