BOROUGH PLAN BACKGROUND PAPER: Biodiversity and Geodiversity

Nuneaton and Bedworth Borough Council

2015

Nuneaton & Bedworth

United to Achieve

Contents

1. INTRODUCTION

1.1 Purpose

This paper sets out relevant international, national, regional, sub-regional and local policies and strategies, as well as providing a synopsis and recommendations of relevant evidence base documents to inform policy development in relation to biodiversity and geodiversity.

1.2 What is Biodiversity?

Biodiversity[1] encompasses the whole of the animate world, from invisible micro-organisms and bacteria to whales and from simple aquatic pond life to complex rainforest ecosystems. In short, biodiversity is the totality of genes, species and ecosystems and is an often used term to describe the variety of life on Earth.

Biodiversity gives us the essentials of life: water, oxygen, food, and the raw materials for everyday needs. People could not survive without it and the quality of life is greatly enriched for it. Yet human activity is having a devastating impact on biodiversity across the world.

Ultimately, biodiversity losses will damage the life support systems people rely on and lead to irreversible catastrophic consequences.

Globally, biodiversity is under threat from several areas associated with human activity, including overpopulation, exploitation, genetic modification, climate change and habitat destruction. It is estimated that the world is losing biodiversity at an ever-increasing rate as a result of human activity. In England alone there has been a loss of 492 species since 1800, with many more species and habitats in danger of disappearing, especially at the local level[2]. Intensive farming, pollution, urban development and disturbance are responsible for much of this loss.

Fortunately, in the UK, good planning can prevent or significantly reduce biodiversity loss and provide opportunities to enhance the environment.

1.3 What is Geodiversity?

Geology is the study of rocks and fossils in which the evolution of life through billions of years is told. It is of great scientific importance, providing a means of studying and understanding both the history of planet Earth and its processes, as well as exploiting the Earth's natural resources and raw materials to sustain modern lifestyles.

Geodiversity is defined as the natural range (diversity) of geological features (rocks, minerals, fossils, structures), geomorphological features (landforms and processes)

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[1] The United Nations, 2010, Convention on Biological Diversity defines biodiversity as: "*The variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems*" (Article 2).

[2] Natural England (2010) Lost Life: England's Lost and Threatened Species.

and soil features that make up the landscape and includes their assemblages, relationships, properties, interpretations and systems[3]. Simply put, it is the link between landscape, people and their activities and the variety of geological phenomena and processes such as volcanism, mountain building, tectonics, glaciations and erosion, that make the landscapes, rocks, fossils and soils that provide the framework for life on Earth[4].

In Great Britain, the geology is diverse and visually impressive, representing all the major divisions of geological time, illustrating a wide range of rock types, structures, natural processes and landforms.

Closer to home, Warwickshire County has one of the most varied selections of rocks and fossils in the country, dating between the Precambrian (600 million tears ago) to the Pleistocene ice age (10,000 years ago). These rocks and fossils show how the County has been shaped by deep seas, shallow tropical seas, river deltas, volcanoes and glaciers. They tell the story of continental drift, plate tectonics, climate change, volcanism, biological extinctions and sweeping evolutionary changes among the region's plant and animal inhabitants[5].

Evidence of drift deposits reveal unconsolidated sediments dating back several hundred thousand years to the middle part of the Pleistocene period. These deposits are widely distributed throughout the county and include older drift deposits of glacial origin comprised of river gravels, finely bedded clays and tills. The younger drift deposits include deposits of sand and gravel along the modern valley sides[6].

Locally, the 'solid' bedrock geology of Nuneaton and Bedworth is formed by the Warwickshire Coalfield, partly equating to the Warwickshire plateau. The Warwickshire Coalfield comprises relatively old rocks, running from Warwick in the south, through the centre of Nuneaton and Bedworth, to the Staffordshire border near Tamworth in the north. The surface geology is dominated by Upper Carboniferous mudstones and sandstones, of roughly 300 million years old. A narrow strip of older rocks up to 600 million years old is along the eastern side of the coalfield from Bedworth to near Mancetter, known as the Nuneaton Inlier. The surface geology includes Precambrian volcanic rocks, Cambrian sandstones and shales of Ordovician intrusive igneous rocks.

On the northeast edge of the Borough is lowland terrain, known as Triassic Lowlands. The surface geology of this area is dominated by sedimentary rocks of Triassic age—characterised by sandstones overlain by considerable thicknesses of red mudstone. Triassic sandstones also occur patchily on the margins of the coalfield. These are roughly 200 to 250 million years old[7].

[3] Gray, M. (2004). Geodiversity: Valuing and Conserving Abiotic Nature. Wiley, Chichester.
[4] Warwickshire Geological Conservation Group (2012) Warwickshire Geodiversity Action Plan
[5] Radley D Jonathan (2009) The Geological Evolution of Warwickshire, *Mercian Geologist* 17 (2): 75 – 85.
[6] Wallace, B (June 2010) Warwickshire Historic Landscape Characterisation Report. Warwickshire County Council.
[7] Wallace, B (June 2010) Warwickshire Historic Landscape Characterisation Report. Warwickshire County Council.

2. DESIGNATIONS RELEVANT TO NUNEATON AND BEDWORTH

Species and habitats are afforded varying degrees of protection relating to their conservation status, rarity and wider ecological value. Those species and habitats of greatest conservation concern are protected through legislation at European and/or national level. The UK and Local Biodiversity Action Plans list 'Priority' Species and Habitats which are noted to be endangered or at risk. These are also listed as Species and Habitats of Principal Importance in England under the NERC Act. Furthermore, in any local area, beyond designated sites, there is also a network of wildlife and geological sites identified as being of value to the local area.

This section sets out the relevant designations for Nuneaton and Bedworth. It lists the relevant designated sites. Appendix 1 gives full details of the designation. There are no Marine Protected Areas, National Nature Reserves, RAMSAR Sites or Special Protection Areas in the Borough.

2.1 Natura 2000 Site Network (N2k)

The EU Habitats Directive makes provision for a network of sites protected across the European Union. This network is referred to as Natura 2000 (N2K) and includes Special Areas of Conservation and Special Protection Areas.

These sites enjoy the highest level of statutory and government policy protection to maintain and restore any nature conservation interest. Specific and stringent tests within the Habitats Regulations 1994 ensure that harmful development will only be approved if there are no alternative solutions, and that there is overriding public interest (which case law defines as being as national interest) for the use, provided that the overall coherence of the network of international sites is maintained.

2.2 Special Areas of Conservation (SACs)

SACs are areas given special protection under the European Union's Habitats Directive. They provide increased protection to a variety of wild animals, plants and habitats. Nuneaton and Bedworth has one SAC at Ensor's Pool (see Appendix 1a).

2.3 Site of Special Scientific Interest (SSSI)

SSSIs are the very best examples of wildlife habitats, geological features and landforms in the UK and are protected by law under the Wildlife and Countryside Act 1981, as amended. The primary statutory mechanism for protecting nationally important geological sites is through the designation of a SSSI. Nuneaton and Bedworth has two SSSIs at Ensor's Pool and Griff Quarry (see Appendix 1b).

2.4 Local Nature Reserves (LNRs)

LNRs contain wildlife or geological features that are of interest locally and provide wildlife and geological educational opportunities. LNRs are a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949, and amended by Schedule 11 of the Natural Environment and Rural

Communities Act 2006. There are three LNRs, at Ensor's Pool, Bedworth Sloughs and Galley Common, in Nuneaton and Bedworth, totalling 24.77ha (see Appendix 1c). The amount of LNRs in the Borough contrasts to Natural England's recommendation of 1ha of LNR for every 1000 population, which would require the Borough to have approximately 125ha of land designated as a LNR.

2.5 Local Geological Sites (LGSs)

LGSs are non-statutory areas but are of importance locally and underpin and complement SSSIs. The sites are selected by voluntary local groups according to the nationally agreed criteria:

- The value of a site for educational purposes;
- The value of a site for study by Earth scientists;
- The historical and aesthetic value of a site from an Earth science perspective.

The existing geology of the local area has been around as long as 600 million years and has been subjugated to a wide range of natural processes, such as erosion from water and wind, as well as volcanism. Nonetheless, Natural England[8] considers that one of the biggest threats to geological sites is the loss of geological exposure through burial under coastal protection schemes, landfill or other developments, such as housing. Unless deflected or managed, this will result in serious loss or damage to some of the most important geological sites.

Nuneaton and Bedworth currently has eight Local Geological Sites (see Appendix 1d).

2.6 Local Wildlife Sites (LWSs)

LWSs are non-statutory areas of local importance for wildlife conservation that complement international and nationally designated wildlife sites. They support both locally and nationally threatened wildlife, and many sites contain habitats and species that are priorities under the county or UK Biodiversity Action Plans.

Sites are surveyed each year by the Habitat Biodiversity Audit for their wildlife value and are later taken before a panel to determine whether or not they meet the criteria for LWS designation. At the time the Local Plan 2006 was adopted there were five LWSs identified. There are now approximately 37 LWSs (see Appendix 1e) in the Borough and this number likely to continue to increase with time.

Whilst local sites may not be considered the best habitats, they nevertheless contribute significantly towards the critical mass necessary to support a healthy and secure 'natural' environment.

2.7 Priority Species and Priority Habitats

Priority species and habitats are those identified as being the most threatened and requiring action under the UK Biodiversity Action Plan (1994) in response to the United Nations Convention on Biological Diversity. Nuneaton and Bedworth has

[8] Geological Conservation: A Good Practice Guide.

several species and habitats that are of a priority status. The list of these species and habitats is included in Appendix 1f.

Some individual wildlife species receive their own statutory protection under a range of legislation. Specific policies in respect of these species should not repeat legislation and therefore should not be included in local development documents. Other species, on the other hand, have been identified as requiring conservation action as species of principal importance for the conservation of biodiversity in England (as listed under section 74 of the Countryside and Rights of Way Act 2000 and Section 41 of the NERC Act 2006). Policies in local development documents should establish measures to protect the habitats of these species from further decline.

2.8 Ancient Woodland

In England, land that has been continuously wooded since 1600 is considered to be ancient woodland. The date marks the beginning of reasonably accurate historical information on local land use, often in the form of estate maps. Notwithstanding, there is evidence of woodlands that are considerably older, as a number of woodlands are documented in the Domesday Book.

There are two types of ancient woodland:

- *Ancient and Semi-natural Woodland* (ASNW) – this is apparently of natural origin. This does not imply that the wood has remained untouched by human hand. In all probability it will have been managed over the centuries by coppicing and may even have been clear-felled at certain times but has since been restored by natural regeneration, not replanting.
- *Ancient replanted woodland* – although continuously wooded these areas have had the original tree cover replaced with newer plantings, usually within the last century and often with conifers, unlike ASNW.

Whilst much of Britain was cleared of native woodland during prehistory, many remnants have been maintained as a valuable resource for hundreds of years. Nowadays, ancient woods and trees are the jewel in the woodland crown. They are full of cultural heritage and are the richest sites for wildlife. Some ancient woodland, for example, formed parts of medieval royal forests, whilst others have a long associated history with industries such as iron, pottery production and ship building. In relation to biodiversity ancient woodlands and ancient trees support a huge range of wildlife—such as bluebells, primroses and wood anemones—many of which require stable conditions. They also provide the right conditions to support more threatened species than any other UK habitat.

Within Nuneaton and Bedworth there are 14 areas of Ancient Woodland (see Appendix 1g)

2.9 Veteran Trees

The term veteran tree is not precisely defined, as various criteria may determine the veteran status of an individual tree when compared to others. For example, a tree may be regarded as a veteran due to:

- its great age relative to others of the same species;
- existing in an ancient stage of life;
- its biological, aesthetic or cultural interest.

Size alone is a poor indicator of veteran status, as different species may have different rates of growth or natural life spans. For this reason, the species, relative ages, management practice, aesthetic, cultural and biological importance should all be taken into account when surveying or assessing potential veteran trees.

Furthermore, trees that contribute to the Borough's ecology, culture and heritage should also be considered for protection under a Tree Preservation Order.

3. INTERNATIONAL LEGISLATION

3.1 The Convention on the Conservation of European Wildlife and Natural Habitats (**the Bern Convention**)

The Convention was adopted in Bern, Switzerland in 1979, and came into force in 1982. The principal aims of the Convention are to ensure conservation and protection of specific wild plants and animal species and their natural habitats, to increase cooperation between contracting parties and to regulate the exploitation of those species (including migratory species).

To implement the Bern Convention in Europe, the European Community adopted Council Directive 79/409/EEC on the Conservation of Wild Birds (the EC Birds Directive) in 1979, and Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the EC Habitats Directive) in 1992. Among other details, the Directives provide for the establishment of a European network of protected areas (Natura 2000), and tackle the continuing losses of European biodiversity on land, the coast and in the sea, from human activities.

3.2 Conservation (Natural Habitats, etc) Regulations 1994 (regulation 38).

This implements EC Directive 92/43/EEC, known as The Habitats Directive. The Regulations make it an offence to deliberately kill, capture, or disturb a European Protected Species, or to damage or destroy the breeding site or resting place of such an animal. European Protected Species are defined in English legislation as species listed in Annex IV to the Habitats Directive whose natural range includes any area in Great Britain.

In relation to Nuneaton and Bedworth several bat species[9] and the Great Crested Newt, are all identified as priority species in Warwickshire, are protected under the Regulations.

[9] Conservation (Natural Habitats, etc) Regulations 1994 (regulation 38), Barbastrelle, Brandt's bat, Brown long-eared bat, Common pipistrelle, Daubenton's bat, leisler's bat, Lesser horseshoe bat, Natterer's bat, Noctule, Serotine and Soprano pipistrelle.

3.3 Directive 2009/147/EC (the Birds Directive, as amended)

The Directive provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. It sets broad objectives for a wide range of activities, although the precise legal mechanisms for their achievement are at the discretion of each Member State.

In England, the provisions of the Birds Directive are implemented through the Wildlife & Countryside Act 1981 (as amended), the Conservation (Natural Habitats, & c.) Regulations 2010 (as amended); the Offshore Marine Conservation (Natural Habitats & c.) Regulations 2007 as well as other legislation related to the uses of land and sea.

In relation to Nuneaton and Bedworth, the Song Thrush is protected under Annex II of the Directive.

3.4 Directive 92/43/EEC (the Habitats Directive)

The Habitats Directive is the means by which the European Union meets its obligations under the Bern Convention. The main aim of the Habitats Directive is to:

- promote the maintenance of biodiversity by requiring Member States to take measures;
- maintain or restore natural habitats and wild species listed on the Annexes to the Directive at a favourable conservation status;
- introduce robust protection for those habitats and species of European importance under a network of Special Protected Areas and Special Areas of Conservation, referred to as Natura 2000 sites.

The Council, therefore, is obligated to assess the land-use plans it produces, either alone or in combination with other projects and plans, to determine any likely significant effect on the Natura 2000 sites. *Likely* can be referred as probably and *significant* as not trivial or inconsequential.

In relation to Nuneaton and Bedworth, Annex II of the Directive includes White Clawed Crayfish, Great Crested Newts and the Lesser horseshoe, Greater horseshoe, Bechstein's and Barbastrelle bats. Annex IV provides protection for all UK bats and the Great Grested Newt, whilst Annex V protects White Clawed Crayfish.

4. NATIONAL LEGISLATION, POLICY AND GUIDANCE

4.1 Natural Environment and Rural Communities (NERC) Act 2006

The NERC Act provides the framework for considering biodiversity. It ensures that all local authorities and other public authorities in England and Wales have a duty to promote and enhance biodiversity in all of their functions, and aims to raise the profile of biodiversity and to make sure that it is considered in all local authority decision and policies.

Of particular importance is Section 40, which states that "Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity." Conserving biodiversity is defined as restoring or enhancing a population or habitat.

Furthermore, Section 41 of the Act states that the Secretary of State must publish a list of species and habitats of principle importance for the purpose of conserving biodiversity and that list must be kept under review. The most up to date list is provided in Appendices 3 and 4 of this report.

The Section 41 list is used to guide decision-makers such as public bodies, including local authorities, in implementing their duty under section 40 of the Act.

Amongst Nuneaton and Bedworth's priority species the list contains all bat species in Warwickshire, the Great Crested Newt, the Song Thrush, Water Vole and the White Clawed Crayfish.

4.2 Wildlife and Countryside Act 1981, as amended

The Wildlife and Countryside Act 1981 (W&CA) was implemented to comply with the Directive 2009/147/EC on the conservation of wild birds (previously EC79/409/EEC). Although other significant acts have been passed since the W&CA was introduced, it is still the major legal instrument for wildlife protection in Britain. The W&CA gives protection to native species (especially those at threat), controls the release of non-native species, enhances the protection of SSSIs and builds upon the rights of way rules in the National Parks and Access to the Countryside Act 1949. The W&CA is split into 4 parts covering 74 sections, and includes 17 schedules.

The W&CA has laid the foundation for later legislation to build upon and the compulsory five year review of schedules 5 and 8 make it dynamic in terms of the species which are protected by it. As such, there have been a number of significant amendments to the Act.

In relation to Nuneaton and Bedworth, all Bats and the Water Vole are protected under Schedule 5 of the W&CA, whilst the Song Thrush has limited protected under Schedule 3 of the Act.

4.3 The Hedgerow Regulations 1997

Hedgerows are often species rich. They may contain species which have their own species protection legislation or are protected under the Wildlife and Countryside Act 1981, as amended, such as badgers and nesting birds. The importance of hedgerows is reflected in the Regulations, which make it unlawful to remove a rural hedgerow without planning permission.

The Regulations specify that a hedgerow is deemed 'important' if it or the hedgerow of which it is a stretch:

a has existed for 30 years or more, and,
b satisfies at least one of the criteria in Part II of Schedule 1.

The criteria listed in Part II of Schedule 1 consist of the following:

i Historic hedgerow existing before 1850.

ii The hedgerow incorporates an archaeological feature.

iii The hedgerow contains at least seven woody species, on average, in a 30m length or six woody species plus three associated features (these features include a ditch, bank, three woodland species on the outermost metre of the hedgerow, etc), on average, in a 30m length or at least five woody species and at least four associated features, on average, in a 30m length.

4.4 The Natural Choice: Securing the Value of Nature 2011

This Natural Environment White Paper outlines the Government's vision for the natural environment and practical action to deliver that ambition. It was the first White Paper on the natural environment for 20 years, and is directly linked to the recently published National Ecosystem Assessment, which showed the strong economic arguments for safeguarding and enhancing the natural environment. The white paper also takes forward recommendations from Professor Sir John Lawton's independent review of England's wildlife sites and ecological network, *Making Space for Nature*.

The Government proposes an approach based on five components of the ecological network to be implemented at a landscape scale:

- Core areas of high nature conservation value—theses contain rare or important habitats or ecosystem services, such as protected wildlife sites and other semi-natural areas of high ecological quality
- Corridors and stepping stones—these enable species to move between core areas and are made up of a number of small sites (stepping stones) or a mosaic of habitats that allow species to move through
- Restoration areas—these are areas of opportunity where biodiversity of GI strategies can be implemented to create high-value areas so that ecological functions and wildlife can be restored
- buffer zones—these can be used to protect core areas of high nature conservation, restoration areas and stepping stones
- Sustainable use areas—these areas focus on the sustainable use of natural resources and appropriate economic activities. Together with the maintenance of ecosystem services[10], they soften the wider countryside, making it more permeable and less hostile to wildlife

The White Paper recognises that the natural environment is sometimes taken for granted and undervalued, but that people cannot flourish without the benefits and services it provides, asserting that: *"A healthy, properly functioning natural environment is the foundation of sustained economic growth, prospering communities and personal wellbeing."*

The White Paper aims to protect and improve the natural environment, reconnect people with nature and grow a green economy sustainably. The White Paper also

[10] Ecosystem services refers to services provided by the natural environment directly, such as food, timber and energy, and indirectly, such as climate regulation, water purification and the productivity of soil.

introduces Local Nature Partnerships, Biodiversity Offsetting and asserts its commitment to a low-carbon future in order to protect the environment from the adverse impacts associated with carbon emissions and climate change.

4.4.1 Warwickshire, Coventry and Solihull Local Nature Partnership

The Warwickshire, Coventry and Solihull Local Nature Partnership (LNP) was approved in July 2012. The LNP is encouraged to work closely with Local Enterprise Partnerships (LEPs) and Health and Wellbeing Boards to, among other things, contribute to local plans and decision-making. The NPPF emphasises (in para. 180) the importance collaborative working in relation to strategic planning priorities in order to achieve sustainable development.

Specifically, the LNP aims to:

- Drive positive change in the local natural environment, taking a strategic view of the challenges and opportunities involved,
- Contribute to achieving the Government's national environmental objectives locally,
- Become local champions, influencing decision-making relating to the natural environment and its value to social and economic outcomes.

4.4.2 Biodiversity Offsetting

Biodiversity offsets are conservation activities designed to deliver biodiversity benefits and compensation in a measurable way. Biodiversity offsets are distinguished from other forms of ecological compensation by the requirement for measurable outcomes: the losses resulting from the impact of the development and the gains achieved through an offset are measured in the same way.

Department of Environment Food and Rural Affairs (Defra), Natural England and local authorities initiated six pilot areas to test the biodiversity offsetting approach. Nuneaton and Bedworth Borough Council was one of the pilot areas, included as part of the, Warwickshire, Coventry and Solihull pilot area. The pilot ran for two years from 1st April 2012, and was led by Warwickshire County Council (WCC).

Developers in pilot areas were required to provide compensation for biodiversity loss that was linked to a planning policy or they could do so voluntarily. The benefit for the developer was that:

- It simplified the discussion about how much compensation is needed;
- Relevant information was transparent and available to all from the start of the process;
- It allowed the developer to pay someone else to deliver the offset for them, and to pass on the responsibility for managing that compensation with no attachments.

The pilot is now over. Nevertheless, Defra is considering rolling out the scheme nationally. Regardless bodiversity offsetting does not require its own legislation to be implemented and it is endorsed by many countries internationally. Furthermore, WCC Ecological Services continue to use it to support the NPPF requirements of biodiversity no net loss.

Feedback from the pilot areas found biodiversity offsetting to be a very useful tool to increase the standards of onsite mitigation packages, as well as enable, where necessary, appropriate compensation offsite through planning obligations. In addition, the Environment Bank[11] is now working with an increasing number of authorities nationally who are implementing or investigating biodiversity offsetting in their areas.

Defra believes that a consistent framework for biodiversity offsetting across England has the potential to improve the implementation of planning policy requirements for biodiversity compensation aligned with an economic market value of compensation.

4.4.3 Mitigation Hierarchy

Biodiversity offsets come at the end of the "mitigation hierarchy". This means that they are only considered when the potential to avoid any damage, and mitigate any damage, has been fully considered. The mitigation hierarchy can be described in the context of biodiversity offsetting as:

Avoid—ensure that negative impacts do not occur as a result of planning decisions by, for example, locating development away from areas of ecological interest.

Mitigate—reduce negative impacts, for example, through changes to project design, construction methods or the timing of work; enhance or restore other interests or areas on a site so its overall ecological value is retained or incorporate new biodiversity areas within the development proposals.

Compensate—make up for the loss of, or permanent damage to, biodiversity. Where some harm to biodiversity is reduced through mitigation, compensation will represent the residual harm which cannot or may not be entirely mitigated.

The reasons for biodiversity loss are varied, but the UK National Ecosystem Assessment identifies land-use change, including development, as one of the major impacts on biodiversity in the UK. Notwithstanding, development is needed so that communities can grow and expand in a way which suits them, and to provide jobs and essential services, but development also has an obligation to contribute to the overall objective to halt biodiversity loss.

4.5 National Planning Policy Framework (NPPF)

The requirements of the NPPF are set out below alongside the policy approach that the Council has taken towards meeting these requirements.

[11] The Environment Bank links developers with land managers. The Environment Bank applies a system of biodiversity accounting against the impacts of development and generate investment in wildlife conservation schemes via 'habitat banking' and 'biodiversity offsetting'. The Environment Bank work with landowners, developers, planning authorities and conservationists to better account for environmental impacts, prevent biodiversity loss and encourage development to become more environmentally sustainable.

Relevant NPPF requirement	NPPF sub requirement	Relationship with policy
Core Planning Principle 7: contribute to conserving and enhancing the natural environment and reducing pollution. Allocations of land for development should prefer land of lesser environmental value, where consistent with other policies in this Framework;		This is primarily achieved by contributions from all the Environment and Climate Change policies. In terms of allocating development sites wildlife, habitats and landscape quality were key aspects that were taken into consideration.
Paragraph 109 – The planning system should contribute to and enhance the natural and local environment by:	• protecting and enhancing geological conservation interests;	The Biodivesity and Geodiversity policy conserves and where necessary enhaces geological interests.
	• recognising the wider benefits of ecosystem services;	The Biodivesity and Geodiversity policy considers the importance of ecosystem services.
	• 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;	The Biodivesity and Geodiversity policy includes biodiversity offsetting and a requirement that measures must be in place to ensure that species can positively respond to climate change and become resilient to future pressures.
Paragraph 113: Local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally		The Biodivesity and Geodiversity policy identifies what type of nature conservation sites will contribute to the Borough's 'Ecological Network'. It recognises their importance in the hierarchy of international, national and local status.

Relevant NPPF requirement	NPPF sub requirement	Relationship with policy
designated sites, so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks.		However, the number of international and nationally designated sites is dwarfed by the number of lower hierarchal sites. The policy, therefore, gives local sites significant protection due to the overall contribution they make to the network of habitats, without which interconnected and more widespread networks would not exist.
Paragraph 114: Local planning authorities 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;		The Biodiversity and Geodiversity policy sets out what is included in the Ecological Network for the Borough and explains how such sites will be protected and enhanced to halt the decline in biodiversity and deliver biodiversity net gains. The Green Infrastructure policy sets out the priorities for creating, protecting, enhancing and managing green infrastructure including biodiversity habitats.
Paragraph 117 – To minimise impacts on biodiversity and geodiversity, planning policies should:	• plan for biodiversity at a landscape-scale across local authority boundaries.	The Biodiversity and Geodiversity policy draws on evidence collated at a sub-regional scale. For example, through the surveys of the Coventry, Warwickshire and Solihull Habitat Biodiversity Audit Partnership and from the the Sub-regional Green Infrastructure Strategy. These recognise the need link habitats regardless of local government boundaries via green/

Relevant NPPF requirement	NPPF sub requirement	Relationship with policy
		wildlife corridors and stepping stones to ensure a joined up approach at a landscape scale.
	• 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 or creation.	The Biodiversity and Geodiversity policy is based on evidence from the surveys, data and mapping of the Coventry, Warwickshire and Solihull Habitat Biodiversity Audit Partnership. The Ecology and Geodiversity Assessment identifies ecological or geological features that will need to be taken into consideration when developing and designing the site allocations for residential and commercial.
	• promote the 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 indicators for monitoring biodiversity in the plan.	The Biodiversity and Geodiversity policy includes priority habitats as part of the hierarchy of the ecological network. The policy also aims to ensure biodiversity net gains, which will help the recovery of priority species.
	• aim to prevent harm to geological conservation interests.	The Biodivesity and Geodiversity policy conserves and where necessary enhaces geological interests.

4.6 Local Sites: Guidance on their Identification, Selection and Management

This DEFRA guidance,[12] states that whilst the core principle of the guidance is that Local Sites may provide additional benefits beyond biological or geological value. Local Sites ". . . also contain features of *substantive* nature conservation value and that the purpose of selection is to provide recognition of this value and to help conserve those features by affording the sites an appropriate degree of protection". Therefore, "the overall objective of the guidance is to create a more consistent sense of the value and importance of Local Sites by securing broader awareness of this and support for their protection".

The guidance recognises that designation of Local Nature Reserves (LNR) and Local Sites are grounded on similar, yet differing principles. LNRs, for example are designated to provide opportunities for related study and research into the site's flora, fauna, geological or physiographical features. Whereas Local Sites are designated not so much for study and research but for their substantive nature conservation interest. However, where a local authority recognises special value in a Local Site for its ecological or geological features or its potential role in providing for education, research and possibly, quiet enjoyment relating to its natural features, it should consider the scope for declaring it as an LNR.

4.7 Keepers of Time: A Statement of Policy for England's Ancient Woodland

This DEFRA and Forestry Commission's policy statement sets out a vision to sustainably protect and manage ancient woodlands for the betterment of society, the economy and the environment. Driving this policy statement is the significant loss of ancient woodland in the 20th Century due to intense agricultural practices, conversion to conifer plantations and land use development. It is estimated that ancient woodlands now cover only 2.6% of England's land area. In Nuneaton and Bedworth it is a lowly 1.6% of the land area[13].

4.8 Geological Conservation: A Guide to Good Practice

This guide states that it is important to appreciate that the objective of geological conservation is to conserve rather than preserve. Thus, emphasis is placed on the management of a particular feature to retain a particular 'quality' by managing change and raising awareness, rather than on preservation of the feature with no change at all. Otherwise the ever increasing influence of human activity will result in geological sites lost through burial or removal, or damaged through disruption of natural processes.

[12] Department of the Environment, Food and Rural Affairs, Local Sites: Guidance on their Identification, Selection and Management (2006), available at http://archive.defra.gov.uk/rural/documents/protected/localsites.pdf

[13] Provided by the Woodland Trust as part of the Preferred Options Consultation: Ancient Woodland Inventory, Natural England 15/02/2007 and calculated by NBBC Officers. 130.798ha of ancient woodland divided by 7889ha of total land area multiplied by 100 = 1.6% of ancient woodland.

5. SUB-REGIONAL STRATEGIES

5.1 Warwickshire, Solihull and Coventry Local Biodiversity Action Plan (LBAP)

The LBAP provides a local response to the UK Government's National Action Plans for threatened habitats and species. The LBAP contributes to national targets where relevant to Warwickshire, Coventry and Solihull and also sets local targets. The LBAP is also important in identifying priority species and habitats in the Borough.

The LBAP contains 26 Species Action Plans and 24 Habitat Action Plans. The plans have clear measurable targets and assemble the local people and local organisations that are ideally placed to deliver the necessary action.

5.2 The Warwickshire Geodiversity Action Plan

The Warwickshire Geodiversity Action Plan is being prepared for Warwickshire to promote and conserve the geodiversity and geological heritage of the greater Warwickshire vice-county[14] area. The Action Plan will increase awareness, understanding and involvement in geo-conservation and provide guidance to planners, landowners and local communities on the benefits and advantages of good conservation practice. The Action Plan will increase educational opportunities to promote an appreciation of local geology and landscapes by improving access to places where rocks and fossils can be seen and where interpretation boards, leaflets and guides will be made available to the public.

6. LOCAL STRATEGIES

6.1 Nuneaton and Bedworth Borough Council's Corporate Plan 2007 - 2021

The Corporate Plan sets out how the Council's services and activities will support the Council's Sustainable Community Plan. The most relevant aim to biodiversity and geodiversity is aim 3: "To provide a pleasant environment for those living, working and visiting the Borough". The priorities are:

- to create a greener and cleaner environment;
- to lead in environmental issues addressing climate change and protection of the environment.

6.2 Nuneaton and Bedworth Borough Council's Sustainable Community Plan: Shaping Our Future 2007 - 2021

Nuneaton and Bedworth's Sustainable Community Plan is a blueprint of the Borough's aspirations for the local community between 2007 - 2021. The Sustainable Community Plan sets out a vision and a plan to achieve the vision through working together with public sector agencies, communities, voluntary organisations and

[14] A vice-county is a geographical division of the British Isles used for the purposes of biological recording and other scientific data-gathering and provides a stable basis for recording similarly-sized units. Although grid-based reporting has recently grown in popularity, vice-counties remain a standard in the vast majority of ecological surveys, allowing data collected over long periods of time to be compared easily. The vice-counties remain unchanged by subsequent local government reorganisations, allowing historical and modern data to be more accurately compared.

businesses to tackle major issues such as transport, health, education, employment, housing and community safety.

Theme four, environment, is the most pertinent to biodiversity and geodiversty and aims to “Have a high quality environment with increased biodiversity and a sustainable approach to waste and energy”.

6.3 Nuneaton and Bedworth Borough Council Environmental Sustainability Strategy 2013 – 2016

The Environmental Sustainability Strategy (ESS) sets out corporate, cross-cutting and far-reaching commitments to ensure ongoing action is taken to minimise the adverse effects that day-to-day activities have on the natural environment. The ESS sets targets for the Council in respect of the greater influence it needs to have on the wider population of the Borough and indeed the County of Warwickshire.

In relation to biodiversity, the ESS states that it will seek to form a coherent and linked landscape in which wildlife can flourish and ensure appropriate protection and management practices are in place. The Action Plan for biodiversity will monitor the percentage of LWSs and pLWSs detrimentally affected by development.

6.4 The Emerging Borough Plan

In relation to this background paper the vision states that By 2031, Nuneaton and Bedworth Borough will be a place where there are opportunities for sustainable economic growth with diverse job prospects, healthy living and an integrated infrastructure network. Business will want to invest in the Borough as a result of the outcomes of policies in the Plan, which will include creating an attractive environment.

The strategic objectives relevant to this background paper are:

Objective 7

To ensure that new development enhances and improves the quality and appearance of the existing urban area. In particular:

a) Important open spaces such as Riversley Park, Miners Welfare Park, Whittleford Park and Community and Local parks are protected and enhanced. Landscape character, historic, geological and natural features such as Arbury Historic Park and Garden, Stockingford Railway Cutting and Ensor’s Pool are protected and enhanced.

b) Derelict, contaminated and untidy sites are brought back into beneficial use.

c) Minimise the negative impact of development and make improvements where possible to air quality in Air Quality Management Areas.

d) Maximise opportunities to use the River Anker, Wem Brook, the Coventry Canal and Ashby Canal as attractive focal points for open space and new

development where there is no negative impact on the green network or the water quality.

e) Infill development positively responds to local character and does not result in town cramming.

f) High quality and sustainable design and construction in line with design standards.

Objective 8

To address climate change and encourage sustainability in all new development. In particular:

a) Avoid where possible sites that are at risk of flooding now or in the future.

b) Utilising appropriate sustainable urban drainage systems for flood or surface water attenuation and using water sustainably.

c) Protect and enhance the Borough's ecological network, in particular priority habitats and species and minimising impacts on biodiversity.

d) Maximise energy efficiency and the use of renewable energy, particularly those with greatest potential in the Borough. For example, combined heat and power district energy, biomass energy, ground source heat pumps, solar photovoltaics and solar thermal, along with any future renewable or low carbon technology that may become more suitable for the Borough during the plan period.

e) Ensure development makes links to cycling and walking networks to encourage green travel.

7. EVIDENCE BASE

6.5 Habitat Biodiversity Audit and Wildlife Sites Project for Warwickshire, Coventry & Solihull

This project provides accurate, up-to-date and readily accessible ecological data to all the project partners and involves several stages:

1 Undertaking a detailed Phase 1 survey of the study area and transfer all data onto GIS. The survey identifies potential Local Wildlife Sites (pLWS).

2 Undertaking detailed habitat assessments via the Wildlife Sites Project and transfer potential wildlife sites onto GIS. Site by site assessments determine the ecological value of the pLWSs, with the aim of ensuring the best sites of biodiversity value that are not legally protected become designated as Local Wildlife Sites (LWSs).

3 Providing the basis for local biodiversity action plans and a mechanism for setting targets and to monitor implementation.

4 Developing local community access to data sets.

5 Monitoring habitat and land use change and introduce hedgerow survey and photographic assessments of particular features e.g. veteran trees, reserves, wildlife sites

Currently Nuneaton and Bedworth has approximately 37 Local Wildlife Sites and 49 potential Local Wildlife Sites, whilst 2 sites have been deferred, 16 rejected and 7 destroyed.

6.6 Ecology and Geodiversity Assessment for Nuneaton and Bedworth Borough Council, 2014, HBA, WWT and WCC.

The purpose of the Ecology and Geodiversity Assessment (EGA) is to identify ecological or geological features that will need to be taken into consideration within and adjacent to potential residential and commercial sites identified within the Borough Plan.

The report uses the most up to date habitat and species data available for the Borough. This evidence is evaluated using ground breaking methodologies to show habitats of 'value' and features that enable species to move around the Borough. This 'functional' analysis is specifically captured in identifying and interpreting habitat distinctiveness and habitat connectivity.

6.6.1 Habitat Distinctiveness

Habitat distinctiveness is a way to interpret areas of habitat importance or sensitivity and is a useful way to simplify the 57 Phase 1 map categories. The level of distinctiveness also distinguishes between habitats which are most biodiverse and those that are not.

Distinctiveness scoring ranges from:
6 – high distinctiveness,
4 – moderate distinctiveness
2 – low distinctiveness.

High distinctiveness scores equate to areas of highest biodiversity, including all unimproved and semi-improved habitats. High distinctiveness will also incorporate statutory sites, Local Wildlife Sites and the Biodiversity Action Plan (BAP) habitats. The high distinctiveness category for linear habitats includes species-rich hedgerows.

Moderate distinctiveness scores are a mid-way assessment for areas that are either a transition from high to low or vice versa, or are of indeterminate biodiversity; whereas low distinctiveness scores refer to areas of low biodiversity interest.

Distinctiveness scores are an intrinsic requirement for the proposed biodiversity offsetting schemes and will be a requirement for determining the value of habitats.

6.6.2 Habitat Connectivity

For this Study connectivity is calculated by using the Incidence Function Model (IFM). This model measures the distance between suitable habitats using a set dispersal distance for a given species. Six levels of connectivity were used as part of the Study, ranging from no connectivity to high connectivity.

The Study points out that the Distinctiveness and Connectivity maps provide value evidence for promoting any mitigation and compensation for future development. They should be used to advise on layout designs for the development and where "biodiversity offsetting" opportunities exist to promote local and government objectives.

8. ISSUES AND OPTIONS & PREFERRED OPTIONS CONSULTATION RESPONSES

8.1 Issues and Options

Consultation on Nuneaton and Bedworth Borough Council's Core Strategy Issues and Options took place between 8th June and 14th August 2009. The document set out key issues for the Borough. Issues ENV2 and ENV3 relate to biodiversity and habitats. ENV2 states that will future growth outside the urban area will potentially impact on sensitive landscapes and biodiversity; whilst ENV3 states that the amount of Local Nature Reserves and accessible woodland is the lowest in Warwickshire

Many of the responses were concerned that concentrating development on brownfield sites could result in significant losses of habitat and species, since there are many instances where such sites are ecologically rich, often more so than in the Green Belt or Areas of Restraint.

In a similar manner, respondents stated that not all land outside the urban area is sensitive to development and therefore development would not necessarily harm the landscape or reduce biodiversity. Still, there was strong feeling that development should not be allowed in sensitive landscape areas where there would be significant risk to species and their habitats.

In order to address issues in relation to whether or not Green Belt or brown-field land supports a greater variety of biodiversity it was pointed out that "The production of [a] Green Infrastructure Strategy will assist in identifying the most environmentally sensitive areas in the borough, which may include both brownfield or greenbelt sites".

It was also pointed out that the Borough has a shortage of habitats and biodiversity and a significant lack of accessible natural open green space, with the largest areas of habitat located in the west, where it is currently inaccessible. Subsequently, this has resulted in biodiversity limited to areas of overdevelopment or in areas of under managed river and canal corridors. There was a suggestion that restoring or

remediating some of the 100ha of contaminated land could be used for the purpose of increasing wildlife habitats and biodiversity. Furthermore, it was stated that "Successful enhancement of these areas can therefore assist in ensuring that the Borough has a sufficient range of accessible open green spaces, within the deprived localities, to accord with Natural England's Accessible Natural Greenspace Targets".

8.2 Preferred Options

The Preferred Options Consultation lasted for eight weeks between 5/07/2013 and 30/08/2013. The policy aims to ensure that biodiversity and geodiversity is enhanced, the decline in biodiversity is reversed and net gains are realised, and habitats are all well connected and adapted to climate change.

The Preferred Options consultation raised several issues in relation to Biodiversity and geodiversity. In general, there was good level of support for the policy. Nonetheless there were a number of comments that clearly disagreed with or had some concerns with the policy, stating:

- That biodiversity offsetting should be used as a last resort, where the potential to avoid and mitigate any damage has been fully considered and is unavoidable;
- That any detrimental impacts to biodiversity are offset by initiatives within close proximity of the development;
- That absolute protection is given to ancient trees and veteran trees and that tree preservation orders (TPOs) are recognised as historical, cultural and wildlife monuments;
- That the canal network is referenced as a rich source of biodiversity, and reference to it should be considered under this policy;
- That the penultimate and final bullets under Ecological Network are contrary to NPPF paragraphs 7, 8 and 118, which requires a balance to be undertaken in assessing the three themes of sustainable development in the context of a presumption in favour of sustainable development.

8.2.1 Policy Changes as a Result of the Preferred Options Consultation

As a result of the consultation, several changes to the Biodiversity and Geodiversity Policy. These include:

- Clearly stating that biodiversity offsetting is used as a last resort and that any biodiversity offset is preferably located close to the development;
- Ancient trees, veteran trees and TPOs are included in the policy and will be give due protection;
- Referring to canal corridors in the policy;
- Making changes to make clear what is part of the Ecological Network.

9. POLICY JUSTIFICATION

The justification for the Biodiversity and Geodiversity is summarised below.

The greatest threat to biodiversity and geodiversity comes from the surge in human population and development. The rate at which species are becoming extinct globally is unprecedented. In England, it is estimated that close to 500 species have become extinct since the Industrial Revolution.

To prevent further losses, several national and European Acts and legislation aimed at protecting certain species and habitats have criminal consequencies through large fines or imprisonment. However, this is still not working and more still needs to be done.

The White Paper 'Securing the Value of Nature' shows that, beyond ethical reasons, there are also economic arguments for safeguarding and enhancing the natural environment, which can serve as the foundation for prospering communities and personal wellbeing. Consequently, it is important that robust planning policies are in place to help reduce the decline in biodiversity and geodiversity. Positive planning, moreover, will help to create new and protect existing habitats and geological sites.
The National Planning Policy Framework (NPPF) states that the level of protection of designated sites should be commensurate to their status in the hierarchy of nationally and internationally designated sites. The Biodiversity and Geodiversity Policy sets out sites that are considered to be the most important within the Borough of Nuneaton and Bedworth.

Special Areas of Conservation are designated as such because they provide increased protection to a variety of wild animals, plants and habitats. Inf Nuneaton and Bedworth, Ensor's Pool is designated a SAC due to its unique population of 50,000 White Clawed Crayfish in an isolated body of water.

Sites of Special Scientific Interest are designated because they represent the very best examples of wildlife habitats, geological features and landforms in the UK. This is the case for both Ensor's Pool and Griff Quarry.

Regardless of the above designations, there are many sites that that contain significant ecological value. Sites with high distinctiveness, for example, are listed because they represent areas of highest biodiversity, such as unimproved and semi-improved habitats.

Furthermore, locally designated sites are important because of their number. Moreover, they support locally threatened wildlife and thus underpin and complement higher level designations. They are also important as they provide educational opportunities and represent features of interest to those locally.

Ancient Woodland and ancient trees/veteran trees are more than havens of wildlife. As well as being the richest of biodiversity habitats, they represent cultural heritage, with long associations with medieval royal forests and past industries. Human

population growth and development have reduced ancient woodlands to a mere 2.6% of England's land area. In Nuneaton and Bedworth it is even worse, with ancient woodland covering just 1.6% of the total land area.

Ensuring that wildlife corridors and other linear wildlife routes are protected, enhanced and/or created will allow species greater movement to adjust to the impact of climate change, whether that is the impact on their food source, mating and sleeping patterns, and / or changes in the ambient temperature, amongst other reasons.

Biodiversity offsets deliver biodiversity benefits and compensation aligned with an economic market value and allows for positive planning. The NPPF states that "when determining applications if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, planning permission should be refused". However, Instead of refusing planning permission biodiversity offsetting provides an alternative solution that can help reverse the decline in biodiversity and deliver biodiversity net gains nearby.

Seven local wildlife sites have been destroyed since 2000 without any restitution. The biodiversity offsetting policy will ensure that any future loss of biodiversity will be replaced at least like for like and will ensure a biodiversity net gain. Indeed, using distinctiveness and connectivity mapping will help developers with the layout designs of the development and identify where biodiversity offsetting opportunities exist to promote local and government objectives.

Geology underpins society's need for natural resources and raw materials, on which people's day-to-day life is reliant, such as oil, gas, water, stone for aggregate and building, and metal ores. Furthermore, geology plays a fundamental role in shaping the landscape and gives an insight to the past. The landscape, for example, is the product of complex and dynamic relationships between the underlying geology and soils, and the natural processes which shape the land and the nature and distribution of habitats.

Furthermore, Warwickshire County has one of the most varied selections of rocks and fossils in the country, dating between the Precambrian (600 million tears ago) to the Pleistocene ice age (10,000 years ago). Contained within these rocks are the Earth's evolutionary history, including that of human culture, which provides a valuable source of inspiration and educational benefits, both locally and further afield.

To maintain and increase biodiversity and geodiversity it is vital that the very best of these are protected but also those features/assets that are not given international or national acclaim are able to thrive alongside and support the network of nationally and internationally statutory sites and features.

The policy below reflects the above justification.

8.3 Biodiversity and Geodiversity Policy

General
Development proposals will ensure ecological networks and services, biodiversity and geological features are conserved, enhanced, restored and, where appropriate, created.

Ecological Network
Sites considered significant to the ecological network, irreplaceable or providing a substantive contribution to nature conservation will be protected from development, in particular:

- international sites (such as SACs),
- national sites (such as SSSIs),
- the Warwickshire, Coventry and Solihull Local Biodiversity Action Plan priority habitats and species,
- local nature reserves,
- sites with a high distinctiveness score,
- local wildlife sites and local geological sites, and
- ancient/veteran trees and trees with tree preservation orders.

Adapting to Climate Change
Development proposals will ensure species are able to positively respond to the impacts of climate change by preventing the fragmentation of existing habitats and creating links and habitats where there are gaps to the ecological network of wildlife sites, stepping stones, wildlife and canal corridors, and green spaces, regardless of whether they are of international, national or local importance.

Biodiversity Offsetting
Biodiversity offsetting will be required as a last resort once all available options to avoid and mitigate the impacts have been explored. Developers will use the Council's preferred Biodiversity Offsetting Metrics to quantify the impact and to calculate an appropriate level of compensation to replace the lost habitat. If the habitat loss cannot be replaced on site, the replacement habitat should be provided in the Borough in the following order:

- a biodiversity strategic location,
- a location adjoining and/or linking a biodiversity strategic location,
- a location that does not contribute to the offsetting strategy.

Geological Diversity
Development proposals will avoid adversely impacting on sites of geological interest and where appropriate conserve and enhance such features for the enjoyment of residents and for reasons of advancing local geological education.

Ecological Assessment
Development proposals affecting the ecological network and / or important geological features will be accompanied by a Preliminary Ecological Assessment and / or, where relevant, a geological assessment. Where the assessment indicates an adverse impact, the assessment must set out a mitigation strategy to halt and

reverse the loss of biodiversity and how it will create biodiversity net gains or, where relevant, how it will reduce its geological impact.

Any proposal that directly or indirectly impacts on a highly distinctive ecological site must show that less distinctive ecological sites have been considered first and explain why those sites were not suitable. The assessment must demonstrate that the benefits of the development proposal will outweigh the immediate loss of biodiversity and / or geodiversity before development is permitted. The assessment must also demonstrate that the combination of proposed habitat retention, enhancement and any biodiversity offsetting, results in a net gain in biodiversity.

Any proposal that directly or indirectly impacts on a locally designated site must show that the benefits of the development proposal will outweigh the immediate loss of biodiversity and / or geodiversity before development is permitted.

10. DELIVERING AND IMPLEMENTING POLICIES

10.1 Policy Delivery Mechanisms

The policies will be delivered by:

- Working closely with the Habitat Biodiversity Audit, Natural England, Warwickshire Geological Conservation Group and Warwickshire Wildlife Trust, amongst others, to ensure that the Borough's ecological, geological and landscape assets are conserved, restored and, where necessary, created.
- Delivery of the Green Infrastructure Plan and the Sub-Regional Green Infrastructure Strategy.
- Delivery of the Environment Sustainability Strategy, including the Action for biodiversity to monitor the percentage of Local Wildlife Sites (LWS) and potential LWSs detrimentally affected by development.

10.2 Monitoring

The Council will monitor through its Authority Monitoring Report:

- Losses and gains to habitats and geological sites.
- The number of planning applications given permission on statutory and non-statutory sites.

APPENDICES

Appendix 1: Nuneaton and Bedworth's Designated Sites and Priority Habitats & Species

Site Name	Reason for Designation / its importance as a species or habitat
Appendix 1a	
Special Areas of Conservation—European Designation for the population of White Clawed Crayfish (around 50,000)	
Ensor's pool	**Designated 04/2005** The conservation objectives for the European interest on the SSSI are: • to maintain*, in favourable condition, the habitat for the population of White-clawed crayfish *(Austropotamobius pallipes).*M*aintenance implies restoration if the feature is not currently in favourable condition. This 1ha marl pit holds a very large population, estimated at 50,000. Although crayfish plague outbreaks have occurred in the Midlands, this waterbody is isolated from river systems and is a good example of a 'refuge' site in an important part of the species' former range.
Appendix 1b	
Sites of Special Scientific Interest	
Ensor's Pool	**Notified 31/01/1995** Ensor's Pool is about 220 metres long, 50 metres wide with an average depth of eight metres and is fed by groundwater. The pool overlies Etruria Marl which was extracted for brick making earlier this century. Ensor's Pool holds a very large and healthy population of native white-clawed crayfish *Austropotamobius pallipes* estimated at 50,000 individuals. It is of national importance as one of the best lake populations of crayfish in England. The native crayfish population has declined in both Britain and elsewhere in Europe in recent years as

	a result of the commercial introduction of an American species the signal crayfish *Pacifastacus leniusculus.* This has escaped from fisheries and become established in the wild, but it carries a fungal disease to which the native crayfish has no immunity. The signal crayfish has been linked to the spread of the disease in many British rivers, but isolated water bodies like lakes and flooded quarries act as refuges for the native species. This makes the large population in Ensor's Pool particularly important in both regional and national contexts.
Griff Hill Quarry	**Notified 16/01/1996** Griff Hill Quarry is an active quarry located 1km north of Bedworth. The site boundary encompasses the working faces and an area of proposed quarry extension which is of key importance to facilitate further study at the site. Griff Hill Quarry exposes a complex and unique igneous sequence present in a sill 20—30 metres thick. The sill, of Ordovician age, is mostly of camptonite and syenite, but shows a black ultramafic cumulate facies of kaersutite – pyroxenite in the lower part of the sill. The sill dips at about 20° to the SW, and the site shows a cross section through these variations. Many features are present which provide evidence towards understanding the nature of the intrusion, such as enclaves of ultramafic rock within the camptonites and late-stage pink segregation veins of analcime-syenite. The rocks are beautifully fresh, and the transitions from ultramafic to basic to intermediate varieties are well displayed in the quarry, as well as under the microscope. The origin of the different igneous rock types is not yet fully understood, with scientific opinion divided as to whether the various facies represent a differentiation sequence or a multiple intrusion. Further research is needed to resolve this question. The sill intrudes Cambrian Stockingford Shales, which close to the sill are contact metamorphosed to cordierite-andalusite hornfels. Rafts of the shales are found within the sill. The sill has been unroofed by erosion, and regionally important small remnants of Carboniferous Coal Measures are preserved in fossil channel deposits. These deposits have been planed off by Triassic red marls, which lie unconformably over the bulk of the sill.
Appendix 1c	
Local Nature Reserves	
Bedworth Sloughs	First declared 09/06/1978 for its Swallow Roosts. It consists of an area of water created originally by

	mining subsidence. It is a popular spot for walking and relaxing, bounded on one side by the A444 and on the other by a large allotment site. It is best approached from Newtown Road.
Ensor's Pool	First declared 09/01/1977. (See above)
Galley Common	First declared 01/03/2002.
Appendix 1d	
Local Geological Sites	
Griff Hill Quarry	**Geological Formations:** Midland Minor Intrusive Suite (Ordovician). First designated 28/03/2002 and reviewed 10/2009 (Warwickshire Geological Conservation Group). The site encompasses the three sides of the cliff which forms the eastern side of the now landfilled site. The exposures are up to 8m high, with a roadside length of 60m, some overgrown. The exposed faces exhibit part of a thick sill, attributed to the Midland Minor Intrusive Suite (McBridge et al 1998), comprising weathered coarse grained lamprophyre. The weathering is of a spheroidal or "onion skinning" type.
Griff Hollows	**Geological Formations:** Pennine Coal Measures (Carboniferous) and Midlands Minor Intrusive Suite (Ordovician). First designated 13/03/2002 (Warwickshire Geological Conservation Group). Exposures of Coal Measures Group sandstone, clay ironstone and thin coal seams, resting on an eroded surface of the griff sill. The succession is thought to lie near or at the base of the Westphalian A (Lower Coal Measures).
Judkins Quarry	**Geological Formations:** Volcaniclastic and intrusive rocks (pre-Cambrian), Hartshill Sandstone Formation (Cambrian), Minor Midlands Intrusive Suite Formation (Ordovician) and Tarporley Siltsone Formation (Triassic). First designated 02/1992 and reviewed 10/2009 (Warwickshire Geological Conservation Group). In the northern part of the site a variety of Precambrian volcaniclastic and intrusive rocks are exposed, overlain unconformably by the Lower Cambrian Hartshill Sandstone Formation including basal conglomerates. These rocks are intruded by sills of a lamprophyric diorite (camptonite) of Ordovician age. On the eastern side of the quarry, Triassic sandstones of the basal Mercia Mudstone Group (Tarporley Siltsone Formation) with basal breccia lie unconformably on the Precambrian tuffs. It is also famous for its epidote-calcite mineralisation with the vanadium and copper minerals mottramite and vanadinite,

	also barite, galena, sphalerite, and the copper minerals, malachite, azurite and bornite.
Midland Quarry	**Geological Formations:** Hartshill Sandstone Formation (Cambrian), Minor Midlands Intrusive Suite Formation (Ordovician), Bromsgrove Sandstone Formation (Triassic). First designated o2/1992 and reviewed 10/2009 (Warwickshire Geological Conservation Group). Fine exposure of a Caledonian diorite sill c.12m thick intruded into the Lower Cambrian Hartshill Sandstone Formation. This is the largest sill exposed in the County. There is unusual mineralisation which includes haematite, barite and mottramite. Elsewhere in the quarry, the Triassic Bromsgrove Sandstone Formation can be seen lying unconformably on the Cambrian Hartshill Sandstone Formation. In places, the unconformity reveals small valleys in the Triassic landscape which have probably been formed in semi-arid conditions not unlike those of parts of N. Africa today. These are frequently lined with very coarse, somewhat angular blocks. It is believed that the quarry was owned by, and provided a considerable amount of ballast to, the Midland Railway and also to the LMS - hence its name.
Newdigate Railway Cutting	**Geological Formations:** Salop Formation (Carboniferous). First designated 02/1992 and reviewed 10/2009 (Warwickshire Geological Conservation Group). This cutting reveals part of the Whitacre Member of the Upper Carboniferous Salop Formation. A field visit in 1983 recorded exposures on either side of the bridge at SP 341 868 revealing hard red limestone with green marl horizons, overlain by red marl with discontinuous green horizons totalling c.2m in height. Limestone band has yielded fish debris, ostracods and the gastropod *Anthracopupa.* It is likely that this site would be of greatest use to researchers.
Paul's Ford	**Geological Formations:** A river confluence with active erosion and deposition of a gravel bar. First designated 28/03/2002 and reviewed 10/2009 (Warwickshire Geological Conservation Group). Further field visit required to obtain accurate description.
Paul's Land	**Geological Formations:** Tarporley Siltstone Formation (Triassic). First designated 07/03/2003 and reviewed 10/2009 (Warwickshire Geological Conservation Group). The section provides a rare oportunity to examine the Tarporley Sandstone Formation, traditionally known as the 'Waterstones', the transition beds between the Bromsgrove Sandstone Formation and the Mercia Mudstone Group. About 3m of fine grained, massive sandstone, siltstone and mudstone

	sequences are represented. It is possible that the contact with the Bromsgrove Sandstone could be revealed by clearing spoil from the base of the section. Some cleaning of the section is desirable. Description could draw on logs from p.92/3 of the memoir. Excellent teaching locaity with good access.
Stockingford Railway Cutting	**Geological Formations:** Purley Shale, Abbey Shale, Mancetter Shale and Outwoods Shale Formations (Cambrian), Minor Midlands Intrusive Suite (Ordovician) and Bromsgrove Sandstone Formation (Triassic). First designated 02/1992 and reviewed 10/2009 (Warwickshire Geological Conservation Group). The four lowest formations of the Stockingford Shale Group, namely the Purley Shale, Abbey Shale, Mancetter Shale and Outwoods Shale Formations, occur within the cutting. Fossil brachiopods and trilobites, including type material for the trilobite *Irvingella nuneatonensis,* have been collected from these shales. Triassic Bromsgrove Sandstone fills a depression in the Cambrian Purley Shale Formation at the eastern end of the cutting. Numerous sills and one dyke-like body have been intruded into the shales, the largest of which is approximately 15m thick. Access is difficult due to the active railway line & therefore educational use is currently highly restricted. However, due to the fact that type material has been collected from the site its research value is still considerable.
Appendix e	
Local Wildlife Sites	
Anker Mills	**Selected: 01/03/2004** Anker Mills is a relatively large, but isolated area of semi-natural habitat within an extensive urban and industrial area. The site contains a range of sub-habitats including semi-improved grassland, tall herb, scrub, damp areas and a stream; it also has a high diversity of flowering plants. The stream is of importance as a wildlife corridor. The site is within walking distance of local communities and has value as a recreational resource. The site is divided into two areas by a railway line. Although there are no official public footpaths, public access is unrestricted and there is a well used casual footpath across the site.

	Anker Mills West This is a small area of rank grassland and scrub bounded by two railway lines and a housing estate. The area is a disused industrial site. **Anker Mills East** The larger eastern area is bounded by two railways, an industrial estate and a rugby pitch. The area was formerly the sludge bed of a British Rail cleaning shed. The ground has been disturbed and there are many hollows and ridges. The River Anker runs through the area. There is a recently constructed access track close to the western boundary. The area is unmanaged and much of it has been taken over by tall ruderal vegetation. There are also patches of rank semi-improved grassland that are dominated by coarse grasses. There are some low, wet areas where there are wetland communities, including Willow carr. There are also areas of Hawthorn scrub.
Bailey Park Wildlife Area	**Selected: 03/02/2009** Bailey Park Wildlife Area is roughly a square block of unmanaged semi-improved neutral grassland and scattered scrub, which has developed on a former landfill area within the Bedworth suburbs, 200m north of the Bedworth Town Centre. The site was largely bare in the mid 1980s but has since become well vegetated through natural colonisation. There is no record that the site was ever seeded but some trees and shrubs seem to have been planted in the south-west corner. Elsewhere, the scrub areas appear to have naturally colonised from the adjacent railway embankments. The drainage is generally rather impeded and the site can become very wet in winter, which is due to the site having originally contained a large pool before landfill operations began. The whole site is council-owned and has open access, with a network of paths across the area kept open by regular mowing. The surrounding land is mainly high density housing, but a school and associated playing fields borders the LWS to the south, where the land drops away rather suddenly from the artificially graded former tip down to the natural gradient. The Coventry-Nuneaton railway line forms the eastern boundary of the site. The site is still developing but during the current survey 121 vascular plant species were recorded, which is double that of a survey in 2002 when just 60 were found. The LWS qualifies for 11 scientific and 12 cultural criteria, of which the following are considered to be the most important.

	Diversity The site contains a mosaic of semi-improved grassland, open and closed scrub and tall herb, with further minor sub-habitats such as wet areas and bare ground. There is an increasing diversity of vascular plants typical of semi-improved grasslands including 18 species of grasses and herbs such as Yellow Rattle, Common Birdsfoot-trefoil, Red Bartsia and Lady's Bedstraw. There is also a good range of birds and insects for an urban site. **Rarity** The LWS contains several species which are locally uncommon, such as Bee Orchid, Marbled White butterfly and Mother Shipton Moth. The grassland contains a species assemblage, e.g. Hoary Ragwort, Bulbous Buttercup and Bee Orchid more typical of calcareous grassland, a soil type which is unusual in the local area. **Naturalness** The habitats are semi-natural and have developed mainly through natural succession, a process which is still active. **Fragility** The site will need continued management in the future to preserve the present mosaic of habitats. If not checked the area will soon become dominated by scrub woodland and grassland ecosystems will disappear. **Ecological Position** Although isolated in a predominantly urban and suburban area, the site is linked via the scrub-covered railway embankments with other similar sites in the Miners Welfare Park/Black Bank area to the south, and to the Griff area to the north. **Physical Access** The site is fully accessible to the general public via a network of formal and informal footpaths. **Community and Amenity Value**

	The LWS is very well used by local residents who appreciate the semi-rural nature of the site.
Barnacle Lane	**Selected: 29/10/2002** Barnacle Lane is situated on the southern edge of Bulkington and is a varied site containing semi-improved grassland, scrub, tall herb, ponds, hedgerows and stream. It is an area of public open space with several surfaced footpaths. The land is generally flat, but becomes more undulating in the south. The site is surrounded by rough grassland then housing to the north with arable to the west and south and allotments to the east. Barnacle Lane qualifies for 8 scientific and 10 community criteria from the woodland and scrub criteria set and 8 scientific and 9 community criteria from the water bodies criteria set. The site's most important attributes are its diversity, naturalness and value to the local community. The site contains 7 Phase I habitats in close association and 107 plant species were recorded. The site appears to have developed through natural processes, with only a limited amount of tree planting. The areas of water have significant amounts of marginal vegetation, including locally rare Water-cress and the larger pond has a dipping platform. The grassland is important as a buffer to the other habitats within the site. The site is an area of open space with surfaced paths and is obviously well used by the public.
Bayton Road Lakes (3 sites)	**Selected: 16/03/2004** Bayton Road Lakes are located in the south-east of Bedworth. The site consists of public and private lakes with adjacent grassland and scrub. Surrounding land uses include a canal, golf course, railway line and agricultural grassland. The largest lake was formed from arable farmland in the mid 1980s. The area was hydro-seeded in 1988 and there has been some recent tree planting. **Area 1:** is open to the public and is a lake with abundant marginal vegetation surrounded by semi-improved grassland. **Area 2:** a lake surrounded by closely mown grassland. **Area 3:** privately owned fishing lake with surrounding grassland. Despite it's somewhat artificial origins, the Bayton Road Lakes site has naturalised and now meets 13 scientific and 11 community criteria from the water bodies criteria set, 8 scientific and 6 community

	criteria out of the woodland and scrub criteria set and 10 scientific and 9 community criteria from the grassland and marsh criteria set. The site's most important attributes are its diversity, ecological position and community value. In terms of its diversity, the site contains 160 species including many grassland and wetland indicator species: Greater Spearwort, Common Reed, Gipsywort, Reed Canary Grass, Common Reedmace, Cyperus Sedge, Greater Pond Sedge, Water Dock, Water Mint, False Fox Sedge, Wild Carrot, Common Knapweed, Yellow Oat-grass and Marsh Foxtail. The site contains several rare species including Branched Bur-reed, Greater Spearwort, Water-cress, Sweet Flag, Lesser Water-parsnip, Oval Sedge, Cyperus Sedge, Spiked Sedge, Fringed Water-lily and Greater Burnet-saxifrage. The site is also important in terms of it's ecological position as it is one of several semi-natural sites in the area and is adjacent to the Coventry Canal. The site has value for the community as most of it is open to the public; it is close to residential areas and has attractive vegetation.
Bedworth Sloughs	**Selected: 14/12/2001** Bedworth Slough qualifies for 17 scientific and 15 community criteria from the Water Courses and Water Bodies criteria set. Bedworth Slough Meadow qualifies for 4 scientific and 11 community criteria from the grassland and marsh criteria set. The most important attributes of the site are naturalness, rarity, diversity and community criteria. Bedworth Sloughs Consists of a 1.87ha lake formed by subsidence with marginal swamp and a small adjacent meadow. The swamp contains two vegetation communities which are rare in Warwickshire these are Bulrush swamp and Reed Sweet-grass swamp. There is a good range of breeding wetland birds including: Great Crested-grebe, Reed Bunting, Reed Warbler, Mute Swan, and Tufted Duck. Hobby also use the area for feeding. The adjacent meadow adds to the amenity interest of the site and contains a few species which indicate a lack of agricultural improvement: Lesser Knapweed, Pignut, Great Burnet and Chimney Sweeper moth. Bedworth Sloughs is an important community recreation area as it is a LNR.
Bermuda Balancing Lake	**Selected: 29/10/2002** Bermuda Balancing Lake is a large lake surrounded by gently sloping semi-improved grassland and scrub located to the south of Nuneaton. Much of the western area is of recent origin and the grasslands here have been artificially seeded. Surrounding land uses to the site include industrial,

	residential, roads and rough grassland. The site is an area of public open space and has surfaced paths running round the site and entrances at several points. The site is comprised of a lake with grassland and scrub. Although much of the site is of recent origin, it nevertheless qualifies under 8 scientific and 11 community criteria from the grassland and marsh criteria set, and 9 scientific and 9 community criteria from the water bodies criteria set. The main attributes of the site are it's diversity, ecological position and community value. The site has a total of 152 species which include grassland indicator species such as Sweet Vernal-grass, Common Knapweed, Red Bartsia, Weld, Great Burnet, Yellow Oat-grass, Marsh Foxtail, Wild Carrot and Common Spotted Orchid. The lake also contains some species that are rare in Warwickshire: Water-cress and Branched Bur-reed. The site has been enhanced by the recent planting of native trees in fenced enclosures. The site has open access and is well used by the public and is also close to residential areas. It is undoubtedly of high community and amenity value. Since there are several other semi-natural sites in the locality, this site may well be important in terms of it ecological position, performing a 'stepping stone' function.
Black Bank Meadows	**Selected: 9/12/2008** Black Bank Meadow LWS consists of a triangular area of semi-improved grassland and scrub situated on the south side of the Miners Welfare Park, about 700m south of Bedworth town centre. The land here was originally part of the long gone Bedworth Charity Colliery and lies on the gentle south-facing but rather irregularly graded slope of a low hill which covers the site of the former mine. An old colliery lagoon now forms a small pool in the north-east corner of the site. The southern border of the LWS consists of a partly destroyed cutting which once held a canal branch but is now a public footpath, while on the east side is the Coventry-Nuneaton railway line. The local area largely consists of factory units and high density housing estates but there are open arable fields close by to the east beyond the nearby Coventry Canal. Black Bank Meadow qualifies for 11 scientific and 10 cultural criteria, of which the following are thought to be the most important: **Diversity** Although classified as post-industrial MG1 grassland, there is a higher than average species diversity

	and there are now many similarities to MG5 Crested Dog's-tail/Common Knapweed grassland. There is also a strong showing of plants more characteristic of calcareous soils, such as Field Scabious and Musk Mallow. The site contains a mosaic of several habitats, including semi-improved grassland, scrub, tall herb and a pon, with semi-natural secondary woodland occupying the adjoining railway cutting which could be included. A range of sub-habitats include dry banks, wet flushes, clearings and rides within the scrub areas, limited areas of bare ground and variable slope throughout. **Rarity** In a local context, species-rich semi-improved grassland is uncommon in the borough. The site also contains several species characteristic of calcareous soils such as Field Scabious and Hoary Ragwort which are scarce in the north of the county, while Hairy St. John's-wort is very rare. **Ecological Position** The LWS is connected via the old railway cutting and public walkways with other nearby areas of semi-improved grassland and scrub at Black Bank Pool to the west and around the Severn Trent Water Coal Pit Lane balancing lake to the south-east. There are two locally important wildlife corridors; the first comprising the old cutting leaves the LWS westwards and cuts across urban Bedworth. The second is the Coventry Canal which runs from south-north just beyond the railway to the east. **Physical Access** The area is crossed by both formal and informal public paths and is well-used for recreation by local people. **Community and Amenity value** The area is very popular with local people, with the grassland areas containing colourful meadow flowers and butterflies being particularly attractive. The site also contains specific links to Bedworth's coal-mining past.
Boon's Wharf	**Selected: 29/10/2002** Boon's Wharf is located in the north-west of Nuneaton adjacent to the Coventry Canal and is comprised of semi-improved grassland with encroaching scrub. The site is surrounded by arable land on three sides and the canal on the other. There is no formal access to the site, but there is evidence

	of regular use by members of the public through informal access points and paths. Boon's Wharf qualifies for 10 scientific and 8 community criteria for the woodland/scrub criteria set and 9 scientific and 8 community for the grassland and marsh criteria set. The most important attributes of the site are its diversity, naturalness, ecological position and community value. In terms of diversity and naturalness the site contains 106 plant species which appear to have developed through natural processes. There has been some planting of conifers but in only limited numbers. The site contains several species associated with good quality semi-improved or unimproved grassland: Yellow Rattle, Glaucous Sedge, Pale Sedge, Field Woodrush, Sweet Vernal-grass, Common Spotted Orchid, Sheep's Sorrel, Zigzag Clover, Hawkweed, Oxeye Daisy, Common Bird's-foot-trefoil, Mouse-ear Hawkweed and Common Knapweed. The site is also important in terms of its ecological position as it is one of a number of semi-natural sites in the area, including a wildlife corridor; the Coventry Canal. The site is also of value to local communities having aesthetically attractive vegetation and being within walking distance of residential areas. An invertebrate survey might also reveal the site has an importance for invertebrates.
Brett's Hall Wood (mostly within NWBC)	**Selected: 25/01/2005** Bret's Hall Wood SINC is located at approximately 1 km west of Nuneaton. It is part of a small woodland group that also includes Bretts Hall Wood, and Barn Moor Wood, within a landscape that is largely arable. The site qualifies for at least 14 scientific and 8 Community criteria. The most important attributes of the site are its diversity, rarity, and naturalness. The woodlands contain a diverse range of semi natural tree and shrub species. The ground flora includes several ancient woodland indicator species including Bluebell, Dog's Mercury, Wood Anemone, and Wood Sorrel. In terms of rarity, semi-natural woodland is rare in the area.

	The wood has been modified by planting, but despite this is largely in a semi natural state as shown by the largely natural distribution of native tree and shrub species, and the presence of ancient woodland indicator species.
Cattles Wood (Lees Wood and Gorsty Piece)	**Selected: Unconfirmed** The woodlands are part of Arbury Park, an extensive private estate that comprises landscaped parkland and lakes, farmland, as well as several areas of woodland. The woodlands are all listed on English Nature's Ancient Woodland Inventory as Ancient Semi-Natural Woodland (ASNW) however all have been cleared and replanted throughout with mostly conifer crops for timber production. A few native broadleaf trees remain at the edges. The woodlands belong to the W10 *Quercus robur-Pteridium aquilinum-Rubus fruticosus* (Pedunculate Oak-Bracken-Bramble) woodland community. There is limited habitat, structural, and species diversity in these woodlands. They are immediately surrounded by agricultural fields but form part of a group of woodlands on the Estate. **Castles Wood,** Castle Wood is dominated by Scots Pine (*Pinus sylvestris*) high forest with occasional Oak (*Quercus robur)*, with more frequent Oak and Beech (*Fagus sylvatica*) on the periphery and in the south-west corner. The structure is poor with the understorey largely absent. The north edge of the wood has a bank with old coppiced Hazel (*Corylus avellana)*. **Lees Wood and Gorsty Piece** Lees Wood and Gorsty Piece are dominated by Scots Pine and Larch (*Larix sp*) and occasional Beech (*Fagus sylvatica*) high forest with occasional Silver Birch (*Betula pendula*) and Oak at the periphery. Other species tree and shrub species include occasional Sycamore (*Acer pseudoplatanus),* Rowan (*Sorbus aucuparia*), Holly (*Ilex aquifolium*), Hazel and Elder (*Sambucus nigra*). The field layer in all three woodlands is relatively species poor The conservation value of the woodlands lie primarily in their Ancient Semi-natural Woodland (ASNW) status and the potential to improve their condition through future management. Although mapped as ASNW on English nature's Ancient Woodland Inventory these woodlands have been cleared and replanted with coniferous species and are therefore best classified as Plantation on Ancient Woodland.

	There is limited habitat, structural, and species diversity in these woodlands. The field layer is relatively species poor with Bracken and Bramble generally being dominant with Bluebell locally dominant in places. Other plants are rare to occasional, tending to be more diverse and abundant at the periphery of the wood. There is potential for woodland improvement through the removal of non-native species and favouring and encouraging appropriate native species. There is potential for improving the structure of many of the woodlands through encouraging the development of a native understorey. There is also potential to increase the habitat diversity through management of the woodlands, re-introduction of coppice and creation and management of rides.
Griff Hollow	**Selected: 14/12/2001** Griff Hollow is open to public access and is an area of habitat containing scrub, woodland, tall herb mire, acid grassland and rank neutral grassland. Scrub and woodland accounts for most of the site, covering approximately 4ha. Tall herb mire also occupies a substantial area at 0.92ha. The extent of acid grassland is rather small occupying just a few square metres in a woodland clearing. There are no similar habitat mosaic sites in the vicinity. Some quarries adjacent to the south and west contain small areas of post industrial habitats. To the north is an urban residential area, the Hill Top Estate. The land to the south and south-east is arable farmland whilst the Coventry Canal forms the eastern boundary of the site. The mire, dominated by meadowsweet and the acid grassland are the most important vegetation types present; both are rare habitat types in the county. The invertebrate fauna is likely to be rich, with three species of county rarity having been recorded. Water Vole and Common Lizard have also been recorded recently. Griff Hollow qualifies for 12 scientific and 9 social criteria from the mosaic criteria set. The important qualities of the site are its diversity, rarity and naturalness. In terms of diversity there are 6 phase I habitats present and at least 85 vascular plant species. These have developed largely through natural processes of colonisation and succession as the site has been neglected.

	In terms of rarity M27 mire is rare in the county and of scattered distribution throughout central, southern and eastern Britain. Acid grassland of any type is also rare in Warwickshire. The plant Climbing Corydalis is very rare in Warwickshire and has a restricted distribution in England. Three invertebrates of county rarity have been recorded. Further surveys would probably reveal a diverse invertebrate fauna including other rarities. Water Vole is listed as a key species in Annex F of "Biodiversity: the Steering Group Report". Common Lizard is also rare in the county. Griff Hollow is also a valuable community resource with open public access to aesthetically attractive natural habitats and a wide diversity of species.
Heath Road Fields	**Selected: 29/10/2002** Heath Road Fields are three fields of semi-improved grassland and scrub located in the west of Bedworth. The site has various external boundaries including wooden fencing, wire fencing and hedgerows. There are also internal wooden fences separating the site into three fields. The site is bordered by housing on two sides and public footpaths in the south and east. There is no formal public access to the site, however there is evidence of regular public use. All three fields are well grazed and have very short turf making accurate surveying difficult. The grassland at Heath Road Fields meets 8 scientific and 4 community criteria from the grassland and marsh criteria set. The most important attributes of the site are its diversity, naturalness and ecological position. In terms of diversity and naturalness the site contains areas of good quality semi-natural grassland with 79 species of higher plants recorded including several species associated with species-rich semi-improved or unimproved grassland: Sheep's Sorrel, Hawkweed, Sweet Vernal-grass, Field Woodrush, Common Knapweed, Greater Bird's-foot-trefoil and Common Bird's-foot-trefoil. However, this could well be an underestimate due to the difficulty in accurately surveying such short turf. The species composition appears to have developed under natural processes with no obvious signs of planting. The site also has a good ecological position connected to a public footpath and dismantled railway line and is one of several semi-natural sites in the area. The site has importance for the local community as it is located within a residential area.
Hinckley Road Disused	**Selected: 23/03/2010**

Railway Line	The LWS consists of a roughly 0.75 km stretch of disused dismantled railway within the urban part of central Nuneaton and just 0.5 km north-east of the town centre. The railway was a short-lived feeder line on the Birmingham-Leicester railway that has been closed around 30 years. The main habitats of interest lie on the stretch between the River Anker bridge in the west and the public footbridge near the northern end of Oaston Road to the east, although part of the latter has recently been cleared. There are old iron bridges crossing the two main roads below, namely the A444 Weddington Road to the west and the A47 Hinckley Road to the east, and these form part of the connective corridor. The whole stretch is embanked and appears to include both calcareous and acid substrates in its construction. The adjacent land use is dominated by warehouses and factories, interspersed with old and new housing estates. Hinckley Road Disused Railway qualifies as a LWS with 16 scientific but only five community criteria, of which the following are considered to be the most important. **Diversity** The LWS contains a mosaic of habitats including pioneer scrub and scrub woodland, tall herb, heathland, semi-improved grassland and sparsely vegetated substrates. These support an unusually high diversity of vascular plants for an urban site, with 163 species recorded. The site also supports a reasonably diverse range of other groups, particularly birds, invertebrates and lichens. **Rarity** The heathland area, although relatively restricted, is a very rare habitat in Warwickshire and is also an important habitat both nationally and internationally. The site also supports a number of uncommon county plants, including Heather, Wavy Hair-grass, Annual Wall-rocket, Blue Fleabane, Sheep's Fescue, Common Cudweed, Trailing St. John's-wort, Wall Lettuce, Marjoram and Haresfoot Clover. **Fragility** The areas of grassland and particularly heathland are subject to increasing scrub invasion, which will ultimately destroy the sites value without control. **Ecological Position**

	The LWS forms an important urban wildlife corridor and connects other semi-natural sites across the north and east of Nuneaton via the Anker valley, which it meets at both ends. More locally it is important for providing linkages for two disconnected courses of the River Anker and the associated flood relief channel, as well as potentially to a further section of the same railway situated to the south. **Physical Access and Community Value** The site is only used by the general public to the east of Hinckley Road. To the west the site has been long neglected leading to anti-social activity, while safety and security issues for both local people and the adjacent commercial premises need to be addressed.
Hollystitches Dell	**Selected: 29/10/2002** Hollystiches Dell is situated in the north-west of Nuneaton and is surrounded on most sides by housing, although in the south-east it borders rough grassland and a quarry. It is a steeply sloping site, with upper and lower levels and a stream flowing south-east through its lower half. There are several footpaths running down through the site and there is open access from several points. Hollystitches Dell is composed of woodland, scrub, grassland and stream and qualifies under 11 scientific and 9 community criteria from the woodland and scrub criteria set. The main attributes of the site are its naturalness, ecological position and its community value. The site has a total of 83 plant species, among which are the woodland indicator species Bluebell and Remote Sedge. The site appears to have developed naturally with no signs of recent planting, and although there are non-native species in the woodland they are not dominant. In terms of its ecological position the site is one of several semi-natural sites in the area. The site is also surrounded by housing on most sides and has open public access, therefore providing a good community resource. The abundance of the Bluebells in the woodland means that the site also has attractive ground flora.
Houldsworth Crescent and Homefire Plant (mostly in Cov)	**Selected: 1998** The site is a long corridor (approximately 1.5 km long) of floristically diverse, mostly post-industrial habitat including grassland, ephemeral/short perennial, tall ruderal, fen/swamp, scrub and secondary woodland supporting a wide variety of vegetation communities. The main components of the site are the northern end of the abandoned Coventry 'Loop Line' from Keresley Colliery to Wheelwright Lane, the British Coal land beside Houldsworth Crescent, and parts of the grounds of the Coventry Homefire

	Plant at Keresley. An important medium-sized wildlife site, straddling the southern boundary of Bedworth and northern boundary of Coventry City which represents the only substantial area of accessible natural green space for a large part of north Coventry. It is highly diverse with impressive lists of habitats, vegetation communities, vascular plants, birds and insects. At least 180 plants are present and the insect list runs into several hundred species. Several scarce vascular plants and insects and species are present, and a population of great-crested newts. The population of several hundred bee orchids recorded in the past is regionally significant. 28 birds of RSPB conservation concern have been recorded since 1980, which is outstanding for this area. The site forms part of a valuable wildlife corridor, helping to link the wider countryside with urban wildlife sites such as the Foleshill Gasworks and Coventry Canal. The eastern part of the site is well used by local residents of all age groups and acts as a link between Holbrooks and the footpath network of the wider countryside.
Kingswood Meadow	**Selected: 20/08/2001** Kingswood Meadows is a large SINC comprising ten fields of neutral grassland and two areas of Broad-leaved semi-natural woodland. The degree of agricultural improvement each field has received is variable, four fields have been classified as largely Unimproved neutral grassland with the remaining six classified as Semi-improved neutral grassland. Most of the site is owned by Nuneaton and Bedworth Borough Council and is managed sympathetically by the council and three tenants. Haycutting and grazing are practised. Kingswood Meadows SINC qualifies for 17 scientific and 12 community criteria from the grassland and marsh criteria set plus 19 scientific and 14 community criteria from the woodland and scrub criteria set. The single most important aspect of the site is the unimproved neutral meadows. These combined with the ancient woodland and high community value make Kingswood Meadows one of the most important SINCs in the Borough. The main factors of the sites importance are its diversity, rarity, size, naturalness, typicalness, potential value and community value.

	In terms of diversity 138 plant species and 8 species of diurnal Lepidoptera were recorded in the current survey. Two NVC and 6 Phase I communities were identified. As the site is so large there is a lot of sub-habitat diversity, particularly within the grassland, which has notable variations in aspect, acidity and hydrology. In terms of rarity MG5 grassland is of national importance being of scattered, and declining, distribution throughout the British lowlands. Few unimproved examples exist now in Warwickshire, of what was previously the prevalent vegetation type. MG5c is probably the most restricted sub-community. Ancient woodland, whilst W10 vegetation is at least of local, if not national importance. Very few stands exist within the Borough. Saw-wort and Toothwort are the rarest plants associated with the site. The Computer Mapped Flora of Warwickshire describes Toothwort as “A very rare plant”. Saw-wort is also rather rare in the county and likely to be in serious decline given the rate of destruction of unimproved meadows and marshland. Both these species are listed in the provisional Warwickshire Rare Plants Register. Toothwort is described as locally rare ie recorded in 3 or less 10km squares whilst Saw-wort is described as locally scarce ie less than 10 sites and declining. The Lepidoptera fauna of the site also has some importance with a few species of local distribution in the county recorded: Chimney Sweeper, Burnet Companion, Mother Shipton and Small Heath. The area of grassland is rather large with 6.56ha of unimproved and 9.2ha of species rich semi-improved grassland. In terms of naturalness the grassland contains substantial areas of unimproved vegetation with a long list of species indicative of these conditions: Quaking Grass, Tall Fescue, Meadow Fescue, Cuckooflower, Glaucous Sedge, Carnation Sedge, Lesser Knapweed, Pignut, Common Spotted-orchid, Meadow Vetchling, Oxeye Daisy, Bird’s-foot-trefoil, Greater Bird’s-foot-trefoil, Field Wood-rush, Silverweed, Tormentil, Great Burnet, Betony, Devil’s-bit Scabious, Zigzag Clover, Brooklime, Yellow-rattle, Lady’s-mantle and Saw-wort. The grassland is largely managed in a traditional manner: most of the site is subject to an annual haycut and has not recently been fertilised or otherwise treated. Elsewhere grazing is practised with some muck spreading.

	The woodland and some of the hedges are also very natural, particularly Kingswood, which appears to be ancient woodland and is likely to have been managed historically as coppice with standards. There has been little, if any, recent planting and no non-native woody species were recorded in the present survey. Several species largely restricted to ancient woodland are present such as Hazel, Small-leaved Lime, Guelder-rose, Wood Millet, Wood Anemone, Remote Sedge, Wood Sedge, Enchanter's-nightshade, Yellow Archangel, Dog's-mercury, Wood-sorrel and Greater Stitchwort. The grassland areas are fragile and depend on continued appropriate management. One of the areas classified as largely unimproved grassland is subject to a planning application for housing. Human disturbance may also be having a negative effect on the site due to the high visitor numbers and the burning of stolen cars.
Nuneaton Common	**Selected: 29/10/2002** Located in the west of Nuneaton this relatively flat site consists of semi-improved grassland with scrub, broad-leaved woodland and streams. The site has open public access with formal and informal paths throughout. Surrounding land uses include residential, a building site, cemetery and nature walk. The Nuneaton Common site qualifies for 13 scientific and 10 community criteria from the woodland and scrub criteria set and 9 scientific and 11 community criteria from the grassland and marsh criteria set. Its most important attributes are its diversity, naturalness, ecological position and value to the community. In terms of diversity and naturalness the site as a whole has 146 species with the woodland and scrub having 95 recorded species and the grassland having 94 species. The woodland has several woodland indicator species: Wood Melick, Bluebell, Wood Anemone, Dog's Mercury, Remote Sedge, Hazel, Yellow Archangel, Wood Millet and Greater Stitchwort. It also appears to have developed naturally with no significant recent plantation or non-native species. The grassland contains indicators of good quality semi-improved/unimproved grassland: Greater Burnet, Yellow Oat-grass, Field Woodrush, Marsh Foxtail, Sweet Vernal-grass, Heath Bedstraw, Common Knapweed, and Pignut. The woodland and grassland both contain locally rare species: Oval Sedge, Goldilocks and Remote Sedge. The site contains 4 habitats in close association, is connected to a linear habitat and is one of several semi-natural sites in the area. The whole site has open access to the public, is close to

	residential areas and its vegetation has aesthetic appeal.
Poor's Piece	**Selected: 29/10/2002** Poor's Piece is located in the north-west of Nuneaton. It is a disused quarry with adjacent woodland. There is no public access to the quarry which has metal fencing on all sides, although there is an informal path around the eastern side of the site which implies some unauthorised access. The woodland has a single open access point in the south. The site is surrounded by housing on three sides with a road to the east. There are no obvious signs of management. Poor's Piece qualifies under 10 scientific and 4 community criteria from the post-industrial criteria set. The site's major attributes are diversity, rarity and naturalness. The site contains 4 habitat types in close association with 77 plant species recorded during the survey including Spear-leaved Willow herb which is a species on the edge of its range in Warwickshire. The site appears to have developed naturally since its use as a quarry ceased with no signs of recent planting, although the woodland adjacent to the quarry does contain significant amounts of non-native species. The site is one of several semi-natural habitats in the area. The adjacent woodland is open to the public and there is evidence of informal access to the quarry. Therefore the site also has some value to the local community.
Red Banks	**Selected: 6/5/2010** Red Banks is a small suburban park situated just to the north of the southern end of the B4102 Croft Road, about 1.5 km east-south-east of Nuneaton town centre. The park is of fairly recent origin having developed on quarried land that was formerly part of a brickworks (and earlier a coal mine), which was then converted to a landfill site before being landscaped. It is now an important feature in the local community. The eastern part of the park consists of several pronounced mounds created from imported spoil, which levels out considerably towards the western and southern boundaries. This area is mainly rough semi-improved grassland which is left uncut for the benefit of wildlife during the summer months. There are also a few small blocks of planted scrub. The western end of the park, which is also within the LWS, consists of mown amenity grassland covering a storm drain basin. The park is criss-crossed with paths, including both paved and permanent dirt tracks, and more casual desire lines. The site is now isolated from other open spaces having been hemmed in on all sides by closely built modern housing estates; thus the park is very popular with local residents, including

	children who use the small play ground part enclosed by the mounds. Red Banks qualifies as a Local Wildlife Site with nine Scientific and ten Community criteria, of which the following are considered to be the most important. **Diversity** The semi-improved grassland contains a good diversity of vascular plants including Common Knapweed, Common Centaury, Lady's Bedstraw, Meadow Vetchling and Common Birdsfoot-trefoil. **Rarity** Species rich semi-improved grassland of any sort is now uncommon in the county, particularly in Nuneaton; while calcareous grassland is very scarce locally. There are several species in the more calcareous swards occurring on the mounds which are now uncommon in Warwickshire, including Southern Lady's-mantle, Lesser Hawkbit and Salad Burnet. **Fragility** The development of species-rich grassland is entirely due to the recent sympathetic mowing regimes, allowing substantial areas to be left uncut during the summer months. If there is a return to close-mowing the site year round then all interest will be quickly lost. **Typicalness** The grassland is a good local example of MG6 grassland and is particularly valuable in Nuneaton, where similar grasslands are now rare. **Ecological Position** The park is connected to a strip of grassland following the course of an old mineral line, which potentially forms a wildlife corridor linking the site with Ensor's Pool Nature Reserve 0.75 km to the south-east. **Physical and Visual Access** The park is fully own to the public and contains a range of paths of varying quality.

	Community and Amenity Value This is one of the most important criteria for the LWS as the park provides a valuable resource to local people in an area where other public open spaces are virtually absent. The colourful flower-filled grassland provides a vital link to the countryside in an otherwise heavily built-up area. **Geographical Position** The site is entirely surrounded by large housing estates and so is almost totally isolated from other semi-natural habitats.
Seeswood Pool	**Selected: Unconfirmed** Seeswood Pool is a large open body of water with a surface area of approximately 8.0 hectares. The total area of the site, which also includes a narrow margin of grassland around the perimeter of the pool, with marsh and tall herb areas to the west, is around 10 hectares. The land surrounding the site is mostly improved pasture, with some arable land. The pool apparently was originally formed when mining activity caused the land to subside. The pool is now used for commercial fishing. The water level of the pool was raised in the 1980's, flooding the pool margins. Some surviving but flooded willow, and a large number of dead tree stumps protrude from the surface of the water. The pool and surrounding habitat attracts an abundance of bird life including several unusual and notable species. The site qualifies for at least 14 scientific and 11 Community criteria. This is a diverse site with a range of habitats including a large body of open water, marginal swamp vegetation, marsh, semi-improved grassland, tall herb vegetation, and mature trees. The pool margins and the surrounding marshy grassland support a good range of wetland plants including Sweet Flag, Common Reedmace, Water Mint, Amphibious Bistort, Gipsywort, Water Forget-me-not, Yellow Flag, Meadowsweet, Lesser Spearwort, and Tubular Water-dropwort, the last a rare species in Warwickshire. Seeswood Pool and the surrounding habitat attracts a rich bird life, with several rare, unusual, and notable species recorded including Caspian Tern, Osprey, Honey Buzzard, Mediterranean Gull, Spotted Flycatcher, Great-crested Grebe, and Reed Bunting. The site is an important area for post breeding and non-breeding Common Terns throughout the Summer months, and is also an important area for birds on Spring and Autumn migration including: Wheatear, Yellow Wagtail, Swallow, House Martin, Sand Martin, Swift, waders and gulls.

The Nook	**Selected: 5/01/2007** The Nook itself is a shallow pool formed by mining subsidence. A raised causeway that previously carried an old mineral railway runs through the middle of the pool. The causeway is now land locked with narrow channels at either end separating it from the pool margins. It has a quite extensive shrub cover including Hawthorn, Alder, Ash and Willow. There also appears to have been some recent tree and shrub planting. The causeway is bordered by emergent vegetation. On the southern side there are large stands of tall Bulrush with Water Mint below. Other species include Purple Loosestrife. **Diversity** This is a diverse site with a range of habitats including a large pool, marginal vegetation, marshy grassland, semi-improved grassland, tall herb vegetation and mature trees. **Rarity** The grassland includes some quite species rich, albeit neglected MG4 grassland. This type of grassland is now rare both nationally and internationally and is listed in annex 1 of the EC Habitats Directive as a habitat of European conservation concern. **Fragility** The species rich grassland is suffering through lack of appropriate management. Recreational use also has had an effect on the grassland, particularly around informal paths and the pool. **Access, community value and aesthetic appeal** The site is open to public access and appears to be very well used by local people. The proximity to residential areas means the site provides an opportunity for local people to have contact with wildlife and is a resource for informal recreation. The site supports attractive vegetation providing the site with significant aesthetic appeal.
The Shuntings	**Selected: 6/5/2010**

	The Shuntings is a local authority linear nature walk set up on a disused mineral railway line skirting the western outskirts of Nuneaton, about 3.5 km from the town centre. The line was formerly used for moving stone from the Hartshill quarries down to the Nuneaton-Birmingham railway but only the southern stretch running for 1.5km between Plough Hill and Whittleford is in the LWS. The Shuntings qualifies as a Local Wildlife Site with 11 scientific and 13 community criteria, of which the following are considered to be the most important. **Diversity** The site contains a variety of habitats and sub-habitats including closed canopy and open scrub, developing semi-natural deciduous woodland, open water, wet mud, steep slopes, tall herb, Bracken and rough grassland, while two streams pass close by. Although plant diversity is not high, the total of 116 vascular plants is fairly good for secondary woodland and scrub, with woody species being particularly diverse. A good range of birds are present, with the scrub being important for refuelling autumn migrants. **Rarity** No county rare habitats are present, although parts of the more mature woodland now resemble W10 woodland. Any type of semi-natural deciduous woodland is now notable around Nuneaton. The walkway includes several locally notable plants such as Remote Sedge, Scaly Male-fern, Wall Lettuce and Zigzag Clover. Heather was recorded from one spot towards the northern end in both 1997 and 2001 but the area has since become overgrown with Bracken, although some may still exist. Toothwort has been reported from the southern end and its continued presence will need to be confirmed. **Naturalness** There are substantial areas of scrub and semi-natural deciduous woodland along the walkway which have developed through natural succession. **Ecological Position** This is probably the most important criterion, as the site provides a vital connective corridor between other local semi-natural sites, including the important Whittleford Park LWS, Nuneaton Common LWS and open countryside. There are also other areas of scrub, rough grassland and old hedgerows

	outside the LWS which connect directly with the walkway. **Physical and Visual Access** The walkway is a public access footpath which is very popular with local people, particularly dog-walkers and through-routers, including children coming home from school. **Community and Amenity Value** Local people use the path for its peacefulness, as nearby housing estates are generally well screened by trees. The walkway is also an important relic in local community history.
Thorneyfield Wood	**Selected: Unconfirmed** Thorny Field wood is situated approximately 1 km west of Nuneaton. It is part of a small woodland group that also includes Bretts Hall Wood, and Barn Moor Wood. It is an ancient woodland, the boundaries of which have remained unchanged since the 1st edition OS map. The site qualifies for at least 15 scientific and 8 Community criteria for woodlands. The most important attributes of the site are its diversity, rarity, and naturalness. The ground flora is very diverse and contains several species indicative of ancient woodland including Yellow Archangel, Wood Anemone, Dogs Mercury, Bluebell, and Pendulous Sedge. In terms of rarity, semi-natural woodland is rare in the County. Despite the presence of Sycamore, the wood is largely in a semi natural state as shown by the mostly natural distribution of native tree and shrub species, and the presence of several ancient woodland indicator species.
Wem Brook Meadow	**Selected: 5/01/2007** The site is located adjacent to Wem Brook in the Hill Top area of south Nuneaton. It comprises grassland, tall herb and scrub vegetation. The site qualifies for at least 11 scientific criteria and 8 community criteria. Its most important attributes

	are: **Rarity** The grassland includes some quite species rich MG4 grassland. This type of grassland is now rare both nationally and internationally and is listed in annex 1 of the EC Habitats Directive as a habitat of European conservation concern. **Diversity** This is a small site that is mostly grassland but does include areas of tall herb and scrub. The site is also bordered by Wem Brook, a locally important watercourse that flows through south Nuneaton into the River Anker **Fragility** The survival of the species rich grassland is dependant on sensitive management. Recreational use also has had an effect on the grassland, particularly around informal paths. **Access, community value and aesthetic appeal** The site is open to public access and appears to be very well used by local people. The proximity to residential areas means the site provides an opportunity for local people to have contact with wildlife and is a resource for informal recreation. There site supports an attractive vegetation providing the site with significant aesthetic appeal.
Weddington Country Walk	**Selected: 29/10/2002** Weddington Country Walk is a linear strip of unimproved grassland and scrub running along a disused railway line in the north-west of Nuneaton. A public footpath runs along the length of the site with access at various points. Adjacent land use is primarily arable and pasture. A railway line forms the southern boundary to the site and a road bounds the north, with another road crossing the site approximately half way along its length. Weddington Country Walk qualifies under 9 scientific and 9 community criteria from the woodland and scrub criteria set and 10 scientific and 11 community criteria from the grassland and marsh criteria set. The main attributes of the site are its diversity, naturalness, ecological position and community value.

	The site contains 155 species of which several are indicators of good semi-improved/unimproved grassland: Great Burnet, Burnet Saxifrage, Common Centaury, Yellow Oat-grass, Carnation Sedge, Salad Burnet, Common Knapweed, Perforate St John's-wort, Common Spotted Orchid and Wild Carrot. The site is the route of a former railway line and the vegetation appears to have developed naturally since its use for this function ceased. There is some evidence of recent tree planting, but only in small areas and they appear to be native species. The site connects to other areas of semi-natural habitat and is itself a wildlife corridor. There is open public access to the site and it is well used by the public. It is close to residential areas and contains attractive vegetation. There appears to have been some recent management of the scrub in some parts of the site.
Weddington Meadows	**Selected: Unconfirmed** Weddington Meadows SINC is situated to the west of Weddington Village, and to the north of urban Nuneaton. The River Anker flows along the eastern boundary of the site. The site is largely semi-improved neutral grassland that is cut for hay but is not grazed. There are also areas of tall herb vegetation, and a small wooded area. The field is prone to flooding during the winter months. The area is well used by the public, with a public footpath passing through the site, as well as several informal paths. The site qualifies for at least 12 scientific and 12 Community criteria. The most important attribute of the site is the rarity of the MG4 grassland community. Although not a particularly rich example, the sward still contains a diverse range of species typical of this type of grassland including Great Burnet, Meadowsweet, Meadow Buttercup, Meadow Vetchling, Common Sorrel, Lady's Smock, Meadow Foxtail, and Crested Dog's-tail. MG4 grassland is an internationally important habitat. It is listed in annex 1 of the EC Habitats Directive as a habitat of European conservation concern. There is evidence that in the nineteenth century this grassland type was widespread and common in some parts of Britain, particularly in the Midlands and also southern England in the case of flood meadows. In the twentieth century, however, they have declined severely as a result of agricultural improvement, the neglect of common meadow rights and from gravel extraction.
Whittleford Park and Bar Pool Valley	**Selected: 14/12/2001**

	Whittleford Park and Barpool Valley is a large 45.6ha site. Scrubby woodland and neutral grassland account for the bulk of the vegetation with smaller areas of post industrial acidic grassland, tall herb, standing water, swamp and willow carr. The site is very diverse with 166 species of vascular plants recorded in the current survey. Whittleford Park and Barpool Valley SINC qualifies for 15 scientific and 17 community criteria from the grassland and marsh criteria set plus 15 scientific and 17 community criteria from the woodland and scrub criteria set. The most important attributes of the site are diversity, size, naturalness, rarity and community value. **Diversity** In terms of vascular plant species diversity this is the most diverse site encountered in the SINC review so far with 166 species recorded in the current survey. This included 23 trees and shrubs; 23 grasses; 4 sedges; 6 rushes 104 herbs and 5 ferns. 12 diurnal Lepidoptera were also recorded including: Chimney Sweeper, Common Blue, Small Copper and Small Heath. The species diversity of the site is largely due to the diversity of habitats present which includes neutral grassland, acid grassland, scrub, woodland, wet woodland, swamp, tall herb and standing water. At least six NVC types are present: W10, W21, W23, S12, MG1 and U1f, a dedicated NVC survey would probably reveal others. **Size** The site is large at 45.6ha. This contains large areas of scrub and neutral grassland. The area of W23 scrub in Gorse Valley is likely to be one of the largest extents of this community in the county. **Naturalness** The vegetation communities have mostly arisen by the natural processes of colonisation and succession. There has been some shrub planting and “wild” flower sowing but this is restricted to relatively small areas of the site only. The grassland areas contain several species associated with unimproved or species-rich semi-improved swards, these are: Early Hair-grass, Heath-grass, Wavy Hair-grass, Mat-grass, Tall Fescue, Field Wood-rush, Cuckooflower, Lesser Knapweed, Common Centaury, Pignut, Meadowsweet, Heath Bedstraw, Lady’s Bedstraw, Hawkweed, Perforate St John’s-wort, Oxeye Daisy, Fairy Flax, Common Bird’s-foot-trefoil, Greater Bird’s-foot-trefoil, Creeping Jenny, Mouse-ear Hawkweed, Sheep’s Sorrel, Great Burnet, Zigzag Clover, Yellow Rattle and Bee Orchid.

	Rarity Several plants which could be described as rare in Warwickshire are present, Early Hair-grass, Heath-grass, Mat-grass, Bee Orchid, Broad-leaved Helleborine and Hairy Wood-rush. Heath-grass and Mat-grass are listed in the provisional "Warwickshire Rare Plants Register". Sessile Oak has a scattered distribution mainly in the north of the county. The computer mapped flora is quoted in describing the local rarity of the following species. Early Hair-grass is described as " a local plant widely but unevenly distributed throughout the county." Bee Orchid is described as "a rare plant of calcareous soils in the south and south-east of the county". Hairy Wood-rush is described as "an occasional plant in the north-west of the county". However since the computer mapped flora survey is 50 years out of date the above species are likely to be even rarer now. The NVC communities W23 and U1f are rare in the county, particularly the latter which has not been recorded before. The Common Lizard has a rather restricted distribution in Warwickshire. There appears to be a concentration of records in the northern area of Nuneaton Borough. **Community Value** The community value of the SINC is great. This is the largest single area of public open space in the borough. The site receives very high visitor numbers as it is surrounded by residential areas and has a large population within walking distance.
Appendix 1f	
Ancient Woodland	
Brett's Hall Wood	Ancient & Semi Natural Woodland
Cattles Wood	Ancient Replanted Woodland
Coventry Wood	Ancient & Semi Natural Woodland
Cowley Wood	Ancient Replanted Woodland
New Park Wood	Ancient & Semi Natural Woodland
Dagleys Wood	Ancient & Semi Natural Woodland
Fir Tree Grove	Ancient Replanted Woodland
Kingswood Wood	Ancient & Semi Natural Woodland
Lady Wood	Replanted Ancient Woodland
Lees Wood and Gorsty	Replanted Ancient Woodland

Piece	
Many Lands Wood	Ancient & Semi Natural Woodland
The Rough	Ancient Replanted Woodland
Seeswood Wood	Ancient Replanted Woodland
Spring Kidden/North Woods	Ancient Replanted Woodland
Thorneyfield Wood	Ancient & Semi Natural Woodland
Appendix 1g	
Coventry, Warwickshire & Solihull LBAP	
Built Environment	The urban environment can form a wide variety of habitats relating to their material component, aspect, age and state of dilapidation. **Associated Priority Species in the Borough:** • Bats • Great Crested Newt • Song Thrush • Water Vole
Disused Industrial and Railway Land	Many industrial land-uses have a brief existence, but where heavy disturbance ceases and re-development is delayed, semi-natural habitats such as grasslands, wetlands, ruderal habitats, scrub and secondary woodland start to develop and can evolve into highly complicated habitat mosaics. These sites support some of the richest plant communities in the county. Disused railway lines can also act as wildlife corridors and public walkways, often through intensive farmland or heavily built-up areas. Most of these sites fall into the category of Previously Developed or 'brown-field' land, which is viewed as a more acceptable location for new development than 'green-field' land. This creates an extra challenge for the conservation of such sites. **Associated Priority Species in the Borough:** • Possibly the Great Crested Newt
Gardens	Combined, gardens form a large habitat for wildlife. In urban areas they can act as wildlife corridors

	between parks, open spaces, allotments, woods and eventually the countryside. In agricultural areas gardens can provide valuable refuges for a variety of wildlife that has come to depend upon both habitats for its survival. **Associated Priority Species in the Borough:** • Bats • Great Crested Newts • Song Thrush
Parks and Public Open Space	Parks are important features for local communities, but their ecological value is highly variable. At one extreme is the regularly mown War Memorial Park, Coventry, with recently planted trees and perhaps some limited planting of exotic shrubs. These sites tend to support little of ecological interest but are valuable for a range of recreational activities such as child's play, dog walking etc. At the other extreme are sites that incorporate a variety of semi- natural habitats such as woodlands, wet- lands, flower-rich grasslands, former wood pasture, tall herb and scrub plus collections of old trees. These latter sites have higher value for wildlife. Some areas of public open space have evolved from more natural landscapes and therefore still retain many historic features such as old Grassland and old trees. Areas of public open space in turn attract interesting wildlife, such as good bird populations (including declining species such as song thrush, linnet, green woodpecker and kestrel), insects associated with dead wood and old trees and a good variety of butterflies, moths, hoverflies and bees attracted by the plentiful flowers at many sites.
Quarries and Gravel Pits	Wherever regular disturbance ceases, semi-natural habitats start to develop and can evolve into highly complicated habitat mosaics, often containing a variety of grass- lands, wetlands, ruderal habitats, scrub and secondary wood- lands. No other land-use in the sub-region has produced so many large, species-rich wild- life sites, or is so uniquely placed to help us create new ones for the future. The number of scarce plant and insect species found at some sites can be remarkable and the best are only matched in the area by the best ancient woods. Yet some of these sites fall into the category of Previously Developed or 'brown-field' land, which is viewed as a more acceptable location for new development than 'green- field' land.

	Associated Priority Species in the Borough: • Great Crested Newt
Rivers and Streams	The Tame Catchment takes water from the north-west of the county (as well as much of the W. Midlands) into the Trent, Humber River Leam and North Sea via the Tame and its tributaries (e.g. the Blythe, Cole and Anker). A tiny part of the Thames Catchment also lies within the extreme southern tip of Warwickshire. Watercourses are among the most important wildlife corridors within the intensively farmed local landscapes and within many urban areas. They also contribute much to local landscape character, both through place-names and their physical presence. **Associated Priority Species in the Borough:** • Great Crested Newt • Bats • Water Vole • White-clawed Crayfish
Lowland Neutral Grassland	Characteristically, it is botanically species-rich and supports many birds and insects. These habitats are scarce in Warwickshire, and even more so in the Borough, being generally con-fined to the River Anker Valley.
Hedgerows	Hedgerows are boundary features, dominated by tree and shrub species and used to enclose fields, woods and property. Hedge- rows are typically linked together to create a network of wildlife corridors, often through intensively farmed landscapes that help link other important habitats such as woods, ponds, grasslands and wetlands. **Associated Priority Species in the Borough:** • Bats • Song Thrush
Woodlands	Ancient semi- natural woodland (ASNW) is the most biologically important wood-land resource. Woodlands recorded as plantation on ancient wood-land sites (PAWS) were converted wholly or in part to conifer plantations in the 20th C. These areas tend to retain features of the original semi- natural

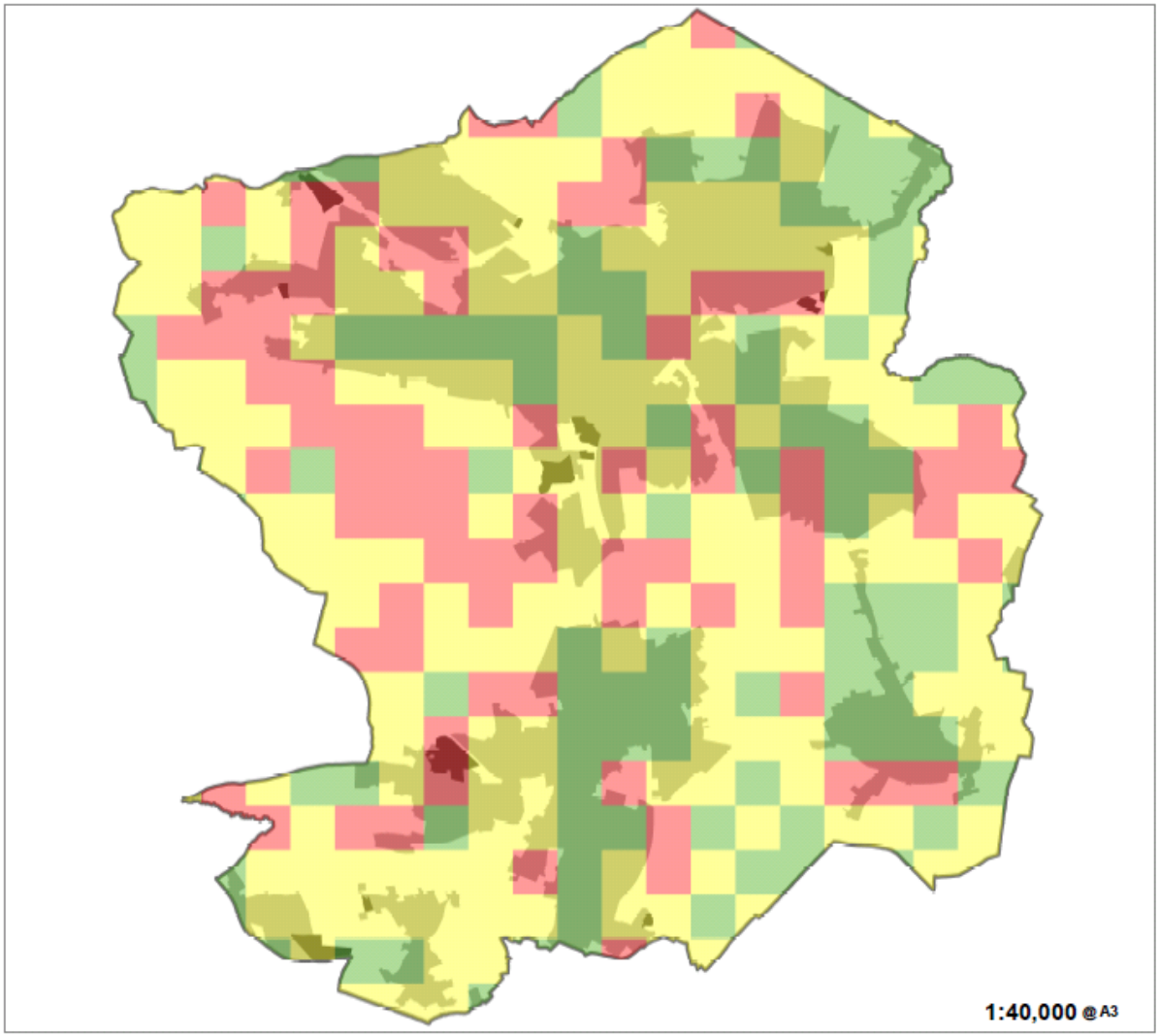
	woodland and remain of high biodiversity value. Plantation woodlands are generally linked with the estate-lands parts of the Warwickshire sub region, where as the secondary semi-natural woodlands are associated with post-industrial sites (gravel and sand extraction, etc.) and poorer quality land not cultivated for agriculture. **Associated Priority Species in the Borough:** • Bats • Great Crested Newts • Song Thrush
Bats[15]	From spring to late autumn bats are active. During this time they occupy summer roosts. A summer roost may be home to a small number of males, or, especially during June to August, quite large maternity colonies composing mostly of females and their single pups. Summer roosts are usually found in tree holes or buildings. Bats make use of all sorts of human structures, including houses, churches, farm buildings and bridges. During the winter months insects are in short supply and bats enter hibernation. During this time they need a site that is safe from predators. Such sites are often underground (eg. caves, mines, grottoes) but hibernating bats are also found in wall cavities or substantial tree hollows. **Current Factors Affecting The Species** • **loss of summer roosts** -eg. roof repairs, cavity wall insulation, barn conversions, replacement of hanging tiles, replacement of fascia and barge boarding, felling or surgery to trees with holes and crevices; repairs to bridges • **loss of hibernation sites** - eg. blocking of caves and capping of mines, heating of cellars • **loss of and degra- dation of foraging habitats** - eg. changes in land use, loss of woodland, destruction of ponds, reduction and contamination of the insect population by insecticides • **loss of linear landscape features**, in particular hedgerow removal, which can isolate a colony from

[15] Barbastrelle, Bechstein's, Brandt's, Brown long-eared bat, Common pipistrelle, Daubenton's, Leisler's, Lesser horseshoe, Nathusius's pipistrelle, Natterer's, Noctule, Serotine, Soprano pipistrelle and Whiskered.

	its main foraging habitat • **use of timber treatment pesticides**, many of which are toxic to bats
Great Crested Newt	Populations require suitable terrestrial habitat adjacent to their breeding ponds and long-term survival in an area may depend on movement between neighbouring populations (or breeding ponds). Great crested newt dispersal abilities are limited, the maximum dispersal distance is estimated to be up to 1km. Rough grassland, tall herb, scrub and hedgerows around breeding ponds are very important, especially where these create patches or corridors of continuous habitat. They do not cope well in the built environment, intensively farmed countryside or areas subject to regular mowing. Tadpoles and very young newtlets are sensitive to fish predation and so ponds lacking fish or that are seasonally ephemeral can especially provide suitable breeding habitat.
Song Thrush	The song thrush is one of the better known song birds, occurring in wood- lands, hedgerows with abundant trees, parks and gardens throughout the sub-region. It is a partial migrant, with some UK birds moving further south in Europe for the winter, while many Continental birds winter in Britain.
Water Vole	The water vole is now the most threatened land mammal in the UK. It is primarily associated with slow-flowing rivers, streams, ponds, lakes and canals. Water voles are vegetarian, favouring luxuriant marginal / emergent plants and bankside grasses and sedges (although they will eat tree bark, roots and berries in the winter). Water voles live in colonies, with individuals establishing territories along the banks. They inhabit burrow systems dug into the banks. One of the key indicators of the species' presence is burrow entrances which can generally be found throughout the bank and below the water line. Other indicative field signs include droppings / latrines (marking territories) and feeding remains. Once common and widespread in lowland England, the water vole (*Arvicola terrestris*) has suffered an accelerating decline in numbers and distribution throughout the last century. The most recent national survey, completed in 1998, showed a 67.5% loss in occupied sites and an 88% decline in population in only seven years. The results of surveys in Warwickshire reflect the national trend (Jones, 2001). The main meta-population in the county survives as a number of fragmented colonies in the Coventry / Nuneaton area (on the Rivers Sowe and Anker and their tributaries, plus the Coventry Canal). With the exception of a couple of isolated colonies recorded elsewhere, the water vole appears to have all but disappeared from the rest of the county.
White-clawed Crayfish	The white-clawed crayfish is the only native species of freshwater crayfish in the UK. It lives in a variety

	of aquatic habitats, including streams, rivers, lakes, canals, reservoirs and water-filled quarries, preferring those without too much sediment and with minimal pollution. Shelter e.g. rocks, stones, aquatic vegetation, tree roots and cavities in riverbanks are important for its survival. In Warwickshire, the most notable site for white-clawed crayfish is Ensor's Pool on the outskirts of Nuneaton. Other watercourses known to be supporting the species include the R. Alne (and its tributaries, R. Stour, R. Swift, R. Anker, Cuttle Brook, Shenton Hall Brook, Horn Brook, plus Newbold Quarry.

Appendix 2: Nuneaton and Bedworth Biodiversity Value Map



WARWICKSHIRE, COVENTRY & SOLIHULL LOCAL BIODIVERSITY ACTION PLAN

Biodiversity Value Map

NUNEATON & BEDWORTH

This map was produced using HBA 2007 Phase 1 data. Accuracy and currency information can be found within the Warwickshire State of the Environment report available from www.warwickshire.gov.uk/biodiversity. The methodology used to produce this map is set out in a report available from the Local Biodiversity Action Plan Coordinator. This map is one part of a wider exercise to understand the current extent and future opportunities for priority habitats within Warwickshire, Coventry and Solihull.

KEY:

- CREATE
- RESTORE
- MAINTAIN
- Built-up areas 2001
- Builtup-areas since 2001

GRID SIZE: 500 x 500 m

Warwickshire Wildlife Trust

The Wildlife Trusts

Habitat Biodiversity Audit for Warwickshire, Coventry and Solihull

December 2009, Middlemarch Environmental Ltd.
Project No: C-100015
Drawn by: SKS

Appendix 3: Section 41 Natural Environment and Rural Communities Act 2006 - Species of Principal Importance in England

Taxon name	Common name	Species grouping	Taxon group
Bufo bufo	Common Toad	Vertebrates	Amphibian
Epidalea calamita	Natterjack Toad	Vertebrates	Amphibian
Pelophylax lessonae	Pool Frog	Vertebrates	Amphibian
Triturus cristatus	Great Crested Newt	Vertebrates	Amphibian
Acrocephalus paludicola	Aquatic Warbler	Vertebrates	Bird
Acrocephalus palustris	Marsh Warbler	Vertebrates	Bird
Alauda arvensis subsp. arvensis	Sky Lark	Vertebrates	Bird
Anser albifrons subsp. albifrons	European Greater White-fronted Goose	Vertebrates	Bird
Anthus trivialis	Tree Pipit	Vertebrates	Bird
Aythya marila	Greater Scaup	Vertebrates	Bird
Botaurus stellaris	Bittern	Vertebrates	Bird
Branta bernicla subsp. bernicla	Dark-bellied Brent Goose	Vertebrates	Bird
Burhinus oedicnemus	Stone-curlew	Vertebrates	Bird
Caprimulgus europaeus	Nightjar	Vertebrates	Bird
Carduelis cabaret	Lesser Redpoll	Vertebrates	Bird
Carduelis cannabina subsp. autochthona/cannabina	Linnet	Vertebrates	Bird
Carduelis flavirostris subsp. bensonorum/pipilans	Twite	Vertebrates	Bird
Circus cyaneus	Hen Harrier	Vertebrates	Bird
Coccothraustes coccothraustes	Hawfinch	Vertebrates	Bird
Crex crex	Corn Crake	Vertebrates	Bird
Cuculus canorus	Common Cuckoo	Vertebrates	Bird
Cygnus columbianus subsp. bewickii	Bewick's Swan (Tundra Swan)	Vertebrates	Bird
Dendrocopos minor subsp. comminutus	Lesser Spotted Woodpecker	Vertebrates	Bird
Emberiza cirlus	Cirl Bunting	Vertebrates	Bird
Emberiza citrinella	Yellowhammer	Vertebrates	Bird

Taxon name	Common name	Species grouping	Taxon group
Emberiza schoeniclus	Reed Bunting	Vertebrates	Bird
Lagopus lagopus subsp. Scotica	Red Grouse	Vertebrates	Bird
Larus argentatus subsp. argenteus	Herring Gull	Vertebrates	Bird
Limosa limosa subsp. limosa	Black-tailed Godwit	Vertebrates	Bird
Locustella luscinioides	Savi`s Warbler	Vertebrates	Bird
Locustella naevia	Grasshopper Warbler	Vertebrates	Bird
Lullula arborea	Wood Lark	Vertebrates	Bird
Melanitta nigra	Common Scoter	Vertebrates	Bird
Emberiza calandra subsp. calandra	Corn Bunting	Vertebrates	Bird
Motacilla flava subsp. flavissima	Yellow Wagtail	Vertebrates	Bird
Muscicapa striata	Spotted Flycatcher	Vertebrates	Bird
Numenius arquata	Curlew	Vertebrates	Bird
Poecile montanus subsp. kleinschimdti	Willow Tit	Vertebrates	Bird
Poecile palustris subsp. palustris/dresseri	Marsh Tit	Vertebrates	Bird
Passer domesticus	House Sparrow	Vertebrates	Bird
Passer montanus	Tree Sparrow	Vertebrates	Bird
Perdix perdix	Grey Partridge	Vertebrates	Bird
Phylloscopus sibilatrix	Wood Warbler	Vertebrates	Bird
Prunella modularis subsp. occidentalis	Dunnock (Hedge Accentor)	Vertebrates	Bird
Puffinus mauretanicus	Balearic Shearwater	Vertebrates	Bird
Pyrrhula pyrrhula subsp. pileata	Bullfinch	Vertebrates	Bird
Sterna dougallii	Roseate Tern	Vertebrates	Bird
Streptopelia turtur	Turtle Dove	Vertebrates	Bird
Sturnus vulgaris subsp. vulgaris	Starling	Vertebrates	Bird
Tetrao tetrix subsp. britannicus	Black Grouse	Vertebrates	Bird
Turdus philomelos subsp. clarkei	Song Thrush	Vertebrates	Bird
Turdus torquatus	Ring Ouzel	Vertebrates	Bird
Vanellus vanellus	Lapwing	Vertebrates	Bird
Balaenoptera acutorostrata	Minke Whale	Vertebrates	Cetacean

Taxon name	Common name	Species grouping	Taxon group
Balaenoptera borealis	Sei Whale	Vertebrates	Cetacean
Balaenoptera physalus	Fin Whale	Vertebrates	Cetacean
Delphinus delphis	Common Dolphin	Vertebrates	Cetacean
Eubalaena glacialis	Northern Right Whale	Vertebrates	Cetacean
Globicephala melas	Long-finned Pilot Whale	Vertebrates	Cetacean
Grampus griseus	Risso's Dolphin	Vertebrates	Cetacean
Lagenorhynchus acutus	Atlantic White-sided Dolphin	Vertebrates	Cetacean
Lagenorhynchus albirostris	White-beaked Dolphin	Vertebrates	Cetacean
Mesoplodon bidens	Sowerby`s Beaked Whale	Vertebrates	Cetacean
Mesoplodon mirus	True`s Beaked Whale	Vertebrates	Cetacean
Orcinus orca	Killer Whale	Vertebrates	Cetacean
Phocoena phocoena	Harbour Porpoise	Vertebrates	Cetacean
Physeter catodon	Sperm Whale	Vertebrates	Cetacean
Tursiops truncatus	Bottlenosed Dolphin	Vertebrates	Cetacean
Ziphius cavirostris	Cuvier's Beaked Whale	Vertebrates	Cetacean
Acipenser sturio	Common Sturgeon	Vertebrates	Fish - bony
Alosa alosa	Allis Shad	Vertebrates	Fish - bony
Alosa fallax	Twaite Shad	Vertebrates	Fish - bony
Ammodytes marinus	Lesser Sandeel	Vertebrates	Fish - bony
Anguilla anguilla	European Eel	Vertebrates	Fish - bony
Aphanopus carbo	Black Scabbardfish	Vertebrates	Fish - bony
Clupea harengus	Herring	Vertebrates	Fish - bony
Cobitis taenia	Spined Loach	Vertebrates	Fish - bony
Coregonus albula	Vendace	Vertebrates	Fish - bony
Coregonus lavaretus	Whitefish (Powan, Gwyniad or Schelly)	Vertebrates	Fish - bony
Coryphaenoides rupestris	Roundnose Grenadier	Vertebrates	Fish - bony
Gadus morhua	Cod	Vertebrates	Fish - bony
Hippocampus guttulatus	Long-snouted Seahorse	Vertebrates	Fish - bony
Hippocampus hippocampus	Short-snouted Seahorse	Vertebrates	Fish - bony

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Hippoglossus hippoglossus	Atlantic Halibut	Vertebrates	Fish - bony
Hoplostethus atlanticus	Orange Roughy	Vertebrates	Fish - bony
Lophius piscatorius	Sea Monkfish	Vertebrates	Fish - bony
Lota lota	Burbot	Vertebrates	Fish - bony
Merlangius merlangus	Whiting	Vertebrates	Fish - bony
Merluccius merluccius	European Hake	Vertebrates	Fish - bony
Micromesistius poutassou	Blue Whiting	Vertebrates	Fish - bony
Molva dypterygia	Blue Ling	Vertebrates	Fish - bony
Molva molva	Ling	Vertebrates	Fish - bony
Osmerus eperlanus	Smelt (Sparling)	Vertebrates	Fish - bony
Pleuronectes platessa	Plaice	Vertebrates	Fish - bony
Reinhardtius hippoglossoides	Greenland Halibut	Vertebrates	Fish - bony
Salmo salar	Atlantic Salmon	Vertebrates	Fish - bony
Salmo trutta	Brown/Sea Trout	Vertebrates	Fish - bony
Salvelinus alpinus	Arctic Charr	Vertebrates	Fish - bony
Scomber scombrus	Mackerel	Vertebrates	Fish - bony
Solea solea	Common Sole	Vertebrates	Fish - bony
Thunnus thynnus	Blue-fin Tuna	Vertebrates	Fish - bony
Trachurus trachurus	Horse Mackerel	Vertebrates	Fish - bony
Lampetra fluviatilis	River Lamprey	Vertebrates	Fish - jawless
Petromyzon marinus	Sea Lamprey	Vertebrates	Fish - jawless
Arvicola terrestris	Water Vole	Vertebrates	Mammal
Barbastella barbastellus	Barbastelle Bat	Vertebrates	Mammal
Erinaceus europaeus	Hedgehog	Vertebrates	Mammal
Lepus europaeus	Brown Hare	Vertebrates	Mammal
Lepus timidus	Mountain Hare	Vertebrates	Mammal
Lutra lutra	Otter	Vertebrates	Mammal
Martes martes	Pine Marten	Vertebrates	Mammal
Micromys minutus	Harvest Mouse	Vertebrates	Mammal

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Muscardinus avellanarius	Dormouse	Vertebrates	Mammal
Mustela putorius	Polecat	Vertebrates	Mammal
Myotis bechsteinii	Bechstein`s Bat	Vertebrates	Mammal
Nyctalus noctula	Noctule	Vertebrates	Mammal
Phoca vitulina	Common Seal (Eastern Atlantic Harbour Seal)	Vertebrates	Mammal
Pipistrellus pygmaeus	Soprano Pipistrelle	Vertebrates	Mammal
Plecotus auritus	Brown Long-eared bat	Vertebrates	Mammal
Rhinolophus ferrumequinum	Greater Horseshoe Bat	Vertebrates	Mammal
Rhinolophus hipposideros	Lesser Horseshoe Bat	Vertebrates	Mammal
Sciurus vulgaris	Red Squirrel	Vertebrates	Mammal
Anguis fragilis	Slow-worm	Vertebrates	Reptile
Coronella austriaca	Smooth Snake	Vertebrates	Reptile
Lacerta agilis	Sand Lizard	Vertebrates	Reptile
Zootoca vivipara	Common Lizard	Vertebrates	Reptile
Natrix natrix	Grass Snake	Vertebrates	Reptile
Vipera berus	Adder	Vertebrates	Reptile
Centrophorus granulosus	Gulper Shark	Vertebrates	Shark/Skate/Ray
Centrophorus squamosus	Leafscraper Shark	Vertebrates	Shark/Skate/Ray
Centroscymnus coelolepsis	Portuguese Dogfish	Vertebrates	Shark/Skate/Ray
Cetorhinus maximus	Basking Shark	Vertebrates	Shark/Skate/Ray
Dalatias licha	Kitefin Shark	Vertebrates	Shark/Skate/Ray
Dipturus batis	Common Skate	Vertebrates	Shark/Skate/Ray
Galeorhinus galeus	Tope Shark	Vertebrates	Shark/Skate/Ray
Isurus oxyrinchus	Shortfin Mako	Vertebrates	Shark/Skate/Ray
Lamna nasus	Porbeagle Shark	Vertebrates	Shark/Skate/Ray
Prionace glauca	Blue Shark	Vertebrates	Shark/Skate/Ray
Raja undulata	Undulate Ray	Vertebrates	Shark/Skate/Ray
Rostroraja alba	White or Bottlenosed Skate	Vertebrates	Shark/Skate/Ray

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Squalus acanthias	Spiny Dogfish	Vertebrates	Shark/Skate/Ray
Caretta caretta	Loggerhead Turtle	Vertebrates	Turtle
Dermochelys coriacea	Leatherback Turtle	Vertebrates	Turtle
Anergates atratulus	Dark Guest Ant	Invertebrates	Ant
Formica exsecta	Narrow-headed Ant	Invertebrates	Ant
Formica pratensis	Black-Backed Meadow Ant	Invertebrates	Ant
Formica rufibarbis	Red Barbed Ant	Invertebrates	Ant
Formicoxenus nitidulus	Shining Guest Ant	Invertebrates	Ant
Tapinoma erraticum	Erratic Ant	Invertebrates	Ant
Temnothorax interruptus	Long-spined Ant	Invertebrates	Ant
Andrena ferox	Oak Mining Bee	Invertebrates	Bee
Andrena tarsata	Tormentil Mining Bee	Invertebrates	Bee
Anthophora retusa	Potter Flower Bee	Invertebrates	Bee
Bombus humilis	Brown-Banded Carder Bee	Invertebrates	Bee
Bombus muscorum	Moss Carder Bee	Invertebrates	Bee
Bombus ruderarius	Red-shanked Carder-bee	Invertebrates	Bee
Bombus ruderatus	Large Garden Bumblebee	Invertebrates	Bee
Bombus subterraneus	Short Haired Bumblebee	Invertebrates	Bee
Bombus sylvarum	Shrill Carder Bee	Invertebrates	Bee
Colletes floralis	Northern Colletes	Invertebrates	Bee
Colletes halophilus	Sea-aster Colletes Bee	Invertebrates	Bee
Eucera longicornis	Long-horned Bee	Invertebrates	Bee
Lasioglossum angusticeps	A Solitary Bee	Invertebrates	Bee
Nomada armata	A Cuckoo Bee	Invertebrates	Bee
Nomada errans	A Cuckoo Bee	Invertebrates	Bee
Osmia parietina	Wall Mason Bee	Invertebrates	Bee
Osmia xanthomelana	Large Mason Bee	Invertebrates	Bee
Agabus brunneus	Sharp's Diving Beetle	Invertebrates	Beetle
Agonum scitulum	A Ground Beetle	Invertebrates	Beetle

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Amara famelica	Early Sunshiner	Invertebrates	Beetle
Amara fusca	Wormwood Moonshiner	Invertebrates	Beetle
Ampedus rufipennis	Red-horned Cardinal Click Beetle	Invertebrates	Beetle
Anisodactylus nemorivagus	Heath Short-spur	Invertebrates	Beetle
Anisodactylus poeciloides	Saltmarsh Short-spur	Invertebrates	Beetle
Anostirus castaneus	Chestnut Coloured Click Beetle	Invertebrates	Beetle
Bagous nodulosus	Flowering Rush Weevil	Invertebrates	Beetle
Bembidion humerale	Thorne Pin-palp	Invertebrates	Beetle
Bembidion quadripustulatum	Scarce Four-dot Pin-palp	Invertebrates	Beetle
Bembidion testaceum	Pale Pin-palp	Invertebrates	Beetle
Bidessus unistriatus	One-grooved Diving Beetle	Invertebrates	Beetle
Brachinus sclopeta	Streaked Bombardier Beetle	Invertebrates	Beetle
Bracteon argenteolum	Silt Silver-spot	Invertebrates	Beetle
Byctiscus populi	Poplar Leaf-rolling Weevil	Invertebrates	Beetle
Calosoma inquisitor	Caterpillar-Hunter	Invertebrates	Beetle
Carabus intricatus	Blue Ground Beetle	Invertebrates	Beetle
Carabus monilis	A Ground Beetle	Invertebrates	Beetle
Chlaenius tristis	Black Night-runner	Invertebrates	Beetle
Chrysolina graminis	Tansy Beetle	Invertebrates	Beetle
Cylindera germanica	Cliff Tiger Beetle	Invertebrates	Beetle
Cicindela hybrida	Northern Dune Tiger Beetle	Invertebrates	Beetle
Cicindela sylvatica	Heath Tiger Beetle	Invertebrates	Beetle
Cryptocephalus coryli	Hazel Pot Beetle	Invertebrates	Beetle
Cryptocephalus decemmaculatus	Ten-spotted Pot Beetle	Invertebrates	Beetle
Cryptocephalus exiguus	Pashford Pot Beetle	Invertebrates	Beetle
Cryptocephalus nitidulus	Shining Pot Beetle	Invertebrates	Beetle
Cryptocephalus primarius	Rock-rose Pot Beetle	Invertebrates	Beetle
Cryptocephalus punctiger	A Pot Beetle	Invertebrates	Beetle
Cryptocephalus sexpunctatus	Six-spotted Pot Beetle	Invertebrates	Beetle

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Curimopsis nigrita	Mire Pill-beetle	Invertebrates	Beetle
Donacia aquatica	Zircon Reed Beetle	Invertebrates	Beetle
Donacia bicolora	Two-tone Reed Beetle	Invertebrates	Beetle
Philorhizus quadrisignatus	A Ground Beetle	Invertebrates	Beetle
Philorhizus vectensis	A Ground Beetle	Invertebrates	Beetle
Exapion genistae	Petty Whin Weevil	Invertebrates	Beetle
Gnorimus nobilis	Noble Chafer	Invertebrates	Beetle
Gnorimus variabilis	Variable Chafer	Invertebrates	Beetle
Graphoderus zonatus	Spangled Water Beetle	Invertebrates	Beetle
Harpalus froelichii	Brush-thighed Seed-eater	Invertebrates	Beetle
Harpalus honestus	St. Bees Seed-eater	Invertebrates	Beetle
Harpalus melancholicus	A Seed-eater Ground Beetle	Invertebrates	Beetle
Helophorus laticollis	New Forest Mud Beetle	Invertebrates	Beetle
Hydrochus nitidicollis	Gravel Water Beetle	Invertebrates	Beetle
Hydroporus necopinatus subsp. roni	Ron's Diving Beetle	Invertebrates	Beetle
Hydroporus rufifrons	Oxbow Diving Beetle	Invertebrates	Beetle
Laccophilus poecilus	Sussex Diving Beetle	Invertebrates	Beetle
Lacon querceus	Oak Click Beetle	Invertebrates	Beetle
Lebia cyanocephala	Blue Plunderer	Invertebrates	Beetle
Limoniscus violaceus	Violet Click Beetle	Invertebrates	Beetle
Lucanus cervus	Stag Beetle	Invertebrates	Beetle
Malachius aeneus	Scarlet Malachite Beetle	Invertebrates	Beetle
Megapenthes lugens	A Click Beetle	Invertebrates	Beetle
Melanapion minimum	Sallow Guest Weevil	Invertebrates	Beetle
Melandrya barbata	Bearded False Darkling Beetle	Invertebrates	Beetle
Melanotus punctolineatus	Sandwich Click Beetle	Invertebrates	Beetle
Meloe proscarabaeus	Black Oil Beetle	Invertebrates	Beetle
Meloe rugosus	Rough Oil Beetle	Invertebrates	Beetle
Meloe violaceus	Violet Oil Beetle	Invertebrates	Beetle

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Meotica anglica	A River Shingle Beetle	Invertebrates	Beetle
Oberea oculata	Eyed Longhorn beetle	Invertebrates	Beetle
Ochthebius poweri	Rockface Beetle	Invertebrates	Beetle
Ophonus laticollis	Set-aside Downy-back	Invertebrates	Beetle
Ophonus melletii	Mellet's Downy-back	Invertebrates	Beetle
Ophonus puncticollis	A Downy-back Ground Beetle	Invertebrates	Beetle
Ophonus stictus	Oolite Downy-back	Invertebrates	Beetle
Panagaeus cruxmajor	Crucifix Ground Beetle	Invertebrates	Beetle
Platycis cosnardi	Cosnard's Net-winged Beetle	Invertebrates	Beetle
Poecilus kugelanni	Kugelann’s Green Clock	Invertebrates	Beetle
Pogonus luridipennis	Yellow Pogonus	Invertebrates	Beetle
Psylliodes luridipennis	Lundy Cabbage Flea Beetle	Invertebrates	Beetle
Orchestes testaceus	Alder Flea Weevil	Invertebrates	Beetle
Stenus longitarsis	A Camphor Beetle	Invertebrates	Beetle
Synaptus filiformis	Hairy Click Beetle	Invertebrates	Beetle
Lophopus crystallinus	Crystal Moss Animal	Invertebrates	Bryozoan
Victorella pavida	Trembling Sea-mat	Invertebrates	Bryozoan
Chlorita viridula	A Leafhopper	Invertebrates	Bug
Cicadetta montana	New Forest Cicada	Invertebrates	Bug
Doratura impudica	Large Dune Leafhopper	Invertebrates	Bug
Eurysa douglasi	Chalk Planthopper	Invertebrates	Bug
Euscelis venosus	Carline Thistle Leafhopper	Invertebrates	Bug
Hydrometra gracilenta	Lesser Water Measurer	Invertebrates	Bug
Macrosteles cyane	Pondweed Leafhopper	Invertebrates	Bug
Physatocheila smreczynskii	Apple Lace-bug	Invertebrates	Bug
Ribautodelphax imitans	Tall Fescue Planthopper	Invertebrates	Bug
Saldula setulosa	Hairy Shore-bug	Invertebrates	Bug
Argynnis adippe	High Brown Fritillary	Invertebrates	Butterfly
Aricia artaxerxes	Northern Brown Argus	Invertebrates	Butterfly

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Boloria euphrosyne	Pearl-bordered Fritillary	Invertebrates	Butterfly
Boloria selene	Small Pearl-bordered Fritillary	Invertebrates	Butterfly
Coenonympha pamphilus	Small Heath	Invertebrates	Butterfly
Coenonympha tullia	Large Heath	Invertebrates	Butterfly
Cupido minimus	Small Blue	Invertebrates	Butterfly
Erebia epiphron	Mountain Ringlet	Invertebrates	Butterfly
Erynnis tages	Dingy Skipper	Invertebrates	Butterfly
Euphydryas aurinia	Marsh Fritillary	Invertebrates	Butterfly
Hamearis lucina	Duke of Burgundy	Invertebrates	Butterfly
Hipparchia semele	Grayling	Invertebrates	Butterfly
Lasiommata megera	Wall	Invertebrates	Butterfly
Leptidea sinapis	Wood White	Invertebrates	Butterfly
Limenitis camilla	White Admiral	Invertebrates	Butterfly
Maculinea arion	Large Blue Butterfly	Invertebrates	Butterfly
Melitaea cinxia	Glanville Fritillary	Invertebrates	Butterfly
Melitaea athalia	Heath Fritillary	Invertebrates	Butterfly
Plebejus argus	Silver-studded Blue	Invertebrates	Butterfly
Pyrgus malvae	Grizzled Skipper	Invertebrates	Butterfly
Satyrium w-album	White Letter Hairstreak	Invertebrates	Butterfly
Thecla betulae	Brown Hairstreak	Invertebrates	Butterfly
Thymelicus acteon	Lulworth Skipper	Invertebrates	Butterfly
Glossosoma intermedium	Small Grey Sedge	Invertebrates	Caddisfly
Hagenella clathrata	Window Winged Sedge	Invertebrates	Caddisfly
Hydropsyche bulgaromanorum	Scarce Grey Flag	Invertebrates	Caddisfly
Ironoquia dubia	Scarce Brown Sedge	Invertebrates	Caddisfly
Nothogeophilus turki	Turk's Earth-centipede	Invertebrates	Centipede
Amphianthus dohrnii	Sea-fan Anemone	Invertebrates	Cnidarian
Edwardsia timida	Timid Burrowing Anemone	Invertebrates	Cnidarian
Edwardsia ivelli	Ivell's Sea Anemone	Invertebrates	Cnidarian

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Eunicella verrucosa	Pink Sea-fan	Invertebrates	Cnidarian
Funiculina quadrangularis	Tall Sea Pen	Invertebrates	Cnidarian
Haliclystus auricula	A Stalked Jellyfish	Invertebrates	Cnidarian
Leptopsammia pruvoti	Sunset Cup Coral	Invertebrates	Cnidarian
Lucernariopsis campanulata	A Stalked Jellyfish	Invertebrates	Cnidarian
Lucernariopsis cruxmelitensis	A Stalked Jellyfish	Invertebrates	Cnidarian
Nematostella vectensis	Starlet Sea Anemone	Invertebrates	Cnidarian
Pachycordyle navis	Brackish Hydroid	Invertebrates	Cnidarian
Decticus verrucivorus	Wart-biter Bush Cricket	Invertebrates	Cricket
Gryllotalpa gryllotalpa	Mole Cricket	Invertebrates	Cricket
Gryllus campestris	Field Cricket	Invertebrates	Cricket
Austropotamobius pallipes	White-clawed Crayfish	Invertebrates	Crustacean
Gammarus insensibilis	Lagoon Sand Shrimp	Invertebrates	Crustacean
Mitella pollicipes	Gooseneck Barnacle	Invertebrates	Crustacean
Niphargus glenniei	British Cave Shrimp	Invertebrates	Crustacean
Palinurus elephas	Crayfish, Crawfish or Spiny Lobster	Invertebrates	Crustacean
Triops cancriformis	Tadpole Shrimp	Invertebrates	Crustacean
Coenagrion mercuriale	Southern Damselfly	Invertebrates	Damselfly
Aeshna isosceles	Norfolk Hawker	Invertebrates	Dragonfly
Amiota variegata	Variegated Fruit-fly	Invertebrates	Fly
Asilus crabroniformis	Hornet Robberfly	Invertebrates	Fly
Asindulum nigrum	Black Fungus Gnat	Invertebrates	Fly
Bombylius minor	Heath Bee-fly	Invertebrates	Fly
Callicera spinolae	Golden Hoverfly	Invertebrates	Fly
Campsicnemus magius	Fancy-legged Fly	Invertebrates	Fly
Chrysotoxum octomaculatum	Broken-banded Wasp-hoverfly	Invertebrates	Fly
Cliorismia rustica	Southern Silver Stiletto-fly	Invertebrates	Fly
Dolichopus laticola	Broads Long-legged Fly	Invertebrates	Fly
Dolichopus nigripes	Bure Long-legged Fly	Invertebrates	Fly

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Doros profuges	Phantom Hoverfly	Invertebrates	Fly
Dorycera graminum	Picture Winged Fly	Invertebrates	Fly
Dorylomorpha clavifemora	Clubbed Big-headed Fly	Invertebrates	Fly
Empis limata	English Assassin Fly	Invertebrates	Fly
Eristalis cryptarum	Bog Hoverfly	Invertebrates	Fly
Gnophomyia elsneri	Royal Splinter Cranefly	Invertebrates	Fly
Idiocera sexguttata	Six-spotted Cranefly	Invertebrates	Fly
Lipara similis	Cigarillo Gall-fly	Invertebrates	Fly
Lipsothrix errans	Northern Yellow Splinter	Invertebrates	Fly
Lipsothrix nervosa	Southern Yellow Splinter	Invertebrates	Fly
Lipsothrix nigristigma	Scarce Yellow Splinter	Invertebrates	Fly
Myolepta potens	Western Wood-vase Hoverfly	Invertebrates	Fly
Neoempheria lineola	A Fungus-gnat	Invertebrates	Fly
Odontomyia hydroleon	Barred Green Colonel	Invertebrates	Fly
Phaonia jaroschewskii	Hairy Canary	Invertebrates	Fly
Potamanthus luteus	Yellow Mayfly	Invertebrates	Fly
Rhabdomastix japonica	River-shore Cranefly	Invertebrates	Fly
Salticella fasciata	Dune Snail-killing Fly	Invertebrates	Fly
Thyridanthrax fenestratus	Mottled Bee-Fly	Invertebrates	Fly
Stethophyma grossum	Large Marsh Grasshopper	Invertebrates	Grasshopper
Nigrobaetis niger	Iron Blue Mayfly	Invertebrates	Mayfly
Metaiulus pratensis	Kentish Snake Millipede	Invertebrates	Millipede
Polyzonium germanicum	Boring Millipede	Invertebrates	Millipede
Trachysphaera lobata	Sand Pill-millipede	Invertebrates	Millipede
Anisus vorticulus	Little Whirlpool Ram`s-horn Snail	Invertebrates	Mollusc
Atrina fragilis	Fan Mussel	Invertebrates	Mollusc
Gyraulus acronicus	Thames Ram`s-horn Snail	Invertebrates	Mollusc
Heleobia stagnorum	Lagoon Spire Snail	Invertebrates	Mollusc
Margaritifera margaritifera	Freshwater Pearl Mussel	Invertebrates	Mollusc

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Mercuria similis	Swollen Spire Snail	Invertebrates	Mollusc
Omphiscola glabra	Mud Snail	Invertebrates	Mollusc
Ostrea edulis	Native Oyster	Invertebrates	Mollusc
Pisidium tenuilineatum	Fine-lined Pea Mussel	Invertebrates	Mollusc
Pseudanodonta complanata	Depressed River Mussel	Invertebrates	Mollusc
Quickella arenaria	Sandbowl Snail	Invertebrates	Mollusc
Segmentina nitida	The Shining Ram`s-horn Snail	Invertebrates	Mollusc
Sphaerium solidum	Witham Orb Mussel	Invertebrates	Mollusc
Tenellia adspersa	Lagoon Sea Slug	Invertebrates	Mollusc
Truncatellina cylindrica	Cylindrical Whorl Snail	Invertebrates	Mollusc
Valvata macrostoma	Large-mouthed Valve Snail	Invertebrates	Mollusc
Vertigo angustior	Narrow-mouthed Whorl Snail	Invertebrates	Mollusc
Vertigo genesii	Round-mouthed Whorl Snail	Invertebrates	Mollusc
Vertigo geyeri	Geyer's Whorl Snail	Invertebrates	Mollusc
Vertigo moulinsiana	Desmoulin's Whorl Snail	Invertebrates	Mollusc
Acosmetia caliginosa	Reddish Buff	Invertebrates	Moth
Acronicta psi	Grey Dagger	Invertebrates	Moth
Acronicta rumicis	Knot Grass	Invertebrates	Moth
Adscita statices	The Forester	Invertebrates	Moth
Agonopterix atomella	Greenweed Flat-body Moth	Invertebrates	Moth
Agonopterix capreolella	Fuscous Flat-body Moth	Invertebrates	Moth
Agrochola helvola	Flounced Chestnut	Invertebrates	Moth
Agrochola litura	Brown-spot Pinion	Invertebrates	Moth
Agrochola lychnidis	Beaded Chestnut	Invertebrates	Moth
Agrotera nemoralis	Beautiful Pearl	Invertebrates	Moth
Aleucis distinctata	Sloe Carpet	Invertebrates	Moth
Allophyes oxyacanthae	Green-brindled Crescent	Invertebrates	Moth
Amphipoea oculea	Ear Moth	Invertebrates	Moth
Amphipyra tragopoginis	Mouse Moth	Invertebrates	Moth

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Anania funebris	White-spotted Sable Moth	Invertebrates	Moth
Apamea anceps	Large Nutmeg	Invertebrates	Moth
Apamea remissa	Dusky Brocade	Invertebrates	Moth
Aplasta ononaria	Rest Harrow	Invertebrates	Moth
Aplota palpella	Scarce Brown Streak	Invertebrates	Moth
Aporophyla lutulenta	Deep-brown Dart	Invertebrates	Moth
Archanara neurica	White-mantled Wainscot	Invertebrates	Moth
Arctia caja	Garden Tiger	Invertebrates	Moth
Aspitates gilvaria subsp. gilvaria	Straw Belle	Invertebrates	Moth
Asteroscopus sphinx	Sprawler	Invertebrates	Moth
Atethmia centrago	Centre-barred Sallow	Invertebrates	Moth
Athetis pallustris	Marsh Moth	Invertebrates	Moth
Blepharita adusta	Dark Brocade	Invertebrates	Moth
Brachylomia viminalis	Minor Shoulder Knot	Invertebrates	Moth
Caradrina morpheus	Mottled Rustic	Invertebrates	Moth
Catocala promissa	Light Crimson Underwing	Invertebrates	Moth
Catocala sponsa	Dark Crimson Underwing	Invertebrates	Moth
Celaena haworthii	Haworth's Minor	Invertebrates	Moth
Celaena leucostigma	Crescent	Invertebrates	Moth
Celypha woodiana	Mistletoe Marble	Invertebrates	Moth
Chesias legatella	Streak	Invertebrates	Moth
Chesias rufata	Broom-tip	Invertebrates	Moth
Chiasmia clathrata	Latticed Heath	Invertebrates	Moth
Chortodes brevilinea	Fenn's Wainscot	Invertebrates	Moth
Chortodes extrema	The Concolorous	Invertebrates	Moth
Coleophora hydrolapathella	Water-dock Case-bearer	Invertebrates	Moth
Coleophora tricolor	Basil-thyme Case-bearer	Invertebrates	Moth
Coleophora vibicella	Large Gold Case-bearer	Invertebrates	Moth
Coleophora wockeella	Betony Case-bearer	Invertebrates	Moth

Taxon name	Common name	Species grouping	Taxon group
Coscinia cribraria subsp. bivittata	Speckled Footman	Invertebrates	Moth
Cosmia diffinis	White-Spotted Pinion	Invertebrates	Moth
Cossus cossus	Goat Moth	Invertebrates	Moth
Cyclophora pendularia	Dingy Mocha	Invertebrates	Moth
Cyclophora porata	False Mocha	Invertebrates	Moth
Cymatophorima diluta	Oak Lutestring	Invertebrates	Moth
Dasypolia templi	Brindled Ochre	Invertebrates	Moth
Diarsia rubi	Small Square-spot	Invertebrates	Moth
Dicycla oo	Heart Moth	Invertebrates	Moth
Diloba caeruleocephala	Figure of Eight	Invertebrates	Moth
Ecliptopera silaceata	Small Pheonix	Invertebrates	Moth
Ennomos erosaria	September Thorn	Invertebrates	Moth
Ennomos fuscantaria	Dusky Thorn	Invertebrates	Moth
Ennomos quercinaria	August Thorn	Invertebrates	Moth
Entephria caesiata	Grey Mountain Carpet	Invertebrates	Moth
Epermenia insecurella	Chalk-hill Lance-wing	Invertebrates	Moth
Epione vespertaria	Dark Bordered Beauty	Invertebrates	Moth
Epirrhoe galiata	Galium Carpet	Invertebrates	Moth
Eudarcia richardsoni	Dorset Tineid Moth	Invertebrates	Moth
Eugnorisma glareosa	Autumnal Rustic	Invertebrates	Moth
Eulithis mellinata	Spinach	Invertebrates	Moth
Eupithecia extensaria subsp. occidua	Scarce Pug	Invertebrates	Moth
Eustroma reticulatum	Netted Carpet	Invertebrates	Moth
Euxoa nigricans	Garden Dart	Invertebrates	Moth
Euxoa tritici	White-line Dart	Invertebrates	Moth
Graphiphora augur	Double Dart	Invertebrates	Moth
Grapholita pallifrontana	Liquorice Piercer	Invertebrates	Moth
Hadena albimacula	White Spot	Invertebrates	Moth
Heliophobus reticulata	Bordered Gothic	Invertebrates	Moth

Taxon name	Common name	Species grouping	Taxon group
Heliothis maritima	Shoulder-striped Clover	Invertebrates	Moth
Hemaris tityus	Narrow-bordered Bee Hawk-moth	Invertebrates	Moth
Hemistola chrysoprasaria	Small Emerald	Invertebrates	Moth
Hepialus humuli	Ghost Moth	Invertebrates	Moth
Hoplodrina blanda	Rustic	Invertebrates	Moth
Hydraecia micacea	Rosy Rustic	Invertebrates	Moth
Hydraecia osseola subsp. hucherardi	Marsh Mallow Moth	Invertebrates	Moth
Idaea dilutaria	Silky Wave	Invertebrates	Moth
Idaea ochrata subsp. cantiata	Bright Wave	Invertebrates	Moth
Jodia croceago	Orange Upperwing	Invertebrates	Moth
Lampronia capitella	Currant-shoot Borer	Invertebrates	Moth
Lithostege griseata	Grey Carpet	Invertebrates	Moth
Luperina nickerlii subsp. leechi	Sandhill Rustic	Invertebrates	Moth
Lycia hirtaria	Brindled Beauty	Invertebrates	Moth
Lycia zonaria subsp. britannica	Belted Beauty	Invertebrates	Moth
Macaria wauaria	V-moth	Invertebrates	Moth
Malacosoma neustria	Lackey	Invertebrates	Moth
Melanchra persicariae	Dot Moth	Invertebrates	Moth
Melanchra pisi	Broom Moth	Invertebrates	Moth
Melanthia procellata	Pretty Chalk Carpet	Invertebrates	Moth
Mesoligia literosa	Rosy Minor	Invertebrates	Moth
Minoa murinata	Drab Looper	Invertebrates	Moth
Mythimna comma	Shoulder-striped Wainscot	Invertebrates	Moth
Nemophora fasciella	Horehound Long-horn Moth	Invertebrates	Moth
Noctua orbona	Lunar Yellow Underwing	Invertebrates	Moth
Orgyia recens	Scarce Vapourer	Invertebrates	Moth
Oria musculosa	Brighton Wainscot	Invertebrates	Moth
Orthonama vittata	Oblique Carpet	Invertebrates	Moth
Orthosia gracilis	Powdered Quaker	Invertebrates	Moth

Taxon name	Common name	Species grouping	Taxon group
Paracolax tristalis	Clay Fan-Foot	Invertebrates	Moth
Pareulype berberata	Barberry Carpet	Invertebrates	Moth
Pechipogo strigilata	Common Fan-foot	Invertebrates	Moth
Pelurga comitata	Dark Spinach	Invertebrates	Moth
Perizoma albulata subsp. albulata	Grass Rivulet	Invertebrates	Moth
Phyllonorycter sagitella	Scarce Aspen Midget Moth	Invertebrates	Moth
Phyllonorycter scabiosella	Surrey Midget Moth	Invertebrates	Moth
Polia bombycina	Pale Shining Brown	Invertebrates	Moth
Pyropteron chrysidiformis	Fiery Clearwing	Invertebrates	Moth
Rheumaptera hastata	Argent and Sable	Invertebrates	Moth
Rhizedra lutosa	Large Wainscot	Invertebrates	Moth
Sciota hostilis	Scarce Aspen Knot-horn	Invertebrates	Moth
Scopula marginepunctata	Mullein Wave	Invertebrates	Moth
Scotopteryx bipunctaria	Chalk Carpet	Invertebrates	Moth
Scotopteryx chenopodiata	Shaded Broad-bar	Invertebrates	Moth
Scythris siccella	Least Owlet	Invertebrates	Moth
Shargacucullia lychnitis	Striped Lychnis	Invertebrates	Moth
Siona lineata	Black-veined Moth	Invertebrates	Moth
Spilosoma lubricipeda	White Ermine	Invertebrates	Moth
Spilosoma luteum	Buff Ermine	Invertebrates	Moth
Stigmella zelleriella	Sandhill Pigmy Moth	Invertebrates	Moth
Stilbia anomala	Anomalous	Invertebrates	Moth
Syncopacma albipalpella	Slate Sober Moth	Invertebrates	Moth
Syncopacma suecicella	Western Sober Moth	Invertebrates	Moth
Thalera fimbrialis	Sussex Emerald	Invertebrates	Moth
Tholera cespitis	Hedge Rustic	Invertebrates	Moth
Tholera decimalis	Feathered Gothic	Invertebrates	Moth
Timandra comae	Blood Vein	Invertebrates	Moth
Trichiura crataegi	Pale Eggar	Invertebrates	Moth

Taxon name	Common name	Species grouping	Taxon group
Trichopteryx polycommata	Barred Tooth-striped	Invertebrates	Moth
Trisateles emortualis	Olive Crescent	Invertebrates	Moth
Tyria jacobaeae	Cinnabar	Invertebrates	Moth
Tyta luctuosa	Four-Spotted Moth	Invertebrates	Moth
Watsonalla binaria	Oak Hook-tip	Invertebrates	Moth
Xanthia gilvago	Dusky Lemon Sallow	Invertebrates	Moth
Xanthia icteritia	Sallow	Invertebrates	Moth
Xanthorhoe decoloraria	Red Carpet	Invertebrates	Moth
Xanthorhoe ferrugata	Dark-barred Twin-Spot Carpet	Invertebrates	Moth
Xestia agathina	Heath Rustic	Invertebrates	Moth
Xestia alpicola subsp. alpina	Northern Dart	Invertebrates	Moth
Xestia castanea	Neglected Rustic	Invertebrates	Moth
Agroeca cuprea	Golden Lantern-spider	Invertebrates	Spider
Alopecosa fabrilis	Great Fox-spider	Invertebrates	Spider
Altella lucida	Dorset Mesh-weaver	Invertebrates	Spider
Arctosa fulvolineata	Yellow-striped Bear-spider	Invertebrates	Spider
Baryphyma duffeyi	A Money Spider	Invertebrates	Spider
Centromerus serratus	A Money Spider	Invertebrates	Spider
Clubiona rosserae	Rosser's Sac-spider	Invertebrates	Spider
Dictyna pusilla	Small Mesh-weaver	Invertebrates	Spider
Dipoena inornata	Silky Gallows-spider	Invertebrates	Spider
Dolomedes plantarius	Fen Raft Spider	Invertebrates	Spider
Eresus sandaliatus	Ladybird Spider	Invertebrates	Spider
Erigone welchi	Welch's Money-spider	Invertebrates	Spider
Glyphesis cottonae	Cotton's Amazon Spider	Invertebrates	Spider
Haplodrassus dalmatensis	Heath Grasper	Invertebrates	Spider
Mecopisthes peusi	Peus's Long-back Spider	Invertebrates	Spider
Meioneta mollis	Thin Weblet	Invertebrates	Spider
Midia midas	Midas Tree-weaver	Invertebrates	Spider

Taxon name	Common name	Species grouping	Taxon group
Monocephalus castaneipes	Broad Groove-head Spider	Invertebrates	Spider
Nothophantes horridus	Horrid Ground-weaver	Invertebrates	Spider
Notioscopus sarcinatus	Swamp Lookout Spider	Invertebrates	Spider
Ozyptila nigrita	Southern Crablet	Invertebrates	Spider
Philodromus fallax	Sand Running-spider	Invertebrates	Spider
Philodromus margaritatus	Lichen Running-spider	Invertebrates	Spider
Pseudeuophrys obsoleta	Whelk-shell Jumper	Invertebrates	Spider
Saaristoa firma	Triangle Hammock-spider	Invertebrates	Spider
Semljicola caliginosus	Cloud-living Spider	Invertebrates	Spider
Silometopus incurvatus	Bend-bearing Blunt-brow Spider	Invertebrates	Spider
Sitticus caricis	Sedge Jumper	Invertebrates	Spider
Sitticus distinguendus	Distinguished Jumper	Invertebrates	Spider
Tapinocyba mitis	Gentle Groove-head Spider	Invertebrates	Spider
Walckenaeria corniculans	Small-horned Walckenaer	Invertebrates	Spider
Brachyptera putata	A Stonefly	Invertebrates	Stonefly
Cerceris quadricincta	A Solitary Wasp	Invertebrates	Wasp
Cerceris quinquefasciata	5-Banded Tailed Digger Wasp	Invertebrates	Wasp
Chrysis fulgida	Ruby-tailed Wasp	Invertebrates	Wasp
Homonotus sanguinolentus	Bloody Spider-hunting Wasp	Invertebrates	Wasp
Odynerus melanocephalus	Black-headed Mason Wasp	Invertebrates	Wasp
Odynerus simillimus	Fen Mason-wasp	Invertebrates	Wasp
Pseudepipona herrichii	Purbeck Mason Wasp	Invertebrates	Wasp
Armandia cirrhosa	Lagoon Sandworm	Invertebrates	Worm
Prostoma jenningsi	Jennings's Ribbon-worm	Invertebrates	Worm
Anotrichium barbatum	Bearded Red Seaweed	Lower plants and fungi	Alga
Cruoria cruoriaeformis	A Red Seaweed	Lower plants and fungi	Alga
Dermocorynus montagnei	A Red Seaweed	Lower plants and	Alga

Taxon name	Common name	Species grouping	Taxon group
		fungi	
Lithothamnion corallioides	Coral Maërl	Lower plants and fungi	Alga
Padina pavonica	Peacock's Tail	Lower plants and fungi	Alga
Phymatolithon calcareum	Common Maërl	Lower plants and fungi	Alga
Acaulon triquetrum	Triangular Pygmy-moss	Lower plants and fungi	Bryophyte
Anomodon longifolius	Long-leaved Tail-moss	Lower plants and fungi	Bryophyte
Aplodon wormskjoldii	Carrion-moss	Lower plants and fungi	Bryophyte
Atrichum angustatum	Lesser Smoothcap	Lower plants and fungi	Bryophyte
Bryum calophyllum	Matted Bryum	Lower plants and fungi	Bryophyte
Bryum cyclophyllum	Round-leaved Bryum	Lower plants and fungi	Bryophyte
Bryum gemmiparum	Welsh Thread-moss	Lower plants and fungi	Bryophyte
Bryum knowltonii	Knowlton`s Thread-moss	Lower plants and fungi	Bryophyte
Bryum marratii	Baltic Bryum	Lower plants and fungi	Bryophyte
Bryum salinum	Saltmarsh Thread-moss	Lower plants and fungi	Bryophyte
Bryum warneum	Sea Bryum	Lower plants and fungi	Bryophyte
Cephaloziella baumgartneri	Chalk Threadwort	Lower plants and fungi	Bryophyte

Taxon name	Common name	Species grouping	Taxon group
Cephaloziella calyculata	Entire Threadwort	Lower plants and fungi	Bryophyte
Cephaloziella dentata	Toothed Threadwort	Lower plants and fungi	Bryophyte
Cephaloziella integerrima	Lobed Threadwort	Lower plants and fungi	Bryophyte
Cephaloziella nicholsonii	Greater Copperwort	Lower plants and fungi	Bryophyte
Ceratodon conicus	Scarce Redshank	Lower plants and fungi	Bryophyte
Cryphaea lamyana	Multi-fruited River Moss	Lower plants and fungi	Bryophyte
Cyclodictyon laetevirens	Bright-green Cave-moss	Lower plants and fungi	Bryophyte
Dicranum bergeri	Waved Fork-moss	Lower plants and fungi	Bryophyte
Dicranum spurium	Rusty Fork-moss	Lower plants and fungi	Bryophyte
Didymodon glaucus	Glaucous Beard-moss	Lower plants and fungi	Bryophyte
Didymodon tomaculosus	Sausage Beard-moss	Lower plants and fungi	Bryophyte
Ditrichum cornubicum	Cornish Path Moss	Lower plants and fungi	Bryophyte
Ditrichum plumbicola	Lead-moss	Lower plants and fungi	Bryophyte
Ditrichum subulatum	Awl-leaved Ditrichum	Lower plants and fungi	Bryophyte
Dumortiera hirsuta	Dumortier`s Liverwort	Lower plants and fungi	Bryophyte
Ephemerum cohaerens	Clustered Earth-moss	Lower plants and	Bryophyte

Taxon name	Common name	Species grouping	Taxon group
		fungi	
Fissidens curvatus	Portuguese Pocket-moss	Lower plants and fungi	Bryophyte
Fissidens serrulatus	Large Atlantic Pocket-moss	Lower plants and fungi	Bryophyte
Fossombronia foveolata	Pitted Frillwort	Lower plants and fungi	Bryophyte
Funaria pulchella	Pretty Cord-moss	Lower plants and fungi	Bryophyte
Grimmia crinita	Hedgehog Grimmia	Lower plants and fungi	Bryophyte
Grimmia elongata	Brown Grimmia	Lower plants and fungi	Bryophyte
Habrodon perpusillus	Lesser Squirrel-tail Moss	Lower plants and fungi	Bryophyte
Homomallium incurvatum	Incurved Feather-moss	Lower plants and fungi	Bryophyte
Jamesoniella undulifolia	Marsh Earwort	Lower plants and fungi	Bryophyte
Jungermannia leiantha	Long-leaved Flapwort	Lower plants and fungi	Bryophyte
Leiocolea rutheana	Fen Notchwort	Lower plants and fungi	Bryophyte
Lejeunea mandonii	Atlantic Lejeunea	Lower plants and fungi	Bryophyte
Leptodontium gemmascens	Thatch Moss	Lower plants and fungi	Bryophyte
Lophozia capitata	Large-celled Flapwort	Lower plants and fungi	Bryophyte
Marsupella profunda	Western Rustwort	Lower plants and fungi	Bryophyte

Taxon name	Common name	Species grouping	Taxon group
Micromitrium tenerum	Millimetre Moss	Lower plants and fungi	Bryophyte
Orthodontium gracile	Slender Thread-moss	Lower plants and fungi	Bryophyte
Orthotrichum pallens	Pale Bristle-moss	Lower plants and fungi	Bryophyte
Orthotrichum pumilum	Dwarf Bristle-moss	Lower plants and fungi	Bryophyte
Pallavicinia lyellii	Veilwort	Lower plants and fungi	Bryophyte
Petalophyllum ralfsii	Petalwort	Lower plants and fungi	Bryophyte
Philonotis marchica	Bog Apple-moss	Lower plants and fungi	Bryophyte
Physcomitrium eurystomum	Norfolk Bladder-moss	Lower plants and fungi	Bryophyte
Rhynchostegium rotundifolium	Round-leaved Feather-moss	Lower plants and fungi	Bryophyte
Rhytidiadelphus subpinnatus	Scarce Turf-moss	Lower plants and fungi	Bryophyte
Riccia bifurca	Lizard Crystalwort	Lower plants and fungi	Bryophyte
Riccia canaliculata	Channelled Crystalwort	Lower plants and fungi	Bryophyte
Riccia nigrella	Black Crystalwort	Lower plants and fungi	Bryophyte
Scopelophila cataractae	Tongue-leaf Copper-moss	Lower plants and fungi	Bryophyte
Seligeria carniolica	Water Rock-bristle	Lower plants and fungi	Bryophyte
Southbya nigrella	Blackwort	Lower plants and	Bryophyte

Taxon name	Common name	Species grouping	Taxon group
		fungi	
Sphaerocarpos texanus	Texas Balloonwort	Lower plants and fungi	Bryophyte
Sphagnum balticum	Baltic Bog-Moss	Lower plants and fungi	Bryophyte
Splachnum vasculosum	Rugged Collar-moss	Lower plants and fungi	Bryophyte
Telaranea nematodes	Irish Threadwort	Lower plants and fungi	Bryophyte
Thamnobryum angustifolium	Derbyshire Feather-moss	Lower plants and fungi	Bryophyte
Thamnobryum cataractarum	Yorkshire Feather-moss	Lower plants and fungi	Bryophyte
Tortula cernua	Flamingo Moss	Lower plants and fungi	Bryophyte
Tortula cuneifolia	Wedge-leaved Screw-moss	Lower plants and fungi	Bryophyte
Tortula freibergii	Freiberg`s Screw-moss	Lower plants and fungi	Bryophyte
Tortula vahliana	Chalk Screw-moss	Lower plants and fungi	Bryophyte
Tortula wilsonii	Wilson`s Pottia	Lower plants and fungi	Bryophyte
Weissia condensa	Curly Beardless-moss	Lower plants and fungi	Bryophyte
Weissia levieri	Levier`s Beardless-moss	Lower plants and fungi	Bryophyte
Weissia multicapsularis	A Moss	Lower plants and fungi	Bryophyte
Weissia squarrosa	Spreading-leaved Beardless-moss	Lower plants and fungi	Bryophyte

Taxon name	Common name	Species grouping	Taxon group
Weissia sterilis	Sterile Beardless-moss	Lower plants and fungi	Bryophyte
Zygodon forsteri	Knothole Moss	Lower plants and fungi	Bryophyte
Zygodon gracilis	Nowell`s Limestone Moss	Lower plants and fungi	Bryophyte
Amanita friabilis	Fragile Amanita	Lower plants and fungi	Fungus
Armillaria ectypa	Marsh Honey Fungus	Lower plants and fungi	Fungus
Bankera fuligineoalba	Drab Tooth	Lower plants and fungi	Fungus
Battarrea phalloides	Sandy Stilt Puffball	Lower plants and fungi	Fungus
Boletus immutatus	Constant Bolete	Lower plants and fungi	Fungus
Boletus pseudoregius	The Pretender	Lower plants and fungi	Fungus
Boletus regius	Royal Bolete	Lower plants and fungi	Fungus
Boletus rhodopurpureus	Oldrose Bolete	Lower plants and fungi	Fungus
Boletus torosus	Brawny Bolete	Lower plants and fungi	Fungus
Bovista paludosa	Fen Puffball	Lower plants and fungi	Fungus
Cantharellus friesii	Orange Chanterelle	Lower plants and fungi	Fungus
Cantharellus melanoxeros	Blackening Chanterelle	Lower plants and fungi	Fungus
Chlorencoelia versiformis	Flea's Ear	Lower plants and	Fungus

Taxon name	Common name	Species grouping	Taxon group
		fungi	
Chrysomyxa pirolata	Wintergreen Rust	Lower plants and fungi	Fungus
Cotylidia pannosa	Wooly Rosette	Lower plants and fungi	Fungus
Entoloma bloxamii	Big Blue Pinkgill	Lower plants and fungi	Fungus
Geastrum berkeleyi	Berkeley's Earthstar	Lower plants and fungi	Fungus
Geastrum corollinum	Weathered Earthstar	Lower plants and fungi	Fungus
Geastrum elegans	Elegant Earthstar	Lower plants and fungi	Fungus
Geastrum minimum	Tiny Earthstar	Lower plants and fungi	Fungus
Geoglossum atropurpureum	Dark-purple Earthtongue	Lower plants and fungi	Fungus
Hericium coralloides	Coral Tooth	Lower plants and fungi	Fungus
Hericium erinaceus	Bearded Tooth	Lower plants and fungi	Fungus
Hohenbuehelia culmicola	Marram Oyster	Lower plants and fungi	Fungus
Hydnellum concrescens	A Tooth Fungus	Lower plants and fungi	Fungus
Hydnellum ferrugineum	A Tooth Fungus	Lower plants and fungi	Fungus
Hydnellum scrobiculatum	A Tooth Fungus	Lower plants and fungi	Fungus
Hydnellum spongiosipes	Velvet Tooth	Lower plants and fungi	Fungus

Taxon name	Common name	Species grouping	Taxon group
Hygrocybe spadicea	Date-Coloured Waxcap	Lower plants and fungi	Fungus
Hygrophorus pudorinus	Rosy Woodwax	Lower plants and fungi	Fungus
Hypocreopsis lichenoides	Willow Gloves	Lower plants and fungi	Fungus
Hypocreopsis rhododendri	Hazel Gloves	Lower plants and fungi	Fungus
Lyophyllum favrei	Gilded Domecap	Lower plants and fungi	Fungus
Microglossum olivaceum	Earth-Tongue	Lower plants and fungi	Fungus
Mycena renati	Beautiful Bonnet	Lower plants and fungi	Fungus
Myriostoma coliforme	Pepper Pot	Lower plants and fungi	Fungus
Phellodon confluens	Fused Tooth	Lower plants and fungi	Fungus
Phellodon melaleucus	Grey Tooth	Lower plants and fungi	Fungus
Phellodon niger	Black Tooth	Lower plants and fungi	Fungus
Phellodon tomentosus	Wooly Tooth	Lower plants and fungi	Fungus
Pholiota astragalina	Conifer Scalycap	Lower plants and fungi	Fungus
Phylloporus pelletieri	Golden Gilled Bolete	Lower plants and fungi	Fungus
Piptoporus quercinus	Oak Polypore	Lower plants and fungi	Fungus
Podoscypha multizonata	Zoned Rosette	Lower plants and	Fungus

Taxon name	Common name	Species grouping	Taxon group
		fungi	
Poronia punctata	Nail Fungus	Lower plants and fungi	Fungus
Puccinia physospermi	Bladder-seed Rust	Lower plants and fungi	Fungus
Puccinia scorzonerae	Scorzonera Rust	Lower plants and fungi	Fungus
Puccinia thesii	Bastard-toadflax Rust	Lower plants and fungi	Fungus
Sarcodon scabrosus	A Tooth Fungus	Lower plants and fungi	Fungus
Sarcodon squamosus	Scaly Tooth	Lower plants and fungi	Fungus
Sarcodontia crocea	Orchard Tooth	Lower plants and fungi	Fungus
Sarcosphaera coronaria	Violet Crowncup	Lower plants and fungi	Fungus
Stephanospora caroticola	Carroty False Truffle	Lower plants and fungi	Fungus
Tephrocybe osmophora	Sweet Greyling	Lower plants and fungi	Fungus
Tracya hydrocharidis	Frogbit Smut	Lower plants and fungi	Fungus
Tremella moriformis	Mulberry Brain	Lower plants and fungi	Fungus
Tremellodendropsis tuberosa	Ashen Coral	Lower plants and fungi	Fungus
Tulostoma melanocyclum	Scaly Stalkball	Lower plants and fungi	Fungus
Urocystis colchici	Colchicum Smut	Lower plants and fungi	Fungus

Taxon name	Common name	Species grouping	Taxon group
Urocystis primulicola	Bird's-eye Primrose Smut	Lower plants and fungi	Fungus
Uromyces gentianae	Felwort Rust	Lower plants and fungi	Fungus
Acarospora subrufula	A Lichen	Lower plants and fungi	Lichen
Anaptychia ciliaris subsp. ciliaris	A Lichen	Lower plants and fungi	Lichen
Arthonia anglica	A Lichen	Lower plants and fungi	Lichen
Arthonia atlantica	A Lichen	Lower plants and fungi	Lichen
Arthonia invadens	A Lichen	Lower plants and fungi	Lichen
Bacidia circumspecta	A Lichen	Lower plants and fungi	Lichen
Bacidia incompta	A Lichen	Lower plants and fungi	Lichen
Bacidia subincompta	A Lichen	Lower plants and fungi	Lichen
Bacidia subturgidula	A Lichen	Lower plants and fungi	Lichen
Belonia calcicola	A Lichen	Lower plants and fungi	Lichen
Biatorella fossarum	A Lichen	Lower plants and fungi	Lichen
Biatoridium monasteriense	A Lichen	Lower plants and fungi	Lichen
Blarneya hibernica	A Lichen	Lower plants and fungi	Lichen
Bryoria nadvornikiana	A Lichen	Lower plants and	Lichen

Taxon name	Common name	Species grouping	Taxon group
		fungi	
Bryoria smithii	A Lichen	Lower plants and fungi	Lichen
Buellia asterella	Starry Breck-lichen	Lower plants and fungi	Lichen
Buellia hyperbolica	A Lichen	Lower plants and fungi	Lichen
Buellia violaceofusca	A Lichen	Lower plants and fungi	Lichen
Calicium adspersum	A Lichen	Lower plants and fungi	Lichen
Calicium corynellum	A Lichen	Lower plants and fungi	Lichen
Caloplaca aractina	A Lichen	Lower plants and fungi	Lichen
Caloplaca atroflava	A Lichen	Lower plants and fungi	Lichen
Caloplaca flavorubescens	A Lichen	Lower plants and fungi	Lichen
Caloplaca herbidella	A Lichen	Lower plants and fungi	Lichen
Caloplaca lucifuga	A Lichen	Lower plants and fungi	Lichen
Caloplaca luteoalba	Orange-Fruited Elm-lichen	Lower plants and fungi	Lichen
Caloplaca virescens	A Lichen	Lower plants and fungi	Lichen
Catapyrenium michelii	A Lichen	Lower plants and fungi	Lichen
Catapyrenium psoromoides	Tree Catapyrenium	Lower plants and fungi	Lichen

Taxon name	Common name	Species grouping	Taxon group
Catillaria alba	A Lichen	Lower plants and fungi	Lichen
Chaenotheca gracilenta	A Lichen	Lower plants and fungi	Lichen
Cladonia convoluta	A Lichen	Lower plants and fungi	Lichen
Cladonia mediterranea	Reindeer Lichen	Lower plants and fungi	Lichen
Cladonia peziziformis	A Lichen	Lower plants and fungi	Lichen
Cliostomum corrugatum	A Lichen	Lower plants and fungi	Lichen
Collema dichotomum	River Jelly Lichen	Lower plants and fungi	Lichen
Collema fragile	A Lichen	Lower plants and fungi	Lichen
Collema fragrans	A Lichen	Lower plants and fungi	Lichen
Collema latzelii	A Lichen	Lower plants and fungi	Lichen
Cryptolechia carneolutea	A Lichen	Lower plants and fungi	Lichen
Endocarpon adscendens	A Lichen	Lower plants and fungi	Lichen
Enterographa elaborata	New Forest beech-lichen	Lower plants and fungi	Lichen
Enterographa sorediata	A Lichen	Lower plants and fungi	Lichen
Fulgensia fulgens	A Lichen	Lower plants and fungi	Lichen
Fuscopannaria sampaiana	A Lichen	Lower plants and	Lichen

Taxon name	Common name	Species grouping	Taxon group
		fungi	
Graphina pauciloculata	A Lichen	Lower plants and fungi	Lichen
Gyalecta ulmi	Elm`s Gyalecta	Lower plants and fungi	Lichen
Heterodermia leucomela	Ciliate Strap-Lichen	Lower plants and fungi	Lichen
Heterodermia speciosa	A Lichen	Lower plants and fungi	Lichen
Lecania chlorotiza	A Lichen	Lower plants and fungi	Lichen
Lecanographa amylacea	A Lichen	Lower plants and fungi	Lichen
Lecanora achariana	Tarn Lecanora	Lower plants and fungi	Lichen
Lecanora quercicola	A Lichen	Lower plants and fungi	Lichen
Lecanora sublivescens	A Lichen	Lower plants and fungi	Lichen
Lecidea erythrophaea	A Lichen	Lower plants and fungi	Lichen
Lecidea inops	Copper Lecidea	Lower plants and fungi	Lichen
Leptogium cochleatum	A Lichen	Lower plants and fungi	Lichen
Leptogium saturninum	A Lichen	Lower plants and fungi	Lichen
Megalaria laureri	A Lichen	Lower plants and fungi	Lichen
Megalospora tuberculosa	A Lichen	Lower plants and fungi	Lichen

Taxon name	Common name	Species grouping	Taxon group
Melaspilea lentiginosa	A Lichen	Lower plants and fungi	Lichen
Opegrapha prosodea	A Lichen	Lower plants and fungi	Lichen
Opegrapha subelevata	A Lichen	Lower plants and fungi	Lichen
Parmeliella testacea	A Lichen	Lower plants and fungi	Lichen
Parmelina quercina	A Lichen	Lower plants and fungi	Lichen
Parmotrema robustum	A Lichen	Lower plants and fungi	Lichen
Peltigera venosa	A Lichen	Lower plants and fungi	Lichen
Pertusaria velata	A Lichen	Lower plants and fungi	Lichen
Phaeophyscia endococcina	A Lichen	Lower plants and fungi	Lichen
Physcia tribacioides	Southern Grey Physcia	Lower plants and fungi	Lichen
Poeltinula cerebrina	A Lichen	Lower plants and fungi	Lichen
Porina effilata	A Lichen	Lower plants and fungi	Lichen
Porina hibernica	A Lichen	Lower plants and fungi	Lichen
Porina sudetica	A Lichen	Lower plants and fungi	Lichen
Pseudocyphellaria aurata	A Lichen	Lower plants and fungi	Lichen
Pseudocyphellaria intricata	A Lichen	Lower plants and	Lichen

Taxon name	Common name	Species grouping	Taxon group
		fungi	
Pyrenula nitida	A Lichen	Lower plants and fungi	Lichen
Ramonia chrysophaea	A Lichen	Lower plants and fungi	Lichen
Ramonia dictyospora	A Lichen	Lower plants and fungi	Lichen
Ramonia nigra	A Lichen	Lower plants and fungi	Lichen
Rinodina isidioides	A Lichen	Lower plants and fungi	Lichen
Schismatomma graphidioides	A Lichen	Lower plants and fungi	Lichen
Sclerophora pallida	A Lichen	Lower plants and fungi	Lichen
Solenopsora liparina	Serpentine Solenopsora	Lower plants and fungi	Lichen
Squamarina lentigera	Scaly Breck-Lichen	Lower plants and fungi	Lichen
Stereocaulon delisei	A Lichen	Lower plants and fungi	Lichen
Stereocaulon symphycheilum	A Lichen	Lower plants and fungi	Lichen
Strigula stigmatella var. stigmatella	A Lichen	Lower plants and fungi	Lichen
Synalissa symphorea	A Lichen	Lower plants and fungi	Lichen
Teloschistes flavicans	Golden Hair Lichen	Lower plants and fungi	Lichen
Toninia physaroides	A Lichen	Lower plants and fungi	Lichen

Taxon name	Common name	Species grouping	Taxon group
Toninia sedifolia	A Lichen	Lower plants and fungi	Lichen
Usnea articulata	A Lichen	Lower plants and fungi	Lichen
Usnea florida	A Lichen	Lower plants and fungi	Lichen
Verrucaria xyloxena	A Lichen	Lower plants and fungi	Lichen
Wadeana dendrographa	A Lichen	Lower plants and fungi	Lichen
Wadeana minuta	A Lichen	Lower plants and fungi	Lichen
Chara baltica	Baltic Stonewort	Lower plants and fungi	Stonewort
Chara canescens	Bearded Stonewort	Lower plants and fungi	Stonewort
Chara connivens	Convergent Stonewort	Lower plants and fungi	Stonewort
Chara intermedia	Intermediate Stonewort	Lower plants and fungi	Stonewort
Lamprothamnium papulosum	Foxtail Stonewort	Lower plants and fungi	Stonewort
Nitella tenuissima	Dwarf Stonewort	Lower plants and fungi	Stonewort
Nitellopsis obtusa	Starry Stonewort	Lower plants and fungi	Stonewort
Tolypella intricata	Tassel Stonewort	Lower plants and fungi	Stonewort
Tolypella prolifera	Great Tassel Stonewort	Lower plants and fungi	Stonewort
Aceras anthropophorum	Man Orchid	Higher plants	Vascular plant

Taxon name	Common name	Species grouping	Taxon group
Adonis annua	Pheasants-eye	Higher plants	Vascular plant
Ajuga chamaepitys	Ground-pine	Higher plants	Vascular plant
Ajuga pyramidalis	Pyramidal Bugle	Higher plants	Vascular plant
Alchemilla acutiloba	A Lady`s Mantle	Higher plants	Vascular plant
Alchemilla micans	A Lady's Mantle	Higher plants	Vascular plant
Alchemilla minima	A Lady's Mantle	Higher plants	Vascular plant
Alchemilla monticola	A Lady`s Mantle	Higher plants	Vascular plant
Alchemilla subcrenata	A Lady`s Mantle	Higher plants	Vascular plant
Alisma gramineum	Ribbon-leaved Water-plantain	Higher plants	Vascular plant
Apium repens	Creeping Marshwort	Higher plants	Vascular plant
Arabis glabra	Tower Mustard	Higher plants	Vascular plant
Armeria maritima subsp. elongata	Tall Thrift	Higher plants	Vascular plant
Artemisia campestris	Field Wormwood	Higher plants	Vascular plant
Asparagus prostratus	Wild Asparagus	Higher plants	Vascular plant
Astragalus danicus	Purple Milk-vetch	Higher plants	Vascular plant
Atriplex pedunculata	Pedunculate Sea-purslane	Higher plants	Vascular plant
Blysmus compressus	Flat-sedge	Higher plants	Vascular plant
Bromus interruptus	Interrupted Brome	Higher plants	Vascular plant
Bupleurum rotundifolium	Thorow-wax	Higher plants	Vascular plant
Bupleurum tenuissimum	Slender Hare`s-ear	Higher plants	Vascular plant
Calamagrostis stricta	Narrow Small-reed	Higher plants	Vascular plant
Campanula patula	Spreading Bellflower	Higher plants	Vascular plant
Campanula rapunculus	Rampion Bellflower	Higher plants	Vascular plant
Carex depauperata	Starved Wood-sedge	Higher plants	Vascular plant
Carex divisa	Divided Sedge	Higher plants	Vascular plant
Carex ericetorum	Rare Spring-sedge	Higher plants	Vascular plant
Carex maritima	Curved Sedge	Higher plants	Vascular plant
Carex vulpina	True Fox Sedge	Higher plants	Vascular plant
Carum carvi	Caraway	Higher plants	Vascular plant

Taxon name	Common name	Species grouping	Taxon group
Centaurea calcitrapa	Red Star-thistle	Higher plants	Vascular plant
Centaurea cyanus	Cornflower	Higher plants	Vascular plant
Cephalanthera damasonium	White Helleborine	Higher plants	Vascular plant
Cephalanthera longifolia	Narrow-leaved Helleborine	Higher plants	Vascular plant
Cephalanthera rubra	Red Helleborine	Higher plants	Vascular plant
Chamaemelum nobile	Chamomile	Higher plants	Vascular plant
Chenopodium urbicum	Upright Goosefoot	Higher plants	Vascular plant
Chenopodium vulvaria	Stinking Goosefoot	Higher plants	Vascular plant
Cicendia filiformis	Yellow Centaury	Higher plants	Vascular plant
Clinopodium acinos	Basil Thyme	Higher plants	Vascular plant
Clinopodium menthifolium	Wood Calamint	Higher plants	Vascular plant
Coincya wrightii	Lundy Cabbage	Higher plants	Vascular plant
Corrigiola litoralis	Strapwort	Higher plants	Vascular plant
Crepis foetida	Stinking Hawk`s-beard	Higher plants	Vascular plant
Crepis mollis	Northern Hawk`s-beard	Higher plants	Vascular plant
Cynoglossum germanicum	Green Hound`s-tongue	Higher plants	Vascular plant
Cyperus fuscus	Brown Galingale	Higher plants	Vascular plant
Cypripedium calceolus	Lady`s Slipper Orchid	Higher plants	Vascular plant
Dactylorhiza incarnata subsp. ochroleuca	Early Marsh-orchid	Higher plants	Vascular plant
Coeloglossum viride	Frog Orchid	Higher plants	Vascular plant
Damasonium alisma	Starfruit	Higher plants	Vascular plant
Dianthus armeria	Deptford Pink	Higher plants	Vascular plant
Dryopteris cristata	Crested Buckler-fern	Higher plants	Vascular plant
Epipactis sancta	Lindisfarne Hellerborine	Higher plants	Vascular plant
Eryngium campestre	Field Eryngo	Higher plants	Vascular plant
Euphrasia anglica	Glandular Eyebright	Higher plants	Vascular plant
Euphrasia ostenfeldii	An Eyebright	Higher plants	Vascular plant
Euphrasia pseudokerneri	Chalk Eyebright	Higher plants	Vascular plant
Euphrasia rivularis	An Eyebright	Higher plants	Vascular plant

Taxon name	Common name	Species grouping	Taxon group
Euphrasia rostkoviana subsp. montana	An Eyebright	Higher plants	Vascular plant
Euphrasia vigursii	An Eyebright	Higher plants	Vascular plant
Fallopia dumetorum	Copse-bindweed	Higher plants	Vascular plant
Filago lutescens	Red-tipped Cudweed	Higher plants	Vascular plant
Filago pyramidata	Broad-leaved Cudweed	Higher plants	Vascular plant
Fumaria purpurea	Purple Ramping-fumitory	Higher plants	Vascular plant
Galeopsis angustifolia	Red Hemp-nettle	Higher plants	Vascular plant
Galium pumilum	Slender Bedstraw	Higher plants	Vascular plant
Galium tricornutum	Corn Cleavers	Higher plants	Vascular plant
Gentianella anglica	Early Gentian	Higher plants	Vascular plant
Gentianella campestris	Field Gentian	Higher plants	Vascular plant
Gentianella ciliata	Fringed Gentian	Higher plants	Vascular plant
Gentianella uliginosa	Dune Gentian	Higher plants	Vascular plant
Helianthemum oelandicum subsp. levigatum	A Hoary Rock-rose	Higher plants	Vascular plant
Herminium monorchis	Musk Orchid	Higher plants	Vascular plant
Hieracium sect. Alpestria	Hawkweeds	Higher plants	Vascular plant
Hieracium subgracilentipes	A Hawkweed	Higher plants	Vascular plant
Hordeum marinum	Sea Barley	Higher plants	Vascular plant
Iberis amara	Wild Candytuft	Higher plants	Vascular plant
Illecebrum verticillatum	Coral-necklace	Higher plants	Vascular plant
Juncus pygmaeus	Pygmy Rush	Higher plants	Vascular plant
Juniperus communis	A Juniper	Higher plants	Vascular plant
Juniperus communis subsp. hemisphaerica	A Juniper	Higher plants	Vascular plant
Lactuca saligna	Least Lettuce	Higher plants	Vascular plant
Leersia oryzoides	Cut-grass	Higher plants	Vascular plant
Liparis loeselii	Fen Orchid	Higher plants	Vascular plant
Lobelia urens	Heath Lobelia	Higher plants	Vascular plant
Lolium temulentum	Darnel	Higher plants	Vascular plant
Luronium natans	Floating Water Plantain	Higher plants	Vascular plant

Taxon name	Common name	Species grouping	Taxon group
Luzula pallidula	Fen Wood-rush	Higher plants	Vascular plant
Lycopodiella inundata	Marsh Clubmoss	Higher plants	Vascular plant
Lythrum hyssopifolia	Grass-poly	Higher plants	Vascular plant
Matthiola sinuata	Sea Stock	Higher plants	Vascular plant
Melampyrum cristatum	Crested Cow-wheat	Higher plants	Vascular plant
Melittis melissophyllum	Bastard Balm	Higher plants	Vascular plant
Mentha pulegium	Pennyroyal	Higher plants	Vascular plant
Minuartia hybrida	Fine-leaved Sandwort	Higher plants	Vascular plant
Monotropa hypopitys	Yellow Bird`s-nest	Higher plants	Vascular plant
Monotropa hypopitys subsp. hypophegea	Bird`s-nest	Higher plants	Vascular plant
Monotropa hypopitys subsp. hypopitys	Yellow Bird`s-nest	Higher plants	Vascular plant
Muscari neglectum	Grape-hyacinth	Higher plants	Vascular plant
Najas flexilis	Slender Naiad	Higher plants	Vascular plant
Najas marina	Holly-leaved Naiad	Higher plants	Vascular plant
Orchis ustulata	Burnt Orchid	Higher plants	Vascular plant
Oenanthe fistulosa	Tubular Water-dropwort	Higher plants	Vascular plant
Ophrys insectifera	Fly Orchid	Higher plants	Vascular plant
Orchis simia	Monkey Orchid	Higher plants	Vascular plant
Orobanche picridis	Oxtongue Broomrape	Higher plants	Vascular plant
Phyteuma spicatum	Spiked Rampion	Higher plants	Vascular plant
Pilularia globulifera	Pillwort	Higher plants	Vascular plant
Platanthera bifolia	Lesser Butterfly-orchid	Higher plants	Vascular plant
Poa glauca	Glaucous Meadow-grass	Higher plants	Vascular plant
Polystichum lonchitis	Holly-fern	Higher plants	Vascular plant
Potamogeton acutifolius	Sharp-leaved Pondweed	Higher plants	Vascular plant
Potamogeton compressus	Grass-wrack Pondweed	Higher plants	Vascular plant
Pseudorchis albida	Small-white Orchid	Higher plants	Vascular plant
Puccinellia fasciculata	Borrer`s Saltmarsh-grass	Higher plants	Vascular plant
Pulicaria vulgaris	Small Fleabane	Higher plants	Vascular plant

Taxon name	Common name	Species grouping	Taxon group
Pulmonaria obscura	Suffolk Lungwort	Higher plants	Vascular plant
Pulsatilla vulgaris	Pasqueflower	Higher plants	Vascular plant
Pyrus cordata	Plymouth Pear	Higher plants	Vascular plant
Ranunculus arvensis	Corn Buttercup	Higher plants	Vascular plant
Ranunculus tripartitus	Three-lobed Water-crowfoot	Higher plants	Vascular plant
Rumex rupestris	Shore Dock	Higher plants	Vascular plant
Salix lapponum	Downy Willow	Higher plants	Vascular plant
Salsola kali subsp. kali	Prickly Saltwort	Higher plants	Vascular plant
Saxifraga hirculus	Yellow Marsh Saxifrage	Higher plants	Vascular plant
Scandix pecten-veneris	Shepherd's Needle	Higher plants	Vascular plant
Schoenoplectus triqueter	Triangular Club-rush	Higher plants	Vascular plant
Scirpoides holoschoenus	Round-headed Club-rush	Higher plants	Vascular plant
Scleranthus annuus	Annual Knawel	Higher plants	Vascular plant
Scleranthus perennis subsp. prostratus	Prostrate Perennial Knawel	Higher plants	Vascular plant
Senecio paludosus	Fen Ragwort	Higher plants	Vascular plant
Silene gallica	Small-flowered Catchfly	Higher plants	Vascular plant
Silene otites	Spanish Catchfly	Higher plants	Vascular plant
Sium latifolium	Greater Water Parsnip	Higher plants	Vascular plant
Sorbus bristoliensis	A Whitebeam	Higher plants	Vascular plant
Sorbus eminens	A Whitebeam	Higher plants	Vascular plant
Sorbus subcuneata	A Whitebeam	Higher plants	Vascular plant
Sorbus vexans	A Whitebeam	Higher plants	Vascular plant
Sorbus wilmottiana	A Whitebeam	Higher plants	Vascular plant
Spartina maritima	Small Cord-grass	Higher plants	Vascular plant
Stellaria palustris	Marsh Stitchwort	Higher plants	Vascular plant
Tephroseris integrifolia subsp. integrifolia	Field Fleawort	Higher plants	Vascular plant
Teucrium scordium	Water Germander	Higher plants	Vascular plant
Thlaspi perfoliatum	Cotswold Pennycress	Higher plants	Vascular plant
Torilis arvensis	Spreading Hedge Parsley	Higher plants	Vascular plant

Taxon name	Common name	Species grouping	Taxon group
Valerianella rimosa	Broad-Fruited Corn Salad	Higher plants	Vascular plant
Veronica triphyllos	Fingered Speedwell	Higher plants	Vascular plant
Veronica verna	Spring Speedwell	Higher plants	Vascular plant
Viola lactea	Pale Dog-violet	Higher plants	Vascular plant
Viola persicifolia	Fen Violet	Higher plants	Vascular plant
Woodsia ilvensis	Oblong Woodsia	Higher plants	Vascular plant

Appendix 4: Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 - Habitats of Principal Importance in England

Broad habitat	Habitat name
Arable and horticulture	Arable field margins
Arable and horticulture	Traditional orchards
Boundary	Hedgerows
Coastal	Coastal saltmarsh
Coastal	Coastal sand dunes
Coastal	Coastal vegetated shingle
Coastal	Intertidal mudflats
Coastal	Maritime cliff and slopes
Coastal	Saline lagoons
Freshwater	Aquifer-fed naturally fluctuating water bodies
Freshwater	Eutrophic standing waters
Freshwater	Mesotrophic lakes
Freshwater	Oligotrophic and dystrophic lakes
Freshwater	Ponds
Freshwater	Rivers
Grassland	Lowland calcareous grassland
Grassland	Lowland dry acid grassland
Grassland	Lowland meadows
Grassland	Purple moor-grass and rush pastures
Grassland	Upland calcareous grassland
Grassland	Upland hay meadows
Heathland	Lowland heathland
Heathland	Mountain heaths and willow scrub
Heathland	Upland heathland
Inland rock	Calaminarian grasslands

Broad habitat	Habitat name
Inland rock	Inland rock outcrop and scree habitats
Inland rock	Limestone pavements
Inland rock	Open mosaic habitats on previously developed land
Marine	Blue mussel beds
Marine	Estuarine rocky habitats
Marine	Fragile sponge and anthozoan communities on subtidal rocky habitats
Marine	Horse mussel beds
Marine	Intertidal boulder communities
Marine	Intertidal chalk
Marine	Maërl beds
Marine	Mud habitats in deep water
Marine	Peat and clay exposures
Marine	*Sabellaria alveolata* reefs
Marine	*Sabellaria spinulosa* reefs
Marine	Seagrass beds
Marine	Sheltered muddy gravels
Marine	Subtidal chalk
Marine	Subtidal sands and gravels
Marine	Tide-swept channels
Wetland	Blanket bog
Wetland	Coastal and floodplain grazing marsh
Wetland	Lowland fens
Wetland	Lowland raised bog
Wetland	Reedbeds
Wetland	Upland flushes, fens and swamps
Woodland	Lowland beech and yew woodland
Woodland	Lowland mixed deciduous woodland
Woodland	Upland mixed ashwoods
Woodland	Upland oakwood

Broad habitat	Habitat name
Woodland	Wet woodland
Woodland	Wood-pasture and parkland