

Biodiversity Duty in Rhondda Cynon Taf (2017)

1. Introduction

In March 2016 the Environment (Wales) Act came in to force. Its purpose is to secure healthy, resilient and productive ecosystems in Wales, while still meeting the challenges of creating jobs, housing and infrastructure. The Act provides a framework for a more integrated approach to managing natural resources, ensuring that long-term sustainability will be a core consideration in all decision making.

The **New Biodiversity Duty** will help reverse the decline and secure the long term resilience of biodiversity in Wales. The Act requires Welsh Government, Natural Resources Wales, and all public authorities (including Local Authorities)

“to seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing, promote the resilience of ecosystems so far as consistent with the proper exercise of those functions”.

The Local Authority should prepare a Plan setting out what it proposes to do to comply with the new Duty. The local authority is required to report to Welsh Government on action to comply with the new Duty, every three years, with the first report due at the end of 2019.

This document sets out proposals for the implementation of the new biodiversity duty in Rhondda Cynon Taf. It includes a ‘biodiversity tour’ of Rhondda Cynon Taf, a description of the contribution of biodiversity to local well-being as well as its national and international value. This provides the context for the implementation of the Duty across all Local Authority functions. The proposals focus on the most significant areas for biodiversity impact, with scope for modification as our knowledge and understanding grows. The proposals are being developed collaboratively with stakeholders across the authority, with partners and interested members of the public. They seek to identify and build on areas of good practice, aiming for continuous improvement across all relevant Council services.

The Environment (Wales) Act 2016 is part of a suite of interrelated legislation including the Well-being of Future Generations Act 2015 and the Planning (Wales) Act 2015 (see Appendix One below). The Biodiversity Duty will be of relevance for the Public Service Board in the production of the Well-being Plan for Cwm Taf, contributing in particular to the goal of creating ‘A Resilient Wales’. (see <http://gov.wales/docs/desh/publications/160225-spsf-2-individual-role-en.pdf>)

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2. Biodiversity in Rhondda Cynon Taf

'The south Wales Valleys support a treasure trove of biodiversity. Like all good treasure troves it had been lost and long forgotten and has only now been re-found, and like some giant archaeological dig, one discovery has led to another; one find has spurred on the finding of the next.

Local people have started to see how their valued local patch fits into a bigger context and experts have gradually realised the significance of our biodiversity. The surprise is the greater because the Valleys have been viewed as derelict and despoiled, depressed and degraded. This is surely the last place biodiversity would thrive? However, the reality is very different. With an open mind (and a little knowledge) the secret behind the success of Valleys biodiversity is obvious. Partly as result of nutrient poor but varied soils, partly because of an intense and complex topography, geomorphology and geology, partly down to our wonderful mild wet climate, partly due to traditional small farm management and the Valleys industrial legacy, and partly due to the daily interactions of people with their environment: **all of the components for a rich biodiversity are in place**. Blessed with this heady mix of conditions and circumstances, the South Wales Valleys support a range and variety of lowland and upland habitats, which is not bettered anywhere in southern Britain. **Rhondda Cynon Taf lies at the heart of the Valleys and at the heart of this wealth of biodiversity**. This is where landscape and biodiversity come together, where the views have biodiversity substance and depth. This is no shallow and brittle postcard image based on pretence and faded reputation. This is a biodiverse landscape, which is 'breath-taking', and dynamic, and integral to a unique sense of place and belonging. To prove a point let us take a quick tour of Rhondda Cynon Taf. But where should we start?

Perhaps we should begin in the high-hedged, rhos pastures of the lower Ely and Taff Valleys, and the pastures of the Upper Cynon Valley. Here internationally important communities of purple moor-grass and rush pasture are still characteristic landscape features. These **rhos pasture** flower in summer with devil's-bit scabious, meadow thistle and heath spotted orchid and host precious colonies of marsh fritillary and small pearl-bordered fritillary butterflies. No planned landscape this, ancient field patterns are marked by even more ancient hedge-banks cut from the original 'wildwood'. Dormice find a home in the **hedgerows** of hazel, oak, ash, hawthorn, willow, blackthorn, rose, dogwood, spindle and holly, and through this network of hedgerows our remnant ancient woodlands stay connected and viable.

The valley sides of the Rhondda, Cynon and Taff illustrate biodiversity connectivity beautifully. From any bus stop in Pontypridd, or Porth, or Aberdare or Mountain Ash look up at the complex of habitats which forms the valley side **ffridd**. A complex

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mixture of acid grassland, heath, bracken, woodland, scrub and flushes runs for mile on mile along our main valleys: interconnected in an ever-changing intricate habitat mosaic. The ffridd is home to bluebells, lizards, slow worms, grayling butterflies and rare upland bumblebees. Bracken slopes with abundant dog violets are important habitat for fritillary butterflies including important dark green fritillary populations (and potentially the rare high brown fritillary). Now if you look closer you can see the signs of **colliery spoil**, small drift workings, egg shaped mounds, and, if you are lucky you'll find one of our remaining tip systems, constructions, which rival the Celtic Hill Forts of Dorset. Sites such as the Gelli Tips, Old Smokey, Wattstown and Dare Valley Tips tell an often hard and tragic story, but now support habitats of enormous biodiversity and cultural value. These are landforms of unique value and a living testimony to a sense of place, which is still strong in our mining valleys. Coal tips are proving particularly important for their lichen-heath communities in which heathland grows amongst white, encrusted mats of *cladonia* lichens. Some of the best examples of lichen-heath in Wales occur on old coal spoil tips in Rhondda Cynon Taf. Recent work has confirmed how important these tips are as invertebrate habitat: survey work on 5 RCT Tips has recorded 85 bee species (including scarce and rare species), this is half the known Welsh bee fauna and a third of the UK list.

From a coal tip, created in the 1890s, wander straight into an **ancient upland oak wood** where stunted welsh oaks cling to the valley side, with a carpeted ground flora of wimberry, heather, ferns, mosses and exposed slabs of pennant sandstone, with their lichen rich bedding planes. These sheep grazed woods are home to classic Welsh woodland songbirds: redstart, wood warbler and tree pipit. In the valleys bottoms **mixed deciduous woodlands** supports oak, ash, sycamore and wych elm with alder and willow on wetter ground. Here there is a rich understorey of hazel coppice and holly, and on the southern limestone dogwood, spindle, and field maple and even the occasional wayfaring tree. These woods have wonderful ground floras with bluebell, wood anemones, violets, sanicle, wild garlic, primroses, mochatel, twayblades and toothwort. The recovery of woodland fungi and lichen communities is testimony to the clean air. Branches, bowls and twigs are cloaked in a multitude of lichens and tree fungi: rare things like willow glove and golden-eye lichen have recently been found, rare things wait to be found: these are exciting times for our local lichenologists and mycologists.

Stand on a summer's evening in the courtyard of an ancient farm, or barn, or terraced house and count the bats tumbling out of their daytime roosts. On an autumn dawn, shiver by a disused railway tunnel or mine adit and watch for swarming bats (a prelude to hibernation) – perhaps you'll be the one to discover a major bat hibernation site. RCT supports at least 13 species of bats, including rare things like barbastelle and lesser horseshoe. On the other end of the scale, Pontypridd is known by bat surveyors as 'Pip City', an affectionate reference to the abundance of common and soprano pipistrelle bats living in the town.

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Certain habitats can be 'traced back' to the retreat of the last ice sheet 8,000 years ago. Much of our **peatbog** habitat started to form at that time, as glacial lakes, hollows and upland plateaus gradually succeeded through fens, and swamp into peat. These quaking, shaking wonders are home to cranberry, sundews and bog asphodel which flower amongst the sphagnum peat-mosses and the tussocks of moor-grass and deer grass. These are places where the occasional snipe still breeds. Llantrisant Common, Hirwaun and Tonyrefail are particularly important areas for lowland bogs, with peat and pollen records which chart the changing face of vegetation over 8 millennia. History can be traced deep beneath 9 metres of peat, deep down to the remnant water of the lost glacial lake. Misused and misunderstood these lowland bogs have somehow survived and now efforts to conserve and restore them have begun. In the uplands our extensive blanket bogs were similarly treated, drained for pasture or afforested with sitka spruce. However now, where the wind turbines turn, you will also find extensive peat-bog restoration, delivered as planning permission requirements. In the years to come there is the prospect to recover hundreds of hectares of upland peat bog, swaying in the summer breeze with hundreds of thousands of cotton-grass heads, holding atmospheric carbon, and naturally storing and controlling upland storm water to provide the 'greenest of green' flood protection for the Valley communities below. You may feel a wave of hope that perhaps we do have the capacity to learn? This is wilderness, but wilderness close to home and a biodiversity, which is largely un-chartered and unknown. While you are there, make sure to dip into a forestry plantation edge where siskin and crossbill abound, club-mosses shelter, heronries sway in western hemlocks and at summer dusks, nightjars 'churr'.

In early June take the time to visit your local **species-rich grassland**, a hay meadow or cow or pony grazed pasture: in the winter it may just look like a field but in the early summer the floristic display is proof of another nationally rare habitat. We are very lucky in Rhondda Cynon Taf to still have a superb grassland heritage, which is a vibrant part of our biodiversity fabric. Pastures and road verges are places where flower rich displays of birds-foot trefoil, black knapweed, ox-eye daisy, common-spotted orchid rough hawkbit and red clover thrive: in which common blue butterflies, mother shipton moths, grasshoppers and countless bees flit, hum and buzz. The dry grasslands of the upper valleys slopes are more acidic but just as beautiful with heath bedstraw, tormentil, greater burnet, bluebell and sheep sorrel, while on the limestone there are cowslips and bee orchids. In the autumn, on a bright sunny morning visit and look for another indicator of biodiversity wealth, the reds, oranges, yellows and purples of wax cap fungi.

On a summer's day pause and cool your feet in a upland stream, or meander along the Cynon, Rhondda, Ely or Taff. **Rivers** which forty years ago were dead and lifeless and are now healthy, biodiverse watercourses, home to multitudes of stone

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and mayflies, dipper, grey wagtail, brown trout and, of course, otter. All our main rivers once had floodplains. Places were winter floodwater spill, and **floodplain** grassland, woodland and wetland flourish. Pant Marsh at Talbot Green is home to species-rich grasslands and flag iris, just up the road Coedcae Marsh has sedge beds, adder, and marsh cinquefoil. The lagoons and wet pastures of Tirfounder Fields, Aberdare supports regionally important numbers of breeding and wintering water birds, grass snake and dragonflies. These stunning landscapes hold and gently release storm water, precious wildlife refuges which save our living room carpets from flood.

On a crisp winters day take in our glacial landscapes and the cwms: birthplaces of the glaciers, which gouged and ground out the valleys. Marvel at the majesty of Cwm Parc, Cwm Saebren and Cwm Dare. These most southerly **glacial cwms** in the UK are home to peregrine falcons and stranded arctic alpine plants – flowers and ferns, which cling to the coolest, shadiest ledges and wait in hope for tundra summers to return. At the head of the Rhondda Fawr stand in the terrace streets of an alpine village called Blaenrhondda and feel the presence of Pen Pych rise above. Travel up the Rhondda Fach to the scree slopes of Cefn Craig Amos and Tarren Maerdy, where from their school desks kids from Maerdy Comp compose words and pictures from the jumble of frost, shattered sandstone on the hillside backdrop to their school.

Where industry has been cleared, experience some '**brownfield**' biodiversity. Post-industrial sites often support amazing mosaics of grassland, wetland and woodland habitats all naturally developed on apparently derelict land. These eclectic mixtures of habitats hold many a biodiversity surprise and a home to newts, frogs, dingy skipper butterflies and red-belted clearwing moths.

Whichever way you wandered, on the way home count the ferns in your neighbour's front wall, can you find the classic four of harts-tongue, maidenhair-spleenwort, rustyback and wall rue? Make a note to take more care when you next re-point your wall and try to encourage your own fern garden. At the gate pause and watch a leaf-cutter bees ferrying neatly rolled leaves to nest chambers in the drainage holes of your UVPC double-glazed windows. Look up, and marvel that your swifts in the loft and house martins under the eaves have come back to you from across the Sahara and far beyond, and a thousand places you'll never see. Feel equal pride that your year-round house sparrows can nest and 'chirrup' from your bird-friendly soffit boards. Also, with your trusty moth trap you can boast a list of 300 macro-moths in your terrace garden, 50 bee species (with lawn full of hill solitary bee mounds), twenty frogs in the pond and dozens of slow worms in the compost heap. After all, biodiversity does start at home.'

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3. Biodiversity's contribution to local well-being and its national and international value

The public engagement undertaken for the Natural Resources Wales Rhondda Pilot in 2015/16 and the Well-being Assessment undertaken for Cwm Taf in 2016/17 have both highlighted the importance of the landscape and wildlife to local people. It is one of the assets which people value and it contributes to their sense of place and to local culture. The importance of 'the outdoors' for both physical and mental health was widely recognised. Some people also expressed interest in becoming more involved in looking after local green space.

Under S.7 of the Environment Act, Welsh Government publishes lists of the habitats and species of principal importance in Wales. In Rhondda Cynon Taf, most of the terrestrial habitats are represented and a large number of the species, reflecting how valuable our biodiversity is in a national and international context. Perhaps most telling is the extent of the 'priority habitats' in RCT (20% of the non forested area) and Merthyr (23%) compared with a Glamorgan figure of 16% and Wales as a whole at 18%. See appendix 2

The extent of semi-natural habitat, the diversity of habitat types and the 'connectivity' both from the lowlands to the uplands and from the south to the north are among the reasons why the valleys are so important for biodiversity in Wales.

4. Significant areas of biodiversity impact

4.1 Public engagement with biodiversity in RCT

The knowledge and understanding of local biodiversity generated by local people should not be underestimated. From the heyday of the Victorian naturalist to the present, an interest in their local environment has inspired, enthralled and entertained. It is a pastime that can provide pleasure to many, regardless of income or education. In the past, few professional ecologists visited the area compared with the national parks or the coast, little was written about the Valleys in academic journals and local knowledge remained largely untapped. Since the advent of Biodiversity Action Planning (arising from commitments at the Rio Earth Summit in 1992 and subsequent UK and Welsh Government policy) the importance of the Valleys for biodiversity has been recognised. Professional ecologists are now more engaged locally, but typically their work is task orientated such as the detailed surveys required for a proposed development site, or river sampling to assess pollution levels. This data is very useful and adds to our knowledge but it cannot replace the day to day observations, enthusiasms and expertise for both common and rare wildlife that comes from local people.

The Local Biodiversity Action Plan partnership was established in Rhondda Cynon Taf in 1997, along with similar partnerships across Wales. The partnership was set up to prepare a Local Biodiversity Action Plan for the area. Anyone with an interest in wildlife was encouraged to join, so that local knowledge and understanding would inform and shape the Plan. The Partnership continues to review, update and implement the action plan and to support, develop and celebrate local expertise.

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The Council has also developed strong relationships with specialist voluntary organisations such as the Wildlife Trust, Butterfly Conservation, Glamorgan Bird Club, PONT (an organisation promoting conservation grazing) and the South East Wales Biodiversity Recording Centre (SEWBREC) who can provide specialist advice and volunteer support for joint projects.

There is potential for public engagement to be further developed both to sustain, support and develop local capacity and for local knowledge and expertise to be more widely used within the Council. For example SEWBREC currently provide information to support the Planning function, but there could be advantages for other departments as well. There is also potential to promote the wildlife value of Council owned land and explore opportunities to link local communities to local wildlife sites.

4.2 Biodiversity and the Planning System

The Local Development Plan for Rhondda Cynon Taf (2011) and the associated Supplementary Planning Guidance, for Nature Conservation and for Planning Obligations and the Community Infrastructure Levy, provides the framework for the protection and enhancement of biodiversity in the statutory land-use planning process. Nationally protected sites such as Special Areas of Conservation (SAC) and Sites of Special Scientific Interest (SSSI) are underpinned by local Sites of Importance for Nature Conservation (SINC) which have been identified in the Local Development Plan. Development proposals should avoid damage to the biodiversity value of these sites. To ensure decisions are soundly based, SEWBREC supply the Council with data regarding planning applications and where appropriate developers must supply adequate information about the habitats and species present on the site, the impact of their proposals and any mitigation or enhancement proposed. The Council's ecologist provides advice to the Development Management team and assists in the negotiation of S106 and similar agreements with developers to ensure the protection of biodiversity features on development sites and their long term management, typically for 25 years. For protected species, such as bats, protocols have been developed to minimise risks for both the developer and the council.

Much of the current planning work is being taken forward at a regional level. The Valleys Task force, the Cardiff City Region Deal, the strategic plan for the Cardiff region etc. will all need to address the Biodiversity Duty, as will the review of the Local Development Plan. Monitoring outcomes and collating evidence of the multiple benefits of current policies (for public open space, children's play, active travel, landscape, flood risk reduction, wildfire risk reduction, carbon and water storage as well as biodiversity) will be an important consideration.

4.3 Biodiversity and land /estate management

The Council has extensive land and property holdings across the County Borough. The portfolio includes offices, schools, roads and parks plus many amenity areas in housing developments, town centre public spaces and extensive former land reclamation sites and old railway lines. The management of this estate can make an important contribution to biodiversity. For example, the NRW 'Rhondda Pilot' in 2014-16 identified that in excess of 60% of the land in Rhondda is in public ownership (NRW and Council). There are examples of good practice in land and

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property management, for example protocols relating to essential maintenance works undertaken in the bird nesting season, the introduction of biodiversity management of road verges and the use of conservation grazing to reduce wildfire risk.

There is a need to better understand both the opportunities and the constraints for developing good practice further. Council proposals for development and protocols relating to the disposal of assets are two areas where further work is proposed.

4.4 Biodiversity and water management

The local authority has a variety of responsibilities relating to water including ordinary watercourse consents, flood risk management planning and water pollution prevention. In many of these areas Natural Resources Wales have parallel powers relating to the main rivers. The flood risk management plan for RCT has been informed by an understanding of the geology, topography, climate, biodiversity and industrial history of the County Borough. The constricted and heavily developed valley floor, the steep valley sides, the historic use of culverts where the watercourses meet the built up area and the high rainfall totals all contribute to the flood risk. Upstream management, including restoring peat-bogs on the extensive upland plateau has been identified as a potential risk reduction option. This has been taken forward in planning agreements negotiated as part of wind farm planning consents

Good practice is being developed in relation to ordinary water course consents and there is potential for closer integration with development management, for more sustainable drainage systems in new developments (SUDS) and for reducing water pollution.

4.5 Biodiversity and education

The local authority has overall responsibility for education within the County Borough, although most of the service delivery is delegated to schools. The land and buildings are subject to the same biodiversity considerations as the rest of the Council's holdings, however there will be additional opportunities for schools to develop and use their grounds for outdoor teaching and learning, including about biodiversity. A number of schools have taken advantage of the Tidy Towns initiative, where the Keep Wales Tidy community officer and a council team can assist in developing outdoor classrooms, gardens, food growing and woodland areas.

Learning outside the classroom can provide memorable experiences for pupils, spark an interest in wildlife, encourage countryside care and citizenship as well as the beneficial educational outcomes. The early years curriculum (foundation phase), promotes outdoor learning. 'Walk to the Wild' has been developed to assist schools to use wild spaces, typically in Council ownership, within walking distance of the school, for half day curriculum based outdoor learning sessions, particularly for Key Stage Two.

There is scope to develop the opportunities for schools to learn more about local wildlife, to increase outdoor learning both in school grounds and in the locality.

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There may also be opportunities to work with the youth service, libraries, informal and continuing education.

4.6 Biodiversity and advice to the public

Many Council officers provide advice to the public and some of this may create opportunities or have implications for biodiversity. Obvious examples include advice regarding invasive species or pest control where good practice has been developed. Generally speaking, where there is a good understanding of biodiversity in relation to Council policy and practice, this will feed through to public advice.

There are opportunities to develop this, for example through the Council's website. There may also be opportunities relating to advice about training and career development.

4.7 Biodiversity and corporate planning

The Well-being of Future Generations Act 2015 has established a new framework for corporate planning, based on seven goals for wellbeing in Wales and five ways of working. Biodiversity is explicitly recognised as a contributing factor in creating a resilient Wales and this, combined with the new Biodiversity Duty in the Environment (Wales) Act 2016, should ensure that biodiversity is considered. A short section on biodiversity has been included in the 2016/17 Corporate Performance Report and the Biodiversity Duty requirements have been included in the 'Place' element of the refreshed Corporate Plan. The Service Self Assessment for autumn 2017 includes a section on biodiversity that will provide a baseline for reporting and inform the 2018/19 Service Delivery Plans.

The public consultation for the well-being assessment in summer 2016 identified wildlife, local landscape quality and outdoor activity as important to peoples' well-being. The environmental assessment also highlighted the importance of biodiversity as an asset for Cwm Taf. The assessment was published in March 2017 and the Wellbeing Plan will be completed by May 2018.

There are examples of good practice in Service level planning. The Local Development Plan and the Flood Risk Management Plan are examples where biodiversity has been an integral consideration. Future opportunities include emergency planning, the 21st Century schools programme and the Local Transport Plan.

4.8 Working with neighbouring authorities and other statutory bodies

Much of the work of the local authority is undertaken in partnership with neighbouring or similar authorities, or with other statutory bodies. The appropriate scale for biodiversity action can vary from very local, to regional and national. The joint working with Neath Port Talbot and Natural Resources Wales to restore peat bog and heath land on Penycymoedd wind farm is one example. The coal and mineral spoil working group (led by Merthyr Tydfil) is a broader initiative considering industrial and cultural heritage, the geology, biodiversity, landscape and amenity value of old coal spoil tips cross the Valleys area. 'Healthy Hillside' is a joint project

between the Council, NRW, the Fire Service and the Wildlife Trust to manage the hillsides for biodiversity and reduce the risk of wildfire. Housing Associations have also developed best practice, for example in relation to bats and nesting birds in building refurbishment.

NRW is the main statutory body with biodiversity responsibilities. NRW is represented on the Public Service Board for Cwm Taf and will prepare an Area Statement to inform local decision making. NRW also has statutory responsibilities relating to the planning process, protected species, SSSIs and SACs and provides advice through the area and supports the Local Biodiversity Action Plan partnership. NRW is also a major landowner in RCT managing the public forest estate. All public bodies will be subject to the Biodiversity Duty and this, combined with the requirements of the WFG Act, may lead to new ways of working with the Council.

There is scope to develop joint working further. When resources are scarce, collaboration can help make progress that would not be possible alone.

4.9 Other aspects as identified

It is anticipated that there will be other areas of Council work with opportunities or implications for biodiversity that are revealed as discussions with stakeholders proceed. There is scope for these to be added to the continuous improvement action plan.

5. Monitoring and reporting

A spreadsheet of actions for continuous improvement is being developed to support the Biodiversity Duty. The Council is required to report to Welsh Government by December 2019, and subsequently every three years, on progress made in implementing the Duty. This report and the associated spreadsheet will provide the information to meet this requirement.

Appendix One

Legislation for sustainable development to secure the long term well-being of Wales

For Wales to develop sustainably, we need to change the law to put in place the key elements that will enable it to happen:

- A clear idea of what we are aiming for and an undertaking of the key principles that guide us;
- A clear picture of the natural resources we have, the risks they face and the opportunities they provide; and,
- An efficient process that ensures the right development is located in the right place to make it happen.



Appendix Two: S.7 Habitats and Species in RCT and Merthyr

	Rhondda	Cynon	Taf	Merthyr
Mammals				
Water Vole		√		
Barbastelle Bat			√	
Hedgehog	√	√	√	√
Brown Hare	√	√	√	√
Otter	√	√	√	√
Harvest Mouse			√	
Dormouse		(√)	√	
Pine martin		(√)		
Noctule	√	√	√	√
Common Pipistrelle	√	√	√	√
Soprano Pipistrelle	√	√	√	√
Brown Long eared bat	√	√	√	√
Greater Horseshoe Bat			√	√
Lesser Horseshoe bat	√	√	√	√
Red Squirrel				
Birds				
Skylark	√	√	√	√
Tree Pipit	√	√	√	√
Nightjar	√	√	√	√
Lesser Redpoll	√	√	√	√
Common Linnet	√	√	√	√
Ringed Plover			√	
Hen Harrier	(√)	(√)	(√)	(√)
Cuckoo	√	√	√	√
Lesser Spotted woodpecker			√	
Yellowhammer			(√)	
Reed Bunting	√	√	√	√
Kestrel	√	√	√	√
Pied Flycatcher	(√)	(√)	(√)	√
Red Grouse		(√)		(√)
Herring Gull	√	√	√	√
Black Headed Gull	√	√	√	√
Grasshopper Warbler	√	√	√	√
Spotted flycatcher	√	√	√	√
Curlew			√	
Marsh Tit			(√)	
Willow Tit		√		
House Sparrow	√	√	√	√
Wood Warbler	√	√	√	√
Golden plover	(√)		(√)	
Bullfinch	√	√	√	√
Starling	√	√	√	√
Song thrush	√	√	√	√
Ring ouzel	(√)	(√)		(√)

Lapwing	(v)	(v)	(v)	v
Fish				
Eel	v	v	v	v
River Lamprey	v	v	v	v
Atlantic Salmon	v	v	v	v
Sea/Brown Trout	v	v	v	v
Herptiles				
Slow worm	v	v	v	v
Common toad	v	v	v	v
Common lizard	v	v	v	v
Grass snake	v	v	v	v
Great crested newt	v	v	v	v
Adder	v	v	v	v
Invertebrates				
Grey Dagger	v	v	v	v
Knot Grass	v	v	v	v
Flounced Chestnut	v	v	v	v
Brown Spot Pinion		v	(v)	v
Beaded Chestnut			v	(v)
Green Brindled Crescent	v	v	v	v
Ear Moth	v	v	v	v
Mouse Moth	v	v	v	v
Anaria funebris			v	
Andrena tarsata	v	v	v	
Dusky Brocade	v	v	v	v
Garden Tiger	v	v	v	v
High Brown Fritillary	(v)		(v)	
Centre Barred Sallow	v	v	v	v
White Clawed Crayfish			(v)	(v)
Bembidion testaceum		(v)	(v)	
Dark Brocade	(v)	(v)	(v)	(v)
Small Pearl Bordered Fritillary	v	v	v	v
Bombus humilis	v	v	v	v
Bombus muscorum	(v)	(v)	(v)	(v)
Bombus rudarius			(v)	
Bombus sylvarum			(v)	
Minor Shoulder-knot		v		v
Mottled Rustic	v	v	v	v
The Crescent			v	
The Broom Tip			(v)	
Latticed Heath	v	v	v	v
Small Heath	v	v	v	v
Goat Moth	(v)	v	(v)	v
Small Blue	v	v	v	(v)

Oak Lutestring	√	√	√	√
Small Square Spot	√	√	√	√
Figure of Eight	√	√	√	√
Small Phoenix	√	√	√	√
September Thorn		√		
August Thorn	√		√	
Grey Mountain Carpet	√	√	√	√
Galium Carpet	√	√	√	√
Dingy Skipper	√	√	√	√
Long Horned Bee		(√)	√	
Autumnal Rustic	√	√	√	√
Spinach	(√)	(√)	(√)	(√)
Marsh Fritillary		√	√	√
Garden Carpet	√	√	√	√
Double Dart		√		√
Narrow Bordered Bee Hawk Moth		(√)	(√)	(√)
Small Emerald		√	√	
Ghost	√	√	√	√
Grayling	√	√	√	√
The Rustic	√	√	√	√
Rosy Rustic	√	√	√	√
Currant Shhot-borer			(√)	
Wall Brown	√	√	√	√
Lipsothrix errans				(√)
Brindled Beauty	√	√	√	√
Lackey			√	
Dot Moth	√	√	√	√
Broom Moth	√	√	√	√
Pretty Chalk Carpet			(√)	
Meloe proscarabaeus			(√)	
Meloe violaceus			(√)	
Meotica anglica			√	
Rosy Minor	√	√	√	√
Drab Looper			(√)	
Shoulder-striped Wainscot	√	√	√	√
Powdered Quaker	√	√	√	√
Potamanthus luteus			(√)	(√)
White Letter Hairstreak	√	√	√	√
Mullein	√	√	√	√
Shaded Broad-bar	√	√	√	√
White Ermine	√	√	√	√
Anomalous	√	√	√	√
Hedge Rustic	√	√	√	√
Feathered Gothic			√	
Blood Vein	√	√	√	√
Vascular Plants				

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Deptford Pink			√	
Euphrasia officinalis subsp. anglica	√	√	(√)	(√)
Yellow bird's-nest			√	
Stag's-horn Clubmoss	√	√	√	√
Lesser Butterfly-orchid				(√)
Ley's Whitebeam				√
Globe-flower		√		√
Wood Bitter-Vetch		√		√
Lichens				
Caloplaca herbidella				(√)
Collema fragrans		(√)		
Toninia sedifolia		(√)		(√)
Usnea florida		(√)		(√)
Fungi				
Clavaria zollingeri	(√)	√	(√)	(√)
Cotylidia pannosa		(√)		
Entoloma bloxamii				(√)
Geoglossum atropurpureum		(√)		(√)
Hygrocybe spadicea		(√)		
Hypocreopsis rhododendri			(√)	
Microglossum olivaceum	(√)	(√)	(√)	(√)
Habitats				
Broadleaved mixed and yew woodland				
a) Traditional orchards	(√)	(√)	(√)	(√)
b) Wood pasture and parkland	√	√	√	√
c) Lowland Beech and Yew		√	√	√
d) Upland mixed ash				(√)
e) Wet Woodland	√	√	√	√
f) Lowland mixed deciduous	√	√	√	√
Boundary and Linear Hedgerows	√	√	√	√
Arable Field Margins			(√)	
Coastal and Floodplain Grassland		√	√	√
Lowland Meadows	√	√	√	√

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Lowland Calcareous Grassland			(√)	
Upland Calcareous Grassland		√		√
Lowland Dry Acid Grassland	√	√	√	√
Dwarf Shrub heath				
a) Lowland Heathland	√	√	√	√
b) Upland Heathland	√	√	√	√
Fen, Marsh and Swamp				
a) Upland flushes, fens and swamps	√	√	√	√
b) Lowland fens		√	√	
c) Purple Moorgrass and Rush pasture	√	√	√	√
d) Reedbeds		√	√	(√)
Bogs				
a) Lowland Raised Bog	(√)	√	√	√)
b) Blanket Bog	√	√		
Rivers	√	√	√	√
Standing Open water and Canals				
a) Ponds	√	√	√	√
b) Mesotrophic Lakes	√	√	√	√
c) Eutrophic Standing water	√	√	√	√
Inland Rock				
a) Rock outcrops/scree	√	√	√	√
b) Open mosaic habitats on previously developed land	√	√	√	√
c) Limestone Pavement				√

Key :

√ = Definite Present

(√) = Probably/Potentially/Occasionally Present

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