Sussex Wildlife Trust

THE wildlife TRUSTS

Biodiversity and Planning in Sussex

Taking Care of Sussex

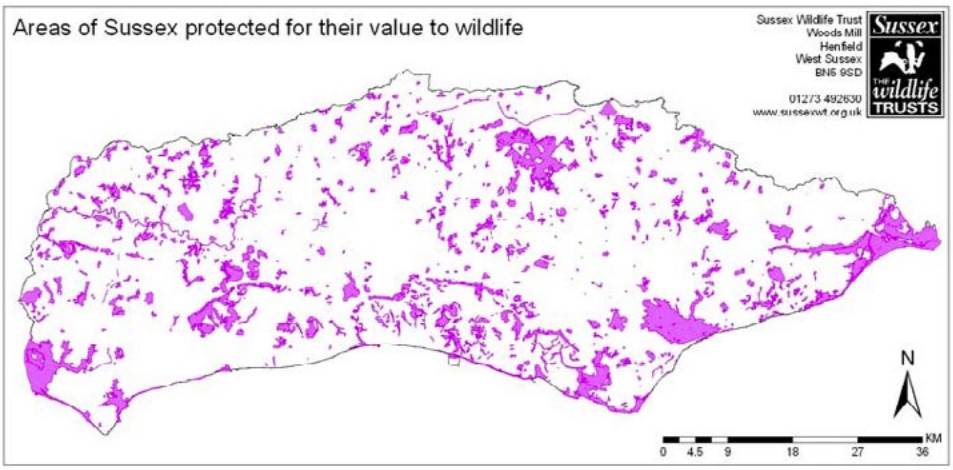
Contents

Sussex Wildlife Trust would like to acknowledge the following for their assistance in this publication:
Sussex Biodiversity Record Centre
Sussex Biodiversity Partnership
Berkshire, Buckinghamshire & Oxfordshire Wildlife Trust
Oxfordshire County Council
Thames Valley Environmental Records Centre
Images on front cover: Barn owl / Damian Waters, Frogs Kissing / Paul Stevens; Drumimages.co.uk; Landscape / High Weald AONB Unit; Dormouse / Hugh Clark

1a About this guidance

Protecting and enhancing Sussex biodiversity

Sussex supports a rich diversity of habitats and species, ranging from chalk grasslands and pockets of vegetated shingle, through to heathlands across the county. However, less than 62000 hectares (ha) of Sussex are protected for their value to wildlife; around 16% of the total land area. Sussex is also home to around 80 protected species and more than 495 species recognised as being a priority for conservation.



The Sussex Wildlife Trust has produced this guidance document, to help those involved in planning in Sussex ensure that development within the county protects and enhances our valuable local biodiversity.

Some of the important sites and species in Sussex are protected by legislation, others by planning policy. National and regional planning policy identifies the need to protect existing biodiversity and deliver enhancements to achieve a net gain in biodiversity. Here we bring together legislation and planning policy, alongside information on the biodiversity of Sussex, to help identify when and where biodiversity will need to be protected by the planning system, as well as how to identify opportunities to deliver biodiversity enhancements in the most effective way.

Chalk grassland / Victoria Hume

To reduce environmental impact, a limited number of hard copies of this document are available. An online version is provided on the Sussex Wildlife Trust website, www.sussexwildlifetrust.org.uk, which will be kept updated. The online version provides links to the documents and websites mentioned in the 'Further information' boxes.

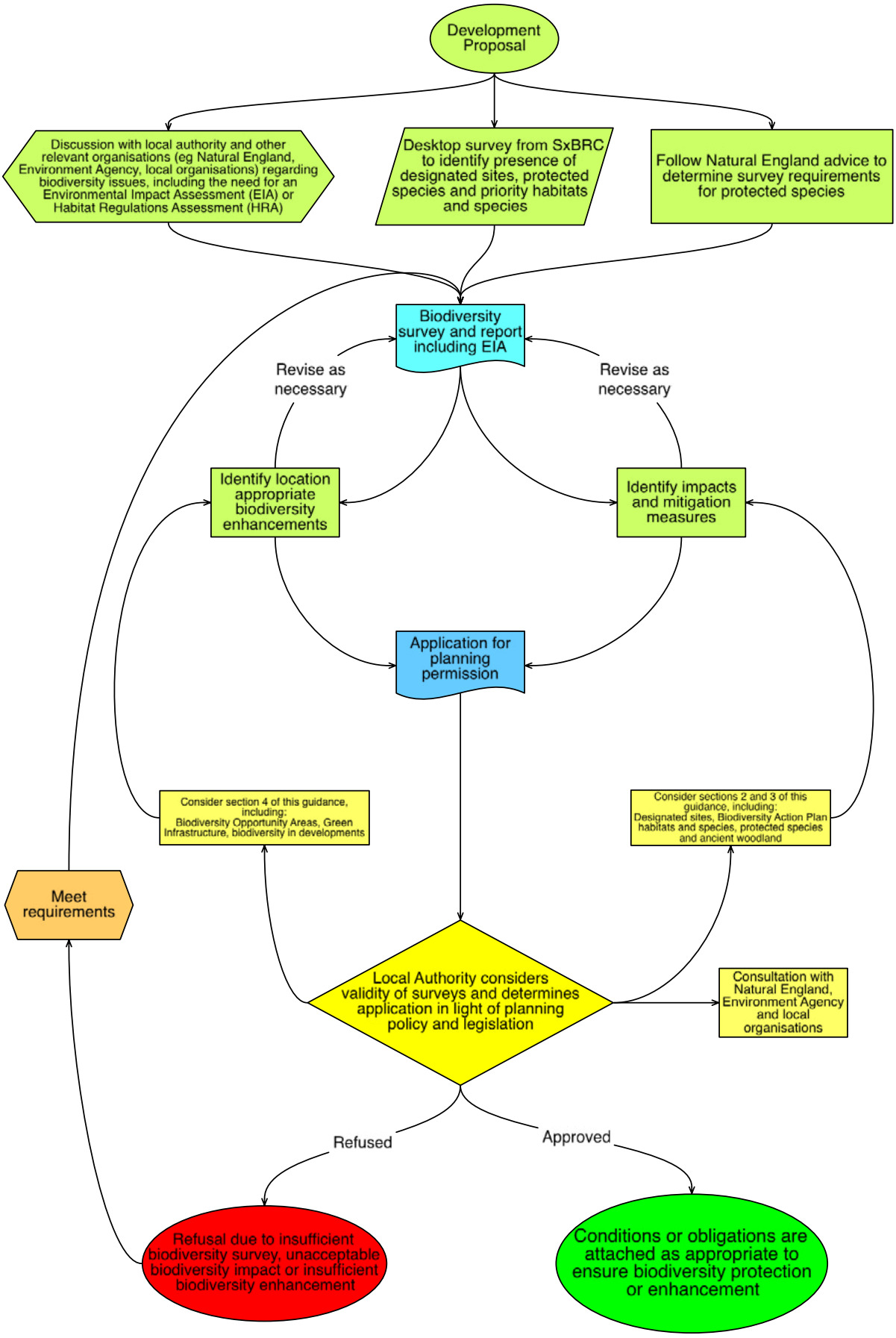
How to use this guidance

This guidance has been arranged to provide information from the National Planning Policy Framework. This guidance is divided into sections dealing with various biodiversity features, which should be protected and enhanced through the planning system. In general Sections 2 and 3 outline those features which should be protected, and Section 4 outlines opportunities to deliver biodiversity enhancements.

A page of information gives an overview of each feature and locally specific information. The column on the right hand side of the page provides a summary of relevant legislation or guidance. This summary is not exhaustive and we would recommend that you refer to the full text of the referenced documents when considering the topic in question. Boxes on 'Further information' provide sources of more detailed information and guidance. In the bottom right hand corner you will find 'Key Organisations' who you might wish to contact in relation to a particular issue.

This document also contains maps which identify the distribution of biodiversity designations in Sussex. It should be noted that these maps (produced by Sussex Biodiversity Record Centre (SxBRC)) are intended to provide a strategic overview and only show the situation at time of publication. More detailed and updated sites specific information is available directly from SxBRC or, for those working in local authorities, much of this information will be available on Geographical Information Systems (GIS) layers within your authority.

1b Biodiversity in the planning process



1c Information requirements

The importance of up-to-date information

The National Planning Policy Framework (NPPF) requires that Local Plan policies and planning decisions are based upon up-to-date information about the environmental characteristics of an area, including the relevant biodiversity resources of the area.

The standard planning application form (1App) requires that applicants identify any protected or priority species, designated sites, important habitats, or other biodiversity features on, or adjacent to, the application site when answering question 14. This guidance document gives an overview of these features in Sussex; more detailed site level information is available from SxBRC.

Where it is likely that a proposal will impact upon any of the features mentioned in question 14, up-to-date biodiversity information should be provided with a planning application. The type of assessment needed will vary from a biodiversity survey and report to EIA and Appropriate Assessment if a European Site is involved.

It is not within the scope of this guidance to explain how or when to undertake such assessments - national and regional guidance is available on this - see the 'Further information' box below.

It is important to bear in mind that the survey work needed to inform such assessments will be seasonally restricted. Discussion of biodiversity survey needs at pre-application stage can help reduce the likelihood of delays resulting from requirements for survey being identified at a later stage.

All ecological reports should include the following:

1. The biodiversity present
2. How biodiversity impacts can be avoided
3. If it is not possible to avoid impacts, how they can be mitigated
4. If there is no way of mitigating impacts, compensation measures should be identified
5. The report should demonstrate how the application can result in biodiversity gains

Avoidance, mitigation, compensation and enhancement measures must be clearly stated to enable report recommendations to be conditioned and enforced.

Further information:

- Biodiversity: Code of Practice for Planning and Development
- Ecological Impact Assessment Guidelines (CIEEM)
- Environmental Impact Assessment Advice Note
- Habitat Regulations Assessment Guidance for Major Projects
- Natural England Guidance on Protected Species Surveys
- Natural England Standing Advice for Ancient Woodland
- Natural England Standing Advice on Protected Species
- Protected Species Survey Calendar

NPPF

States that the Planning policies and decisions are based on up to date information about the Natural Environment and other characteristics of the area… Para 165

ODPM Circular 06/05 Government Circular: Biodiversity and geological conservation - statutory obligations and their impact within the planning system

Para 98

"The presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat. Local authorities should consult Natural England before granting planning permission. They should consider attaching appropriate planning conditions or entering into planning obligations under which the developer would take steps to secure the long term protection of the species. They should also advise developers that they must comply with any statutory species protection provisions affecting the site concerned. For European protected species (i.e. those species protected under the Habitats Regulations) further strict provisions apply, as explained below, to which planning authorities must have regard."

Para 99

"It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision. The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances, with the result that the surveys are carried out after planning permission..."

2a Internationally designated sites

Internationally designated sites: Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar Sites

Sussex has 24 sites designated at International level which fall partly or entirely within the county; they are mapped for East and West Sussex on map 1. The law is very strict with regard to these sites; development proposals which will adversely affect these sites are not permitted*.

If a development is proposed that may impact on a SAC, SPA or RAMSAR site, the applicant will need to submit an assessment of potential impacts and their significance with their planning application. This information is used by the local authority to make an 'Appropriate Assessment' of the implications for the internationally designated site.

Impacts that will need to be considered include direct impacts, for example habitat loss through land take, and indirect impacts such as changes to water quality or quantity, air pollution or increased recreational pressure.

Indirect impacts could result from development proposals some distance from a Internationally designated site and impacts on Internationally designated sites in other counties should also be considered.

**In exceptional circumstances a proposal that would impact negatively on a internationally designated site may be permitted, but only where there are no alternative solutions and the proposal is necessary for imperative reasons of over-riding public interest. Where this is the case, compensatory measures will be necessary.*

Sussex Special Areas of Conservation

- Arun Valley SAC
- Ashdown Forest SAC
- Castle Hill SAC
- Duncton to Bignor Escarpment SAC
- Dungeness SAC
- Ebernoe Common SAC
- Hastings Cliffs SAC
- Kingley Vale SAC
- Lewes Downs SAC
- Pevensey Levels SAC
- Rook Clift SAC
- Singleton and Cocking Tunnels SAC
- Solent Maritime SAC
- The Mens SAC

Sussex Special Protection Areas

- Arun Valley SPA
- Ashdown Forest SPA
- Chichester and Langstone Harbours SPA
- Dungeness to Pett Level SPA
- Pagham Harbour SPA
- Wealden Heaths Phase II SPA

RAMSAR Sites

- Arun Valley
- Chichester and Langstone Harbours
- Pagham Harbour
- Pevensey Levels

Legislation

Special Areas of Conservation (SACs) designated under EC Habitats Directive

Special Protection Areas (SPAs) designated under EC Birds Directive (Council Directive 79/409/EEC on the conservation of wild birds)

In the UK these are implemented through UK law by the Conservation of Habitats and Species Regulations 2010
Wildlife & Countryside Act 1981 (as amended)

Ashdown Forest / Tony Buckwell

NPPF

"The presumption in favour of sustainable development (para 14) does not apply where developments requiring appropriate assessment under the Birds of Habitat Directives is being considered, planned or determined." Para 119

"The following site should be given the same protection as European Sites

- Potential SPA AND possible SAC
- Listed or proposed RAMSAR sites
- Sites identified or required as compensatory measures for adverse effects on European sites , potential SPA, possible SAC and listed or proposed RAMSAR sites"

Para 118

Key organisations:
Environment Agency
Natural England
Local Authorities

2b Nationally designated sites

Nationally designated sites:

Sites of Special Scientific Interest (SSSI)
SSSIs are a series of sites across the UK, which provide a representative sample of the nation's best habitats. There are 141 SSSIs in Sussex , covering approximately 23,964ha. SSSIs are designated for either their biological or geological interest and are shown on map 2 by district. International sites may also be designated as SSSIs but the features for which the different designations have been made may differ.

SSSIs are given a high level of protection through both the planning and legal systems. Normally development that would adversely affect a SSSI is not acceptable. ODPM Circular 06/05 notes in paragraph 64, 'the planning authority should bear in mind the possibility that certain developments may affect a site at some distance away. Only in special cases, where the importance of a development outweighs the impact on the SSSI, would an adverse effect be permitted. In such cases, planning conditions or obligations would be used to ensure the impact is mitigated or compensated'.

There is not a requirement for the 'Appropriate Assessment' process for SSSIs, but for developments likely to impact on a SSSI an Environmental Impact Assessment will usually be necessary.

National Nature Reserve (NNR)
The term 'nature reserve' is used to describe a range of different types of site important for wildlife and people. Some of these nature reserves have a statutory designation in their own right; in other cases, the term 'nature reserve' does not in itself imply any special protection. However, most of these sites will receive another form of designation (SAC, SSSI, SNCI) and most, if not all, support protected species or priority habitats or species.

NNRs protect sensitive biological or geological features, provide sites for ecological research and offer opportunities for people to experience the natural environment. NNRs are a statutory designation made by Natural England. Sussex has 7 NNRs: The NNRS within district boundaries can be viewed on map 2.

South Downs National Park
Following the designation of the South Downs National Park (SDNP), a new organisation, the National Park Authority (SDNPA) takes on the responsibility of local planning authority over the National Park area. The role of the South Downs National Park as a Planning Authority is to control and influence the development of land and buildings within its boundaries. To do this effectively the SDNPA has to balance the statutory duties and purposes of the National Park, safeguarding the natural environment and existing built heritage, with the needs of individuals, the local population supporting rural communities and local businesses. The SDNPA has agreed and implemented unique partnerships with the 15 Local Authorities operating within the Park boundaries, working alongside and overseeing applications to ensure that planning guidelines are adhered to.

Legislation

Wildlife and Countryside Act (1981) and Countryside and Rights of Way Act (2000)

NPPF
"Great weight should be given to conserving landscapes and scenic beauty in National Parks …….. The conservation of wildlife and cultural heritage are important considerations in all these areas and should be given great weight in the National Parks and the broads" para 115

"Planning permission should be refused for major developments in these designated areas except in exceptional circumstances and where it can be demonstrated they are in the public interest" para 116

"Proposed developments on land within or outside a SSSI likely to have an adverse effect on a SSSI (either individually or combined with other developments should not normally be permitted. Where an adverse effect on the sites notified special interest feature is likely, an exception should only be made where the benefits of the development, at this site clearly out weigh both the impacts that is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of SSSI" para 118

2c Legally protected species

Protected species occur throughout the county

The SxBRC holds records for protected species in Sussex in the form of a Protected Species Inventory. For more information on UK wildlife protection legislation and the protected species register visit this page on the SxBRC website.

The species receiving the strictest protection are generally referred to as 'European Protected Species (EPS)' since they are protected under European Directives. The EPS you are most likely to come across in relation to development in Sussex are great crested newt and bats. Other Sussex species include hazel dormouse and otter. It is an offence to damage or destroy breeding or resting places of EPS. It is also an offence to deliberately capture, injure or kill them.

Examples of activities that could breach the legislation include: in-filling or earthworks near to a pond used by great crested newt, felling of trees or demolition of buildings used by bats, clearance of woodland or hedgerows supporting dormice or work on water course banks near to an otter holt.

Species can receive varying levels of protection under the Wildlife and Countryside Act (WCA). Sussex species receiving protection under this Act include water vole, common lizard, grass snake, slow worm and Roman snail. All these species are protected against killing and injury, sale and advertisement for sale. It is also illegal to take a Roman snail or freshwater crayfish. Water voles receive full protection under this Act, additionally making it illegal to obstruct access to, or destroy a water vole burrow or to recklessly or intentionally disturb a water vole in its burrow. The WCA makes it illegal to pick, uproot or destroy certain rare plants.

Development will need to avoid impacts on protected species, and where this is not possible, mitigation or compensation will be necessary. If there is a possibility that a development proposal will impact on a protected species, surveys will need to be submitted with a planning application to determine the impacts. Surveys to determine the presence or absence of protected species need to be provided up front with a planning application and should not be made a condition of planning permission since their presence is a material consideration that will need to inform decisions (see Circular 06/05, page 98/99). If planning permission is granted, a development licence, or conservation licence, from Natural England may be required. All ecological surveys need to be undertaken by a suitably qualified ecologist.

Red Kite / Hugh Clark

Birds

All bird nests, eggs and young are protected under the WCA. Therefore, removal of any bird nesting habitat such as trees or scrub (or buildings in the case of birds such as barn owls, swifts, swallows, house martins and house sparrows) should only take place outside of the bird breeding season.

Some birds, listed on Schedule 1 of the WCA receive an extra level of protection which means that they cannot be disturbed during the breeding season; those likely to be found in Sussex include red kite, kingfisher, barn owl, peregrine, hobby, harriers, little ringed plover, Dartford and Cetti's warbler.

Legislation

EC Habitats Directive, transposed into UK law by Conservation (Natural Habitats, &c.) Regulations 1994

Wildlife and Countryside Act (1981)

Protection of Badgers Act 1992

Planning policy

The National Planning Policy Framework does not cover protected species specifically since they are protected by law.

Badgers

Badgers are a fairly common species, and are, therefore, quite likely to be encountered on a potential development site. Whilst not a rare species, badgers receive legal protection due to persecution and animal welfare issues.

Badgers are protected under the Protection of Badgers Act 1992 against killing, injury or taking. Badger setts are also protected against damage, destruction or obstruction and it is illegal to disturb a badger in its sett.

A badger survey and report will be needed if a development is likely to impact on a badger sett, and appropriate mitigation will need to be put in place if impacts cannot be avoided.

Badgers / Hugh Clark

Key organisations:
Environment Agency
Natural England
Local Authorities

2c Legally protected species

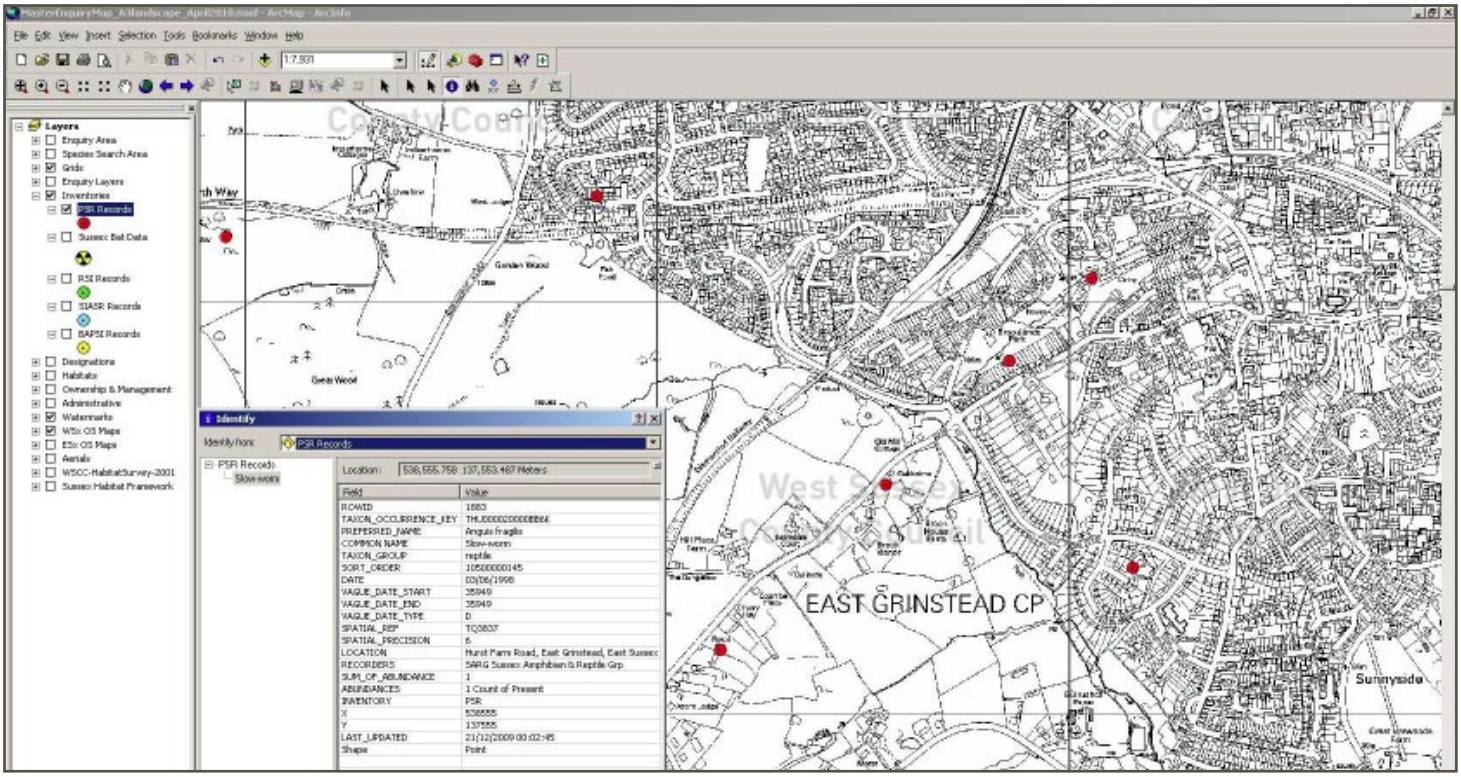
Where are protected species likely to occur?

Below is an example of data provided by SxBRC to aid local authorities in determining the likely occurrence of protected species in relation to planning issues. It shows the locations where protected species have been recorded. However, it is important to be aware that species may occur outside sites where they have been recorded and absence of evidence is not evidence of absence.

Local authorities can use this information to help work out when protected species survey information needs to be provided to help determine a planning application. More information on how to determine when a protected species survey is required has been produced by Natural England in the form of a Standing Advice Note.

It is important to bear in mind that protected species surveys can usually only be undertaken at certain times of year. For example, surveys of ponds for great crested newts must be undertaken between mid-March and mid-June when newts return to ponds to breed.

Desk top surveys are not sufficient to determine the current species/habitat composition of a site and must be supported by a field survey.



Dormouse / Hugh Clark

Further information on Protected Species

- Badgers and Development (Natural England)
- Bat Mitigation Guidelines (Natural England)
- Circular 06/05: Biodiversity and Geological Conservation—Statutory Obligations and Their Impacts Within the Planning System
- Dormouse Conservation Handbook (Natural England)
- Great Crested Newts Mitigation Guidelines (Natural England)
- Natural England Standing Advice on Protected Species
- Water Voles — the law in practice (Natural England)

3a Local sites and priority habitats and species

Heathland / Sussex Wildlife Trust

Vegetated Shingle / Dee Christensen

Protection through the planning system

The following biodiversity features do not receive legal protection, but are recognised through the planning system:

- Local Wildlife Sites
- Ancient Woodland
- Priority Habitats
- Priority Species

Normally, development which would adversely affect these features is not acceptable. Only in special cases, where the importance of a development outweighs the impact on the feature, would an adverse affect be permitted. In such cases, planning conditions or obligations would be used to mitigate the impact.

Where a development has the potential to impact on a local site, or a priority habitat or species, a biodiversity survey and report will be required; in some circumstances an Environmental Impact Assessment may be needed.

The following pages give information on these features as they occur in Sussex.

3b Local sites

Valuable sites for Sussex local wildlife

Local Sites are sites of substantive nature conservation value or geological interest. In Sussex, Local Sites consist of Sites of Nature Conservation Importance (SNCI) and Regionally Important Geological Sites (RIGS). The methods for designating SNCI differs in East and West Sussex. In West Sussex the SNCIs are designated on a county level using criteria available from West Sussex County Council, while in East Sussex each district has its own criteria for SNCI designations. In total, there are 635 SNCIs in the county, these are shown by district on map 3.

Although Local Sites are a non-statutory designation they are recognised within the planning system. While there are no legal obligations attached to them their special characteristics mean they are sites of high priority within the county and their maintenance is important.

All SNCI sites which meet the necessary criteria can be designated; this differs significantly from the process of identifying SSSIs, as the latter are a representative sample of sites. Thus, SNCI can be equivalent in quality to SSSIs.

The identification of SNCIs is an ongoing process through monitoring and review. Contact your County Council Ecologists for further information. SxBRC should be contacted for the most up-to-date information on SNCI designation in your district.

Local Authorities provide data on improved local biodiversity direct to Defra as part of their obligations under Single Data List 160-00. The data collection assesses the proportion of Local Wildlife and Geological Sites under positive conservation management.

If a planning proposal is likely to affect an SNCI a biodiversity survey and report will be necessary to establish any likely impacts.

County Councils responsibilities: Single Data list 160.00

The performance of local authorities for biodiversity is measured by assessing of local sites (SNCI) where positive conservation management is being achieved ; this is known as single data list160.00 and it is reported on by the county councils.

Legislation

Local Sites are non-statutory sites: no additional legislation applies.

Southerham / Nigel Symington

NPPF

"To minimise the impact on biodiversity and geodiversity, planning policies should: Identify and map components of the ecological network, including the hierarchy of international, national and locally designated sites of importance to biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation" Para 117

Further information

- Local Sites, Guidance on their Identification, Selection and Management (Defra)
- NI 197 — Improved Biodiversity — proportion of Local Sites where active conservation management is being achieved

Key organisations:

East Sussex County Council
West Sussex County Council
Sussex Biodiversity Partnership
Sussex Biodiversity Record Centre

3c Ancient woodland

Trees and woodlands

Ancient woods are a nationally important and threatened habitat. They can be broadly defined as those woodlands that are known to have had continuous tree cover since at least 1600 AD. The South East has approximately 40% of the ancient woodland in England. The Ancient Woodland Inventory has recently been revised in West Sussex. The findings have shown that the amount of ancient woodland recorded within the county has increased. It has also shown that 10.4% of West Sussex is ancient woodland, higher than the 4.4% national average. An Ancient Woodland Inventory has also been under taken in Lewes and Wealden districts, and the rest of East Sussex.

Map 4 shows the current coverage of ancient woodland within district boundaries.

Ancient and veteran trees may be associated with woodlands, traditional orchards and wood pasture and parkland Biodiversity Action Plan (BAP) habitats, or may stand alone. For example, old trees are often found on old parish boundaries. Ancient trees are often in the third and final stage of their life and are old relative to other trees of the same species. Veteran trees on the other hand are usually in the second or mature stage of their life and contain important wildlife features such as holes, deadwood and wounds.

Ancient woodlands and ancient or veteran trees are likely to have biodiversity interest, as well as cultural and historical significance. Ancient woodlands and ancient and veteran trees may be protected by Tree Preservation Orders (TPO) but they are also protected by planning policy (see right).

Coppice with bluebells / Victoria Hume

When assessing the potential impact of a development on trees and woodlands, potential impacts on tree roots, as well as the above ground features, must be taken into account. Issues such as compaction or alterations to drainage could have significant impacts on trees and woodlands.

Biodiversity of ancient woodlands and veteran trees

Ancient woodlands are likely to have greater biodiversity interest than more recently planted woodlands; some ancient woodlands will also be Biodiversity Action Plan priority habitats. Many woodland plants with limited dispersal abilities are associated with ancient woodlands — some of these are used to help identify the presence of an ancient woodland and are known as ancient woodland indicators. In addition to ground flora interest, ancient woodlands are likely to support protected species such as bats and dormice, as well as woodland birds and butterflies.

It has been estimated that Britain supports 80% of Europe's veteran trees. They are particularly important for the invertebrate communities they support, as well as providing good roosting habitat for bats, and nesting sites for birds. Old trees are also likely to support a rich variety of lichens and mosses.

Legislation

Town and Country Planning Act 1990: Tree Preservation Orders

Beech tree at The Mens / Mark Monk-Terry

NPPF

"Planning permission should be refused for developments resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland unless the need for, and benefit of the development in that location clearly outweighs the loss" para 118

Veteran tree at Ebernoe Common / Mark Monk-Terry

Further information

- Natural England Standing Advice for Ancient Woodland
- Sussex Wildlife Trust Buffer Strips document

Key organisations:

Natural England
Sussex Wildlife Trust
Sussex Biodiversity Record Centre
Sussex Biodiversity Partnership

3d Priority habitats

Habitats of principle importance

The UK Biodiversity Action Plan, published in 1994, was the UK Government's response to signing the Convention on Biological Diversity (CBD) at the 1992 Rio Earth Summit. The new UK post-2012 Biodiversity Framework replaces the previous UK level Biodiversity Action Plan.

In England the focus is on delivering the outcomes set out in the Governments Biodiversity Strategy published in August 2011.

Biodiversity 2020: a strategy for England's Wildlife and Ecosystem Services sets out how the quality of our environment on land and at sea will be improved over the next ten years and follows on from policies contained in the Natural Environment White Paper, published in June 2011.

The distribution of known UK BAP priority habitats in districts is identified on map 5. BAP habitats are those identified under Section 41 of the Natural Environment & Rural Communities (NERC) Act as habitats of principle importance for the purpose of conserving biodiversity in England and are, therefore, protected by planning policy. These habitats do not receive statutory protection, but are protected by planning policy (see right). They will be found both within and outside designated sites, and may occur in areas outside of those in previous maps in this document.

UK BAP Habitats in Sussex

- Lowland Farmland and Grassland
  - Arable Field Margins
  - Hedgerows
  - Lowland Calcareous Grassland
  - Lowland Dry Acid Grassland
  - Lowland Heathland
  - Lowland Meadows
  - Purple Moor Grass and Rush Pastures
  - Traditional Orchards
- Woodland
  - Wood-pasture and Parkland
  - Woodland
- Coastal
  - Coastal Sand Dunes
  - Coastal Vegetated Shingle
  - Coastal Saltmarsh
  - Intertidal Mudflats
  - Maritime Cliff and Slope
  - Saline Lagoons
- Freshwater and Wetlands
  - Coastal and Floodplain Grazing Marsh
  - Eutrophic Standing Waters
  - Lowland Fens
  - Ponds
  - Reedbeds

Filsham Reedbed Nature Reserve / Sussex Wildlife Trust

Legislation

Natural Environment and Rural Communities Act 2006, Section 41 lists habitats of principle importance for the purpose of conserving biodiversity in England (this replaces the list under Section 74 of the Countryside & Rights of Way (CRoW) Act 2000)

Hedgerow / Miles Davies

NPPF

"To minimise impacts on biodiversity and geodiversity, planning policies should:
Promote preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations linked to national and local targets, and identify suitable ways of monitoring biodiversity in the plan" Para 117

Sussex Biodiversity Record Centre

Further information

- Ponds — A Priority Habitat: best practice guidance for development control planning officers
- UK Biodiversity Action Plans

Key organisations:

Sussex Biodiversity Partnership

3e Priority species

Species of principle importance

In addition to listing priority habitats (see Section 3d) the UK BAP also identifies species of priority for conservation in the UK. There are 1,150 BAP species, many of which are likely to be found both within and outside of designated sites. Many BAP species will also be associated with BAP habitats, but not exclusively so.

BAP species include rare and declining species of mammals, birds, reptiles, amphibians, fish, plants, mosses, lichens, liverworts and invertebrates.

Inclusion on the list of BAP species does not imply legal protection although some BAP species are also protected under law. The BAP species list has informed the identification, under Section 41 of the NERC Act, of species of principle importance for the conservation of biodiversity in England, which are protected by planning policy (see right).

BAP Species in Sussex

A full list of BAP species occurring in Sussex can be found on the Sussex Biodiversity Partnership website. Examples of BAP species that could be protected or enhanced through the planning system in Sussex include:

Brown hairstreak butterfly: a small species, not easily seen as it spends much of its time in the tree canopy, or hidden in hedgerows. This species is rare in the UK, its distribution is restricted to localities in southern Britain, mid-west Ireland and western Wales. The brown hairstreak has undergone severe declines due to hedgerow removal and annual winter flailing, which removes their eggs.

An area in Henfield, West Sussex is a hotspot for this species, which lays its eggs in the blackthorn hedges found here. Planning applications should avoid the removal or fragmentation of hedgerows where brown hairstreak occur, and existing and new hedgerows should be incorporated into the design of developments and managed to maintain and enhance brown hairstreak populations.

Farmland birds, including skylark, linnet, yellowhammer, reed-bunting, curlew, tree sparrow, grey partridge, bullfinch, starling, song thrush and turtle dove, have shown dramatic declines within the last 30 years. All individual birds are protected under the Wildlife and Countryside Act 1981, however, opportunities should be taken to maintain and enhance the populations of these farmland birds wherever possible.

Yellowhammer / Dave Kilbey

Development could impact on these species by direct loss of habitat, but also through increased recreational disturbance, especially associated with residential developments. Ground-nesting birds, such as skylark, can be protected by restricting access to areas they use during the breeding season. Species such as tree sparrow can benefit from the provision of suitable nest sites.

Wet grasslands along river valleys such as the Adur and Arun provide important remnant habitat for curlew and other wetland birds such as snipe, lapwing and redshank. Development should avoid habitat fragmentation and impacts on the hydrology of these areas. Opportunities should be taken to improve and extend suitable habitat; this may be combined with areas needed to provide flood protection/alleviation.

Legislation

Natural Environment and Rural Communities Act 2006, Section 41 lists species of principle importance for the purpose of conserving biodiversity in England (this replaces the list under Section 74 of the CRoW Act 2000).

Brown Hairstreak Butterfly / Derek Middleton

NPPF

"To minimise impacts on biodiversity and geodiversity, planning policies should: Promote preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations linked to national and local targets, and identify suitable ways of monitoring biodiversity in the plan" Para 117

Key organisations:

Sussex Biodiversity Partnership
Sussex Biodiversity Record Centre
Sussex Wildlife Trust

Species Groups:

Sussex Amphibian and Reptile Group
Sussex Bat Group
Sussex Butterfly Conservation
Sussex Dragonfly Group
Sussex Fungi Group
Sussex Mammal Group
Sussex Moth Group
Sussex Ornithological Society
Sussex Botanical Recording Society

3f Other areas of importance to biodiversity

There are a number of areas and sites important to biodiversity within the county which are identified in addition to those previously mentioned. These include nature reserves and Areas of Outstanding Natural Beauty.

The term 'nature reserve' is used to describe a range of different types of site important for wildlife and people. Some nature reserves have a statutory designation in their own right; in other cases, the term 'nature reserve' does not in itself imply any special protection. However, most of these sites will receive another form of designation (SAC, SSSI, SNCI) and most, if not all, support protected species or priority habitats or species.

Local Nature Reserves (LNRs) are important for people and wildlife; they have features of local biodiversity or geological interest and offer opportunities for learning. LNRs are a statutory designation made by local authorities. There are 53 LNRs in Sussex, map 6 highlights the LNRs within district boundaries.

Other nature reserves and green spaces
In addition to LNRs there are many other natures reserves and green spaces owned by charities, local authorities and private individuals that are important havens for wildlife. While some sites do have designations, others do not and are often looked after by dedicated volunteers, rangers and reserves officers who own or lease the land. For example Sussex Wildlife Trust manages 32 nature reserves within Sussex to protect important biodiversity, and to provide opportunities for people to enjoy local wildlife.

Butcherlands Fields / Deirdre Huston

Areas of Outstanding Natural Beauty (AONBs)
AONBs are landscape designations for the purpose of conserving and enhancing the natural beauty (including conservation of flora, fauna and geological and physiographical features) of an area. There are two AONBs in Sussex: the High Weald AONB and the Chichester Harbour AONB

AONBs support a large number of designated nature conservation sites and priority habitats. A significant proportion of Sussex Biodiversity Opportunity. Areas (see section 4) are within AONBs, as are some of the most biodiverse landscape areas.

Legislation

National Nature Reserves are designated under the Wildlife and Countryside Act (Section 35) and the National Parks and Access to the Countryside Act 1949.

Local Nature Reserves are designated under the National Parks and Access to the Countryside Act 1949.

Planning guidance
Guidance described in Sections 2 and 3 should be applied according to the wildlife interest and any statutory designation that applies to the nature reserve, and biodiversity enhancements should be sought in line with NPPF and local policy

NPPF
"Great weight should be given to conserving landscapes and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to landscape and scenic beauty. The conservation of wildlife and cultural heritage are important considerations in all these areas and should be given great weight in the National Parks and the Broads." Para 115

"Planning permission should be refused for major developments in these designated areas (i.e. NP & AONB) except in exceptional circumstances and where it can be demonstrated they are in the public interest." Para 116

Further information
- High Weald AONB Management Plan
- Chichester Harbour AONB Management Plan

Key organisations:

Sussex Wildlife Trust
Royal Society for the Protection of Birds
Woodland Trust
Local Authorities

4a Biodiversity Opportunity Areas (BOAs) & The Local Nature Partnership (LNP)

Important areas for targeting wildlife conservation

BOAs identify the most important areas wildlife conservation in Sussex, where targeted conservation action will have the greatest benefit to wildlife. The main aim within BOAs is to restore biodiversity at a landscape scale through the maintenance, restoration and creation of BAP priority habitats. BOAs are identified within districts on map 7.

There is a requirement within the NPPF for the identification of areas of opportunity for biodiversity improvement in Local Development Frameworks (see right), and BOAs provide an important basis for this.

Until the policy approach has been developed further in Local Development Frameworks, it is suggested that development that would prevent the achievement of the aims of a BOA is avoided. In many cases this involves protecting the designated and priority habitats and species in the BOAs, but consideration should also be given to whether development will affect habitat connectivity and integrity, either positively or negatively.

Local Nature Partnership (LNP)

In 2011 the Government released its Natural Environment White Paper outlining its vision for the natural environment along with 92 commitments aimed at achieving its ambitions. These ambitions include the creation of LNPs; partnerships working to improve the range of benefits and services provided by good land management. It is envisaged that these partnerships will build on existing arrangements and engage with new partners.

Established in 2012 the purpose of the Sussex LNP is to work across sectors and organisations to secure the healthiest ecological system possible thereby protecting and enhancing the natural environment and all that it gives us. The Sussex LNP vision is structured around ecosystems services. This has been developed to reinforce the value the Sussex LNP places on the natural environment and to influence its structure, membership and reporting mechanisms.

Delivering biodiversity gains in Sussex Biodiversity Opportunity Areas

The BOAs were identified by the Sussex Biodiversity Partnership in consultation with local authorities, statutory agencies and conservation organisations in Sussex. They were identified by taking into account existing concentrations of BAP habitat and important areas for priority species. The potential for habitat restoration was assessed by taking into account geology, topography and hydrology.

A statement has been produced for each BOA identifying the features of biodiversity importance and targets for habitat maintenance, enhancement, restoration and creation.

NPPF

"Set out a strategic approach in their local plans, planning positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure. Maintain the character of the undeveloped coast, protecting and enhancing it's distinctive landscapes , particularly in areas defined as Heritage Coast, and improve public access to and enjoyment of the coast" Para 114

"To minimise impacts on biodiversity and geodiversity planning policies should Identify and map components of the local ecological networks , including the hierarchy of international , national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration and creation" Para 117

Local Nature Partnership

"Planning policies and decisions should be based on up-to-date information about the natural environment and other characteristics of the area including drawing fro example, from the River Basin Management Plans. Working with Local Nature Partnerships where appropriate. This should include an assessment of existing and potential components of ecological networks…" Para 165

"…..local planning authorities should work collaboratively on strategic planning priorities to enable delivery of sustainable development in consultation with Local Enterprise Partnership and Local Nature Partnerships..." Para 180

Key organisations:

Sussex Local Nature Partnership
Sussex Biodiversity Partnership
Sussex Wildlife Trust
Sussex Biodiversity Record Centre
Environment Agency
Natural England

Further information

- Sussex Biodiversity Opportunity Areas
- Ecosystem Services Guidance
- Potential Habitat Creation and Restoration by NCA

4b Green infrastructure

Networks of green spaces

Green Infrastructure consists of the green areas in both urban and rural settings. It fulfils a variety of functions including provision for biodiversity alongside delivery of recreational and cultural objectives. Green Infrastructure can include nature reserves, designated sites, recreational grounds, parks and open spaces, public rights of way, canals, allotments, cemeteries and many other water bodies and green spaces.

Green Infrastructure should provide a network of interconnected habitats to enable dispersal of species across the wider environment. Open spaces within developments should be linked to biodiversity in the wider countryside, including on designated sites, BAP habitats and BOAs. Green Infrastructure should also be planned to provide ecosystem services such as flood protection, microclimate control, filtration of air pollutants and enable our biodiversity to adapt to climate change.

New developments should be designed to maintain existing Green Infrastructure and enhance/expand provision. In delivering biodiversity enhancements, measures should be taken to contribute to the Green Infrastructure network to maintain existing habitats and to reduce habitat fragmentation. Production of a Green Infrastructure master-plan should be considered for large scale developments. Development should aim to provide enough accessible natural greenspace relative to the scale of the development to achieve the Accessible Natural Greenspace Standard (see below).

Many local planning authorities are producing strategies and policies that address aspects of Green Infrastructure within their Local Plans, which is encourage by the NPPF (see right). The NPPF encourages local authorities to co-operate with bordering authorities to ensure a landscape approach to delivering biodiversity and green infrastructure.

The Accessible Natural Greenspace Standard (ANGSt)

Access to natural spaces is known to improve quality of life, with benefits to health and well-being, as well as social cohesion. Natural England has developed a standard for the provision of accessible natural greenspace, known as ANGSt, the standards required are as follows:

- An accessible natural greenspace, of at least 2 ha in size, no more than 300 metres (5 minutes walk) from home
- Local Nature Reserves at a minimum level of 1 ha per thousand population
- At least one accessible 20 ha site within 2 km of home
- At least one accessible 100 ha site within 5 km of home
- At least one accessible 500 ha site within 10 km of home

It is recognised that some of these targets cannot be achieved over a short time period, but they provide a long term goal. In Oxfordshire, access to natural greenspace currently falls short of the standard (see An analysis of accessible natural greenspace provision in the South East):

- 3% of households are within 300 m of a 2 ha site
- 36% of households are within 2 km of a 20 ha site
- 41% of households are within 5 km of a 100 ha site
- No households are within 10 km of a 500 ha site

It is important to note that whilst access to natural green-space is essential, there will be some areas where allowing access would be detrimental to sensitive biodiversity.

NPPF

"LPAs should set out a strategic approach in their Local plans , planning positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure" Para 114

"Where new development is brought forward in areas vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure" Para 99

"To minimise impacts on biodiversity and geodiversity planning policies should Identify and map components of the local ecological networks , including the hierarchy of international , national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration and creation." Para 117

"To minimise impacts on biodiversity and geodiversity planning policies should plan for biodiversity at a landscape scale across local authority boundaries." Para 117

Further information

- Natural England's Green Infrastructure Guidance
- South East Green Infrastructure Framework
- An Analysis of Accessible Natural Green-space Provision in the South East
- Planning for a healthy environment: good practice for green infrastructure and biodiversity', by the TCPA and The Wildlife Trusts

Key organisations:

Sussex Wildlife Trust
Natural England
Environment Agency
Local Authorities district and county

4c Biodiversity within developments

Biodiversity is not only found in rural areas; the built environment also provides opportunities to deliver enhancements for biodiversity. For large developments, features for biodiversity should be strategically planned to link up to Green Infrastructure strategies and the wider environment.

Landscaping

Appropriate landscaping within developments can help reduce fragmentation of habitats by allowing wildlife to live within and move through built areas to the wider countryside. Landscaping should aim to retain and enhance existing biodiversity features.

Landscaped areas will be of most benefit to wildlife where native species are used as they are likely to support a wider range of native animals. Plant species originating from the local area will be even more beneficial.

Landscaping should, wherever possible, link up areas supporting biodiversity. For example, native hedgerows could link up open spaces, providing routes along which species such as hedgehogs, butterflies and bats can move. A series of ponds can link with wetland features in the wider countryside. Consideration should be given to the design of balancing ponds to provide wildlife habitat.

Street trees can add to the wildlife linkages through developed areas. Gardens also contribute to habitat for wildlife within a built area and their layout should be designed to create a network linking with open spaces.

Buildings

Developments are being built to ever increasing environmental standards, and biodiversity should not be forgotten here. There are opportunities for bats and birds to roost and nest within buildings. Nest boxes can be mounted on the outside of buildings, special bat or swift bricks can be incorporated into the structure, and entire roof spaces can be designed to provide opportunities for bats. Green roofs, provide foraging opportunities for birds, and support a range of invertebrates. The ability for the surrounding area to support species should be given careful consideration when making additions to buildings i.e. food and water for nesting birds.

Thought should be given to the impact of lighting on wildlife, especially bats; areas of no or low level lighting along bat foraging routes should be considered.

Roads

Roads can provide a barrier to wildlife, and collisions with animals such as deer can also pose a safety threat. Mammal fencing can be used to exclude mammals from the road, and underpasses can be created for a range of species including badger, hedgehog and amphibians. However more inclusive solutions such as green bridges can be created in order to fulfil Green Infrastructure to provide a safe crossing for both people and animals.

Protecting wildlife habitats within developments

Both new and existing biodiversity features within, or adjacent to, a development may be sensitive to human impacts such as recreational disturbance and vandalism.

Buffering of biodiversity features from areas of high human activity, such as roads, residential development or play areas can help to reduce impacts. Interpretation materials can be provided in wildlife conservation areas, where suitable. Community involvement in managing local wildlife areas can help to engender a feeling of ownership and can help ensure the long term survival of such areas. A monitoring and management plan should be drawn up for green spaces to ensure long term sustainability (See Appendices).

NPPF

"Development proposals where the primary objective is to conserve or enhance biodiversity should be permitted" Para 118

"Opportunities to incorporate biodiversity in and around developments should be encouraged" Para 118

"Local authorities should consider the case for setting out policies to resist inappropriate development of residential gardens, for example where development would cause harm to the local area." Para 53

"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" Para 109

"In preparing plans to meet development needs, the aim should be to minimise pollution and other adverse effects on the local and natural environment. Plans should allocate land with least environmental or amenity value, where consistent with other policies in this Framework" Para 110

Further information

- Sussex Wildlife Buffer Strips
- Pond Creation Tool Kit (Freshwater Habitats Trust)
- UK Green Building Council Portal
- Biodiversity by Design (Town and Country Planning Association)

Key organisations:

Sussex Wildlife Trust
Commission for Architecture and the Built Environment
Environment Agency
Town and Country Planning Association
Local Councils

Appendix 1 - Maps

MAP 1 - International Designations

- East Sussex
- West Sussex

MAP 2 - National Designations

- Adur District
- Arun District
- Brighton & Hove City
- Chichester District
- Crawley Borough - no National designations present in this Borough
- Eastbourne Borough
- Hastings Borough
- Horsham District
- Lewes District
- Mid Sussex District
- Rother District
- Wealden District
- Worthing Borough

MAP 3 - SNCI sites

- Adur District
- Arun District
- Brighton & Hove City
- Chichester District
- Crawley Borough
- Eastbourne Borough
- Hastings Borough
- Horsham District
- Lewes District
- Mid Sussex District
- Rother District
- Wealden District
- Worthing Borough

MAP 4—Ancient woodland sites

- Adur District
- Arun District
- Brighton & Hove City
- Chichester District
- Crawley Borough
- Eastbourne Borough
- Hastings Borough
- Horsham District
- Lewes District
- Mid Sussex District
- Rother District
- Wealden District
- Worthing Borough

Appendix 1 - Maps

MAP 5 - BAP priority habitats

- Adur District
- Arun District
- Brighton & Hove City
- Chichester District
- Crawley Borough
- Eastbourne Borough
- Hastings Borough
- Horsham District
- Lewes District
- Mid Sussex District
- Rother District
- Wealden District
- Worthing Borough

MAP 6 - LNR sites

- Adur District
- Arun District
- Brighton & Hove City
- Chichester District
- Crawley Borough
- Eastbourne Borough - No LNR designated sites in this Borough
- Hastings Borough
- Horsham District
- Lewes District
- Mid Sussex District
- Rother District
- Wealden District
- Worthing Borough - No LNR designated sites in this Borough

MAP 7 - BOA boundaries

- Adur District
- Arun District
- Brighton & Hove City
- Chichester District
- Crawley Borough
- Eastbourne Borough
- Hastings Borough
- Horsham District
- Lewes District
- Mid Sussex District
- Rother District
- Wealden District
- Worthing Borough

Appendix 2 - Key legislation and policy

Legislation	
Conservation (Natural Habitats, & c) Regulations 1994 and guidance notes	http://www.legislation.gov.uk/uksi/1994/2716/contents/made
Countryside and Rights of Way Act 2000	http://www.legislation.gov.uk/ukpga/2000/37/contents
EC Birds Directive	http://jncc.defra.gov.uk/page-1373
EC Habitats Directive	http://jncc.defra.gov.uk/page-1374
EIA Regulations	http://www.legislation.gov.uk/uksi/1999/293/contents/made
National Parks and Access to the Countryside Act 1949	http://www.legislation.gov.uk/ukpga/Geo6/12-13-14/97/contents
Natural Environment and Rural Communities Act 2006	http://www.legislation.gov.uk/ukpga/2006/16/contents
Protection of Badgers Act 1992	http://www.legislation.gov.uk/ukpga/1992/51/contents
Wildlife and Countryside Act 1981	http://jncc.defra.gov.uk/page-3614

Policy	
National Planning Policy Framework (NPPF)	https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf
Circular 06/05: Biodiversity and Geological Conservation—Statutory Obligations and Their Impact Within the Planning System	https://www.gov.uk/government/publications/biodiversity-and-geological-conservation-circular-06-2005

Pipistrelle Bat / Hugh Clark

Appendix 3 - Contacts

Amphibian and Reptile Conservation Trust
655A Christchurch Road, Boscombe,
Bournemouth, Dorset BH1 4AP
Telephone: 01202 391319
Email: enquiries@arc-trust.org
Website: www.arc-trust.org

Bat Conservation Trust
5th Floor, Quadrant House, 250 Kennington Lane,
London SE11 5RD
T: 020 7820 7178
E: enquiries@bats.org.uk
W: www.bats.org.uk

Butterfly Conservation
Manor Yard, East Lulworth
Wareham, Dorset BH20 5QP
T: 01929 400209
E: info@butterfly-conservation.org
W: www.butterfly-conservation.org

East Sussex County Council
County Hall, St Anne's Crescent
Lewes, East Sussex BN7 1UE
T: 0345 60 80 190
W: www.eastsussex.gov.uk

Environment Agency
Southern Regional Office
Guildbourne House, Chatsworth Road
Worthing, West Sussex BN11 1LD
T: 03708 506506
W: www.environment-agency.gov.uk

Freshwater Habitats Trust
c/o Faculty of Health & Life Sciences,
Oxford Brookes University, Gipsy Lane,
Headington, Oxford OX3 0BP
T: 01865 483249
E: info@freshwaterhabitats.org.uk
W: www.freshwaterhabitats.org.uk

Forestry Commission
South East and London Area Office
Bucks Horn Oak, Farnham,
Surrey GU10 4LS
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E: southeast.fce@forestry.gsi.gov.uk
W: www.forestry.gov.uk

Highweald AONB
High Weald AONB Unit
Woodland Enterprise Centre
Hastings Road, Flimwell,
East Sussex TN5 7PR
T: 01580 879500
E: info@highweald.org
W: www.highweald.org

Mammal Society
3 The Carronades, New Road,
Southampton SO14 0AA
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E: info@themammalsociety.org
W: www.mammal.org.uk

Natural England East and West Sussex Teams
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Chatsworth Road, Worthing, West Sussex BN11 1LD
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South Downs National Park Authority
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Sussex Biodiversity Partnership
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W: www.biodiversitysussex.org.uk

Sussex Biodiversity Record Centre
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T: 01273 497521
W: www.sxbrc.org.uk

Sussex Local Nature Partnership
c/o Sussex Wildlife Trust, Woods Mill, Henfield,
West Sussex BN5 9SD
W: www.sussexlnp.org.uk

Sussex Wildlife Trust
Woods Mill, Henfield
West Sussex BN5 9SD
T: 01273 492630
E: enquiries@sussexwt.org.uk
W: www.sussexwildlifetrust.org.uk

West Sussex County Council
County Hall, West Street
Chichester, West Sussex PO19 1RQ
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W: www.westsussex.gov.uk

Woodland Trust
Autumn Park, Dysart Road,
Grantham, Lincs NG31 6LL
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E: england@woodlandtrust.org.uk
W: www.woodlandtrust.org.uk

Appendix 4 - Glossary

ANGSt	Accessible Natural Greenspace Standard
AONB	Area of Outstanding Natural Beauty
ASNW	Ancient Semi-Natural Woodland
BAP	Biodiversity Action Plan
BOA	Biodiversity Opportunity Areas
CABE	Commission for Architecture and the Built Environment
CIRIA	Construction Industry Research and Information Association
Defra	Department for Food and Rural Affairs
EA	Environment Agency
EcIA	Ecological Impact Assessment
EIA	Environmental Impact Assessment
EPS	European Protected Species (under the EC Habitats Directive)
GCN	Great Crested Newt
GI	Green Infrastructure
HRA	Habitat Regulations Assessment (also known as appropriate assessment)
IEEM	Institute of Ecology and Environmental Management
IRPOI	Imperative Reasons of Over-riding Public Interest
LDF	Local Development Framework
LNR	Local Nature Reserve
NE	Natural England
NERC	National Environment and Rural Communities Act 2006
NNR	National Nature Reserve
NPPF	National Planning policy Framework
RIGS	Regionally Important Geological Site
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SNCI	Site of Nature Conservation Importance
SOS	Sussex Ornithological Society
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SWT	Sussex Wildlife Trust
SxBRC	Sussex Biodiversity Record Centre
TCPA	Town and Country Planning Association
TPO	Tree Preservation Order
WCA	Wildlife and Countryside Act (1981)

Appendix 5 - Biodiversity Provision Advice for Developers

Development proposals vary in both size and design, and individual circumstances determine the types of biodiversity action that is most applicable. Developers need to identify existing biodiversity assets through detailed, up-to-date ecological surveys. Then look at integrating potential biodiversity enhancements as part of the development and management of each site. Below are some actions that you could consider incorporating within built fabric to help conserve species that rely on buildings and ancillary developments for nesting. A reduction in available nesting sites in modern buildings is implicated in the decline of such species. (*Based on Appendix 2 of Exeter City Council's Residential Design Guide*)

Species	Actions	Additional Notes
Garden Birds	Install appropriate nest boxes	Areas with access to private and public open space, such as gardens. Sheltered from direct sunlight and prevailing winds.
Starling	Install internal boxes at soffits/eaves level	Suitable buildings in accommodating areas. Three metres above the ground with a perching site. Must have shade, easterly aspect works best. Install >1.5 metres apart. Be aware in choosing site that they can be noisy.
House Sparrow	Install internal boxes at soffits/eaves level	Suitable buildings in accommodating areas. Two metres above ground with a perching site. Must have shade, easterly aspect works best. They are gregarious so place boxes adjacent to each other, in groups of six or more.
Swift	Install internal 'Swift boxes' at soffits/ eaves level	Any suitable buildings. At least five metres above ground level with unimpeded access. Northerly or well shaded aspect is essential. Close to nest site as possible. Can use recorded calls to encourage them in.
Swallow	Create purpose-built ledges inside buildings where they will feel secure from predators. Install pre-formed nest cups to encourage establishment	Open-sided buildings within close proximity to green spaces and open spaces. Access to nesting material, principally wet mud. Avoid where droppings might become a nuisance.
House Martin	Install pre-cast nest cups to encourage establishment	Buildings with wide soffits in close proximity to green and open spaces. At least five metres above ground level, with shelter from sun and wind. Breed in close groups. Need access to wet mud. Doors and windows best avoided.
Barn Owls, Tawny Owls and Kestrels	Install appropriate nest boxes	At interface between town and country. Access to suitable habitat, at low risk of disturbance. May require expert advice to choose site.
Crevice-dwelling bats (e.g. Common, Soprano or Nathusius' Pipistrelle, Brandt's and Whiskered Bats	Leave or create spaces in the wall behind cladding. Install ready made bat boxes into walls or under eaves*. Create sandwich boards of at least 3 layers with a 1-inch gap to place inside the roof void against the battens.	Can fit into small spaces, but areas of one square metre would be helpful for summer nursery roosts. Two to seven metres above ground. Roost material should be rough, non-toxic and non-corrosive. Avoid artificial lighting. Maintain and enhance linear features, such as hedgerows, to help preserve flight lines.
Roof-void dwelling Bats (e.g. Noctule, Serotine, Leisler's, Daubenton's, Greater Mouse-Eared, Barbastelle and Bechstein's)	Leave timber joists and/or beams exposed. Install access points e.g. spaces under the eaves or specially-made holes in the roof tiles.	Two to seven metres above ground. Nursery roosts have southerly or westerly aspect, males prefer northerly aspect. Roost material should be rough, non-toxic and non-corrosive. Avoid artificial lighting. Maintain and enhance linear features, such as hedgerows, to help preserve flight lines.
Bats that need Flight Space (e.g. Natterer's, Brown and Grey Long-Eared)	Keep roof space untrussed to allow flight	Entry should be over 2 metres above ground. Roosting of untrussed roof space should be 2–2.8 high by 5 metres wide by 5 metres long. Maintain and enhance linear features, such as hedgerows, to help preserve flight lines.

**Bats are a European Protected Species which means a licence is requires to disturb or handle bats in the UK. Therefore once a bat box is installed, it cannot be opened, moved or interfered with in any way. Only a bat licence holder can check boxes.*

Appendix 6 - Biodiversity Opportunities within Landscaping

Below are some of the actions that could be incorporated into the landscaping of a proposed residential development to enhance its biodiversity value and ensure net gains.

Biodiversity Feature	Actions	Additional Notes
Hedges	Plant hedges consisting of a variety of wildlife friendly species, so that food will be plentiful throughout the year. Provide enough space for hedges to grow at least two metres wide with long grasses at the base. Locate new hedges so they will contribute to a local wildlife habitat network. Plant native hedges, such as blackthorn and holly, along boundaries.	Hedges are key to provide shelter, breeding nesting and foraging sites for a wide variety of species. They also act as wildlife corridors when they are both dense and wide enough.
Trees and Shrubs	Provide wildlife friendly species, with variation in height and structure. Locate trees and shrubs that can provide continuity within existing habitat. Retain trees with holes and deadwood , as well as retaining woody cuttings, stumps and fallen branches. Herbaceous plants and long grass around the tree or shrub benefits wildlife and helps maintain moisture. Retain some bare earth for invertebrates to bask and nest.	Trees and shrubs provide shelter, nesting sites and fruit for birds. Nectar from their flowers provides vital energy to bees and other insects. Maintaining dead and decaying wood is valuable to a range of invertebrates, which depend on it to complete stages of their life cycles.
Scrub	Consider trying to generate scrub habitat adjacent to existing wildlife-rich habitat.	Scrub provides good cover and food for birds, insects and reptiles but shouldn't be allowed to develop if it's at the expense of other wildlife rich habitats.
Climbing Plants	Locate climbing plants so they cover otherwise bare walls or fences. Locate climbing plants close to existing hedges, trees and flowering grassland. This should help it connect to the local wildlife habitat network.	Climbers such as ivy, clematis and honeysuckle provide nesting habitat, shelter and berries and nectar for insects
Wildflower Rich Grasses	Provide wildlife rich grassland on areas of poor soil or poor drainage. Embed spring flowering bulbs and plugs of nectar-rich flowers. Maintain patches of long grass for shelter, a food source and to enable plants to flower and seed. Remove cuttings and create a composting area.	This habitat provides cover for small mammals and invertebrates, and nectar for many invertebrates. Short grass can be greatly enhanced by adding flowering species tolerant of frequent mowing and trampling. Cutting and/or collecting will be required at appropriate intervals. Structure is crucial for invertebrates, so long grass and grassland cut on 2-3 year cycles benefit a wider ranger of species.
Watercourses and their Banks	Enhance and restore natural water courses by buffer planting, contouring steep sides and removing culverts. Avoid development of adjacent area.	
Reptiles	Provide long grass, interspersed with areas of bare ground and rocks for basking. Provide rockeries for hibernation. Locate and optimise continuity.	Reptiles likely to be encountered include the slow-worm common lizard, adder and grass snake.
Amphibians	Provide wildlife friendly ponds, channels and wetland areas, with nearby associated vegetation. Locate to provide continuity with existing habitat.	Amphibians likely to be encountered include frogs common toads, smooth newts and palmate newts. Most important factor is clean water. Ensure water features are created separately from Sustainable Urban Drainage Systems, which may be contaminated.
Small Mammals	Provide long grass and habitats, which provide a variety of fruit and seeds for small mammals.	Small mammals include mice, voles, shrews and hedgehogs.
Invertebrates	Provide flower-rich grassland with areas of long or undisturbed grassland, hedges, native trees and shrubs, ponds with buffer zones and good quality water. Retain "Brownfield" open mosaic habitats.	Invertebrates cover a wide range of species including bees, butterflies, moths, ants, flies, beetles, bugs, spiders and molluscs etc. Many are reliant on brownfield sites.
Bird Nesting Sites and Bat Roosts	Provide hedges, shrubs and trees for nesting. Install bird and bat boxes on existing suitable trees.	Nest and roosting sites can be provided as part of a landscape planting design.