

Taxon Report

for

the spider

Argiope bruennichi



Name: Argiope bruennichi

Authority: (Scopoli, 1772)

Order: Arachnida: Araneae

Family: Araneidae

National status: Na

Records: 1560

First Record: 1900

Latest Record: 2017

1992-on hectads: 259

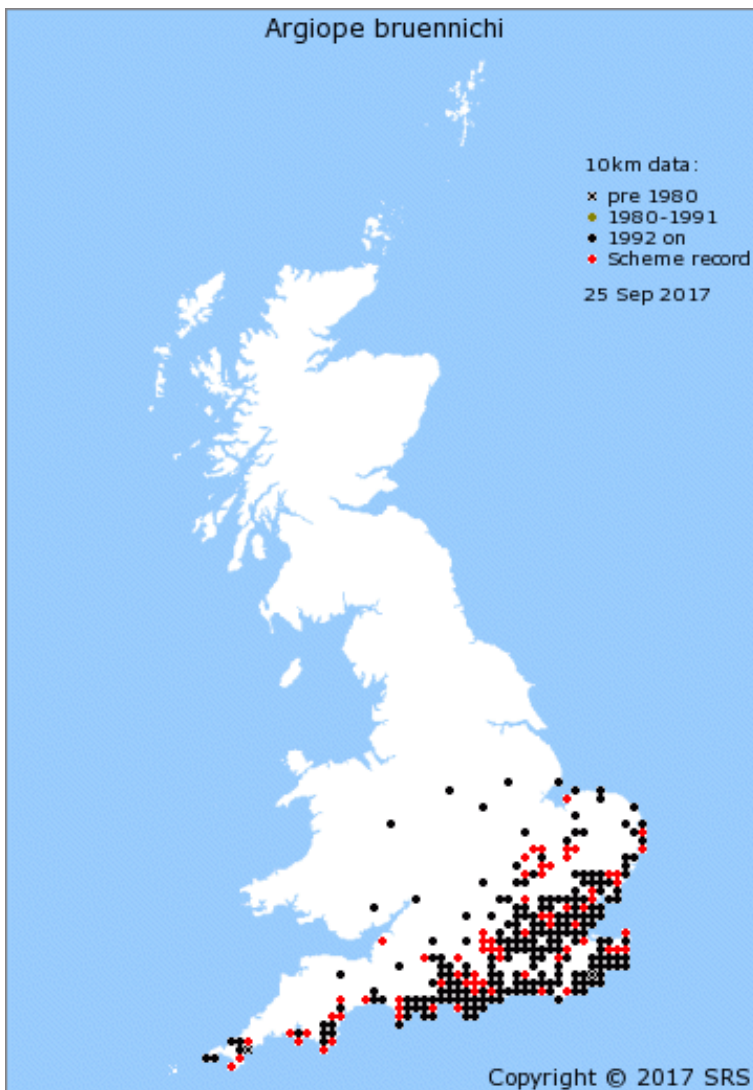
Pre-1992 hectads: 27

Total hectads: 261

Identification difficulty: 2

Can be identified in the field with care and experience. Needs a good view or examination with a good quality lens. Beginners should take voucher specimens until they gain familiarity and experience. May be identifiable from a good photo. Records acceptable from competent recorders.

ID notes: The adult female should not be difficult to identify but the male is confusable with other small spider species



About this species

Recorded altitude range

0m to 200m

Distribution

The spider was first recorded in Britain in 1922 at Rye, East Sussex (Locket & Millidge 1951) and for many years seemed to be restricted to a few areas close to the south coast in Sussex, Kent, Hampshire and Dorset. Since the 1970s the spider has increased its range, spreading inland from a number of its coastal locations. The spider is well established in Dorset (Merrett 1979) and records from as far back as 1965 in East Cornwall have come to light (Smithers 1992). A record from Derbyshire (Dobson 1996) was assumed to be an accidental import, but in 1997 the spider turned up both in the very south and north of Essex (Ruffell 1997). There were then records from Surrey (Baldock 1998), Wiltshire (M. Askins, pers. comm.) and the spider is widespread in the East Thames Corridor (Harvey 2000). Remarkably, P. Harvey has been given details of a sighting near Bexley, north Kent in 1965 confirmed by a photograph. There is a strong implication that the populations in the West Country and north Kent originate from nuclei dating at least this far back. Harvey (1999; 2000) and Smithers (2000) have provided distribution maps showing the spread of the spider. It is widespread in western Europe (Merrett 1990).

Habitat and ecology

The spider has a very striking appearance with black and yellow horizontal bands on its abdomen. It spins a large orb web with a stabilimentum and favours areas of coastal chalk grassland, open rough grassland, wasteland and roadside verges. P. Harvey (pers. comm.) has seen depauperate juvenile spiders in a wheat field, but these individuals were unlikely to survive to mate or produce egg-sacs. In northern France the author has recorded *Argiope bruennichi* in large numbers in unmanaged damp grassland. The large orb webs are slung low down in the vegetation and the adult spider is easily hidden by the surrounding herbage. Grasshoppers form the main food item. The large urn shaped egg cocoon is positioned in the higher levels of vegetation and the eggs over-winter, hatching out in the following spring. Both sexes mature in the late summer, the females perhaps living on until October but the much smaller males living for only a short time.

Status

There has been a substantial increase in sightings of the spider during the period from 1990. At sites where *A. bruennichi* is present, individuals can number into the thousands (P. Smithers, pers. comm.).

Threats

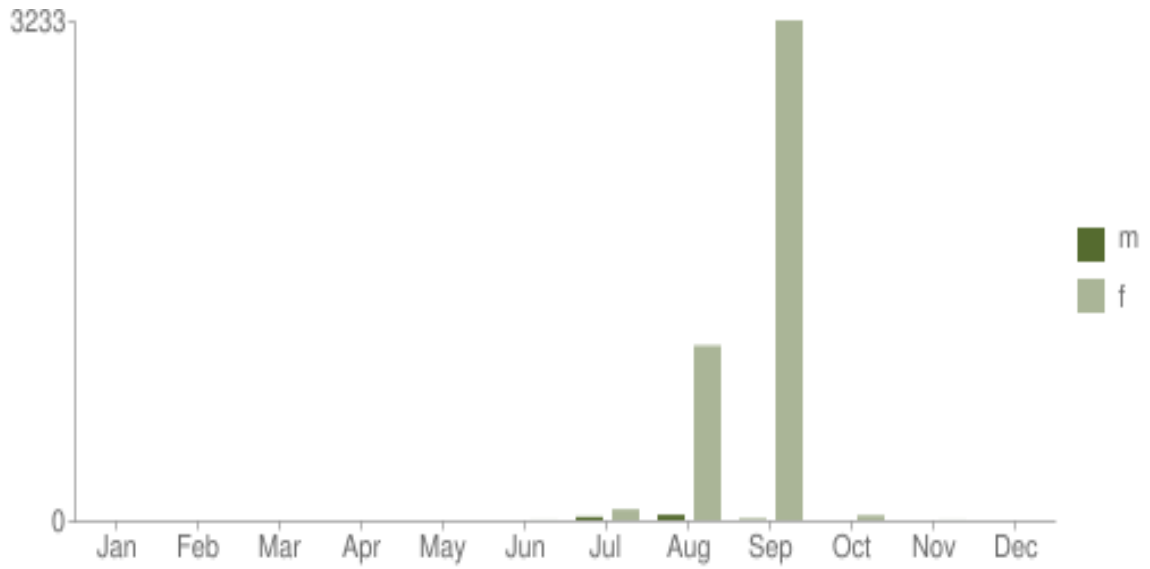
Text based on:

Original author of profile: E.L. Bee. Text based on Harvey, P.R., Nellist, D.R. & Telfer, M.G.

(eds) 2002. Provisional atlas of British spiders (Arachnida, Araneae), Volumes 1 & 2. Huntingdon: Biological Records Centre.

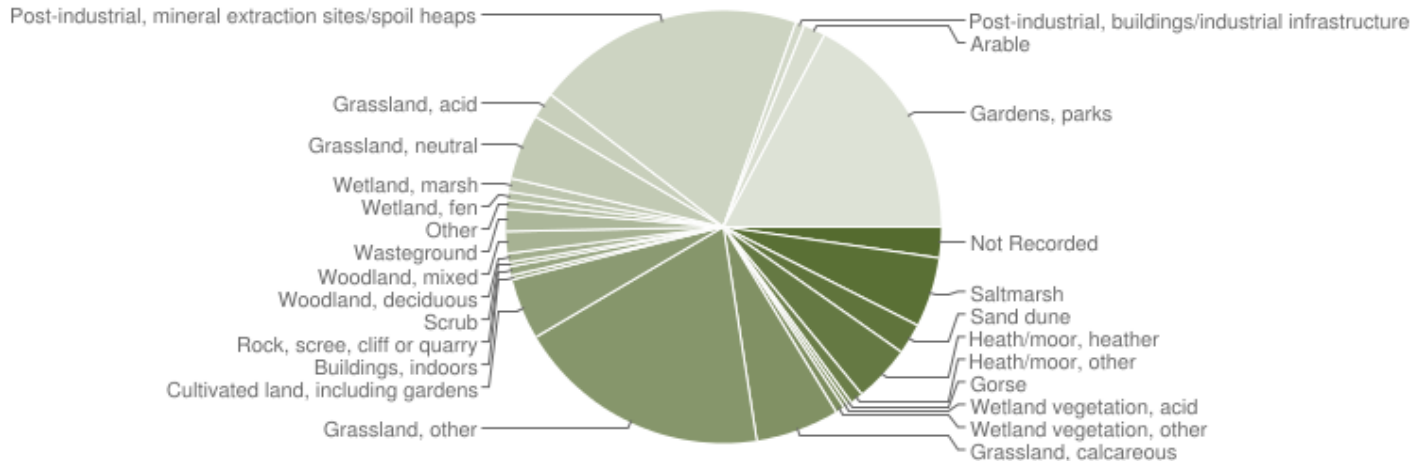
Adult season

Adult Season Data (based on 666 records with adult season information)

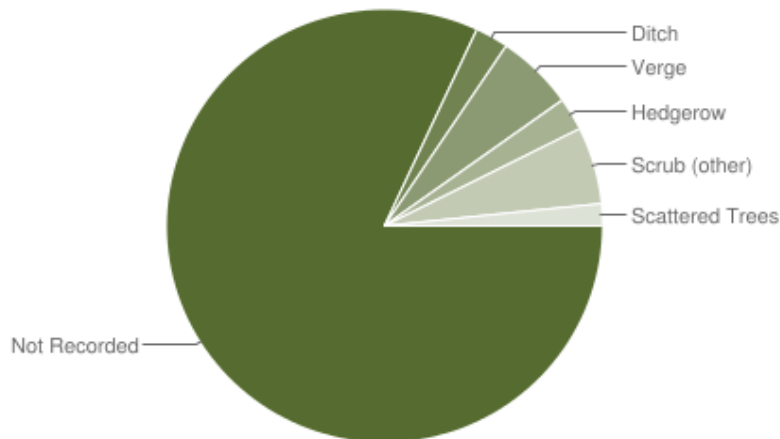


Habitats

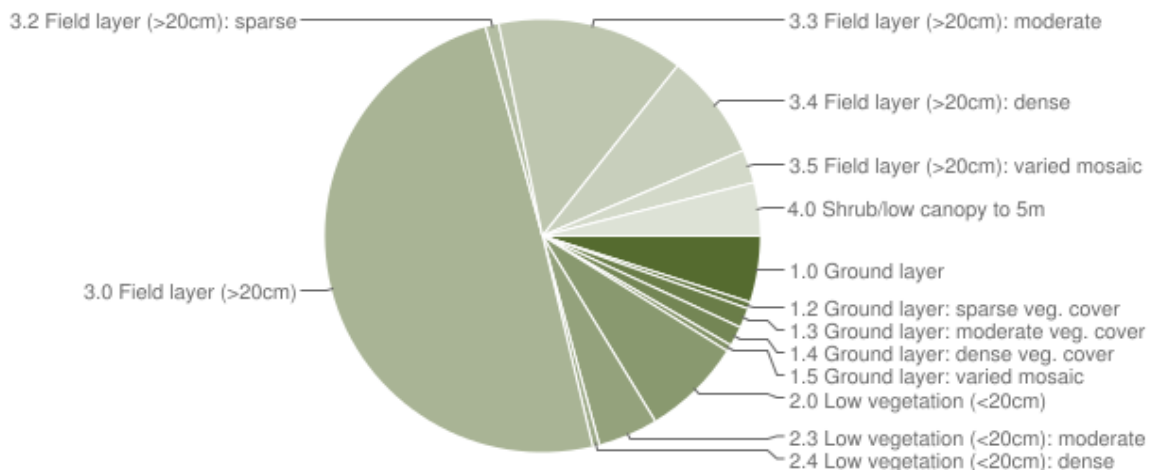
Recorded broad habitats, based on 306 habitat records



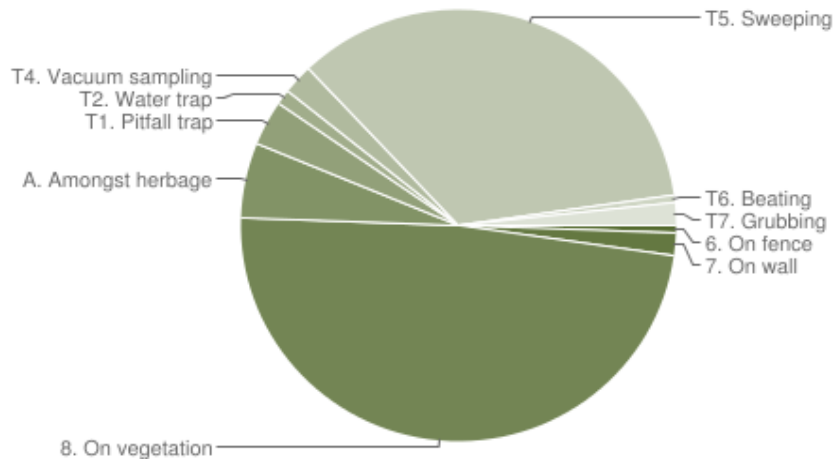
Recorded subhabitats, based on 22 subhabitat records



Recorded structural habitats, based on 227 structural habitat records

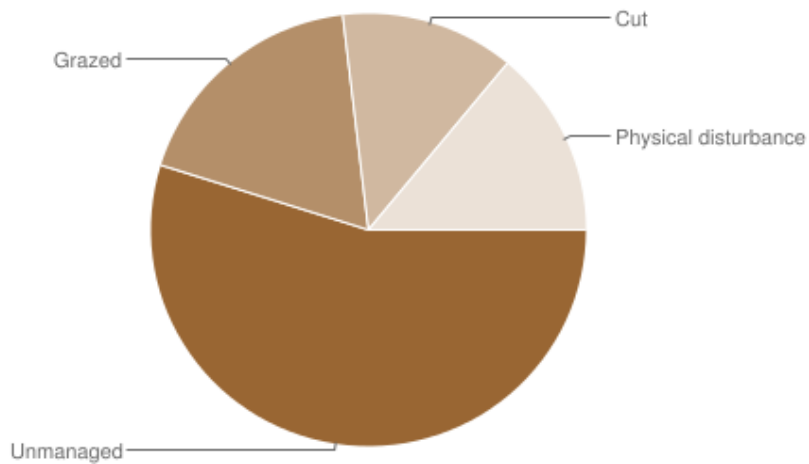


Habitat Detail and Method, based on 178 habitat detail and method records

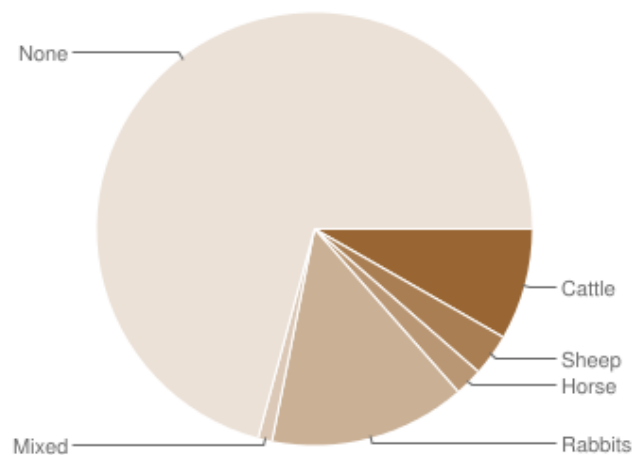


Recorded management in place

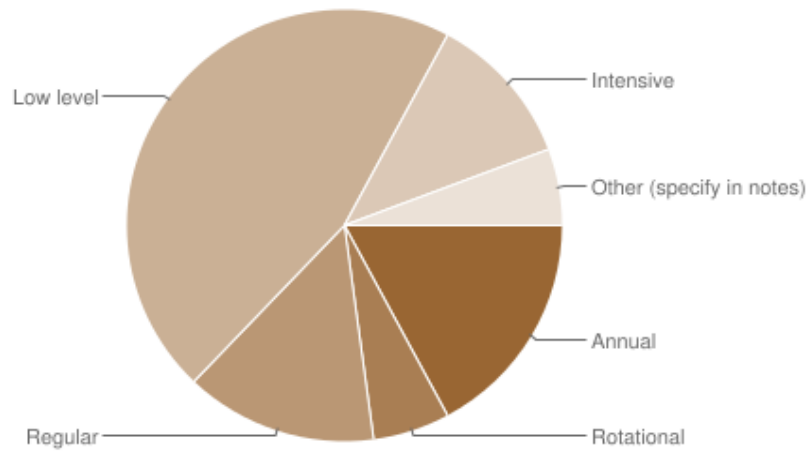
Management Data based on 93 management data records



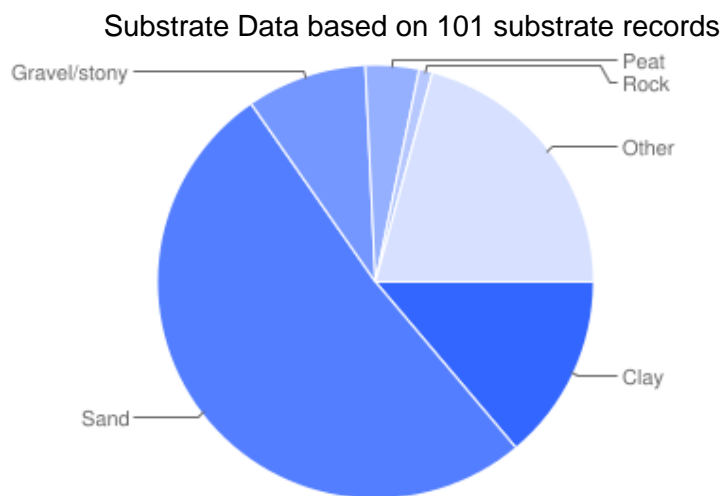
Grazing Management Data based on 96 grazing records



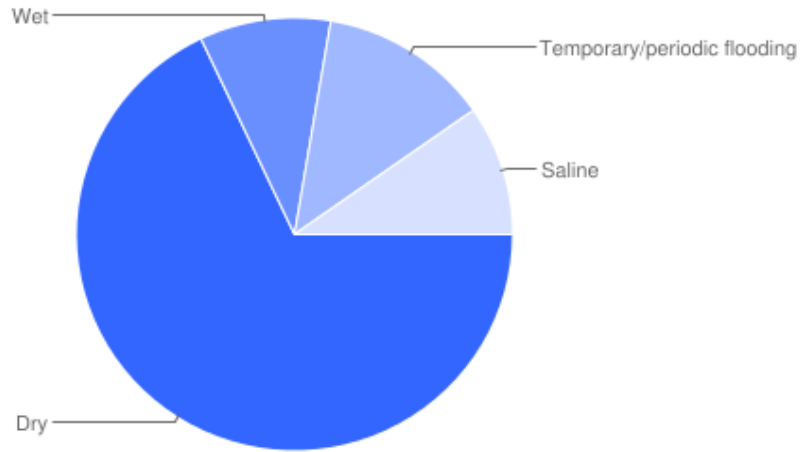
Management frequency Data based on 35 management frequency records



Substrate and Hydrology



Hydrology Data based on 103 hydrology records



Appendix 1. Protected Species

Protected species have protection under national legislation such as the Wildlife and Countryside Act 1981 and European legislation such as the Habitats Directive.

Please note the following:

(1) If there is no record of a particular protected species, this does not signify that the species is absent from the site in question. It may mean that it has not been recorded, that the site has not been surveyed for this species, or that data relating to its presence has not been made available to us.

(2) The presence of a protected species record does not mean that the species is still present. It means that the species was recorded at that time and place. The implications of the record should be further evaluated, and a survey to establish the current status may be required.

(3) The following summary of legislation is designed purely as a basic guide, if any action is to be taken regarding any of the protected species listed, then it is imperative that the full relevant legislation be consulted.

WILDLIFE PROTECTION LEGISLATION IN ENGLAND

Legislation that protects wildlife in England exists at the European and national level.

European Law

The Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979) was aimed at ensuring conservation and protection of all wild plants and animals, increasing cooperation between states, and affording special protection to the most vulnerable or threatened species. It was implemented by the EC Birds Directive (Council Directive 79/409/EEC) and the EC Habitats Directive (Council Directive 92/43/EEC).

The Bonn Convention on Migratory Species of Wild Animals (1979 & 1994) requires the protection of migratory animals. It was implemented by the EC Birds Directive (Council Directive 79/409/EEC) and the EC Habitats Directive (Council Directive 92/43/EEC).

The EC Habitats Directive aims to establish a network of protected areas in order to maintain the distribution and the abundance of threatened species and habitats. A number of species are listed in the annexes.

Annex II lists animals and plants whose conservation requires the designation of Special Areas of Conservation (SACs).

Annex IV lists animals and plants in need of strict protection. For the animals, this prohibits deliberate capture, killing, disturbance (especially during breeding period), destruction or taking of eggs from wild, and destruction or deterioration of breeding sites or resting places. For the plants, this prohibits deliberate picking, collecting, uprooting, cutting, destruction, and trade in entire plants or parts, at all stages of life.

Annex V lists animals and plants for which taking in the wild may be subject to management measures.

National Law

Wildlife and Countryside Act

The Wildlife and Countryside Act 1981 (as amended) is the main source of legal protection for wildlife in England and was strengthened by the Countryside and Rights of Way Act 2000. A statutory five-yearly review of Schedules 5 and 8 (protected wild animals and plants) is undertaken by the relevant authorities. Species protection is provided under Schedules 1, 5, 6 and 8:

Schedule 1 lists bird species that are rare, endangered, declining or vulnerable. The Schedule is divided into two parts. Part I lists birds which receive special protection, these birds receive additional protection from disturbance at the nest. Part II lists birds that receive the same level of special protection, but only during the breeding season.

Schedule 5 protects animal (other than bird) species from certain actions, according to the sections of the Act under which they are listed:

- S9(1) prohibits the intentional killing, injury or taking.
- S9(2) protection is limited to possessing and controlling.
- S9(4a) prohibits the damaging, destroying or obstructing access to any place used by the animal for shelter or protection.
- S9(4b) prohibits disturbing the animal while it is occupying any structure or place which it uses for shelter or protection.
- S9(5) prohibits the selling, offering for sale, possessing or transporting for purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from such an animal. Species on this Schedule do not appear on the PSI.

Schedule 6 lists animals that may not be killed by certain methods. Even humane trapping for research requires a licence.

Schedule 8 lists plant species for which it is prohibited to intentionally pick, uproot, destroy, trade in, or possess (for the purposes of trade).

Under the Wildlife and Countryside Act, all wild plants in Britain are protected from intentional uprooting by an unauthorised person. Landowners, land occupiers, persons authorised by either of these, or persons authorised in writing by the Local Authority for the area are exempt from this, except for Schedule 8 species.

Conservation Regulations

The Conservation of Habitats and Species Regulations 2010 (as amended) transpose the EC Habitats Directive into national law. In addition to enabling the designation of SACs, the regulations also provide species protection:

Schedule 2 protects the listed animals from deliberate capture, killing, disturbance or trading in.

Schedule 4 protects the listed plants from picking, collecting, uprooting, destroying or trading in.

These actions can be made lawful through the granting of licences by the appropriate authorities. Licences may be granted for a number of purposes, but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild the population of the species concerned.

Protection of Badgers Act

The Protection of the Badgers Act prohibits the killing, injuring or taking of badgers and damage or interference with a badger sett, unless licensed to do so by a statutory authority.

International and European Obligations

In the UK, species receiving protection under international legislation and agreements are protected through the Wildlife and Countryside Act, so are not shown separately in the BMERC notable species lists. For reference, the relevant categories are shown below.

Bern Convention on the Conservation of European Wildlife and Natural Habitats

The Bern Convention aims to ensure the conservation of wild flora and fauna species and their habitats.

- Appendix 1 (strictly protected flora) - Plants for which contracting parties will prohibit deliberate picking, collecting, cutting or uprooting.
- Appendix 2 (strictly protected fauna) - Animals for which contracting parties will prohibit deliberate capture, possession, killing, damage to or destruction of breeding or resting sites, disturbance or destruction or taking of eggs. Appendix 3 (protected fauna) - Animals for which contracting parties will include closed seasons and regulate their sale, keeping for sale, transport for sale or offering for sale of live and dead wild animals. (Not included in Notable Species List).

Bonn Convention on Migratory Species

The Bonn Convention aims to conserve terrestrial, marine and avian migratory species throughout their range.

- Appendix 1 (migratory species threatened with extinction) - Species for which contracting parties will strictly protect and endeavour to conserve or restore the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them.
- Appendix 2 (migratory species that need or would benefit from international co-operation) - Species for which contracting parties will be encouraged to conclude global or regional agreements for the conservation and management of individual species or, more often, of a group of species. (Not included in Notable Species List).

The EC Council Directive on the Conservation of Wild Birds

The Birds Directive provides a framework for the conservation and management of all wild birds in Europe. As well as designating important sites for birds as Special Protection Areas, birds are generally protected from deliberate killing or capture and destruction of or damage to their nests or eggs, and deliberate disturbance. Allowances are made for game birds.

Appendix 2. UK Biodiversity Action Plan Species

Biodiversity, or biological diversity, is the whole variety of life on Earth. The Convention on Biological Diversity (CBD) came about as a result of the 1992 Earth Summit. As one of 168 countries to sign up to the CBD, the UK was required to develop a national strategy for the conservation of biodiversity; the UK Biodiversity Action Plan (UKBAP) was born.

The UKBAP is the result of contributions involving a wide range of people and organisations, enabling the identification of species and habitats that are listed as priorities for conservation action. A 2007 review of the UKBAP has resulted in 1149 species and 65 habitats being listed as conservation priorities. For more information see www.ukbap.org.uk.

In addition to the national priorities and targets, action is also being taken at local level. The Essex Biodiversity Project is responsible for implementing the Essex Biodiversity Action Plan, which has 28 priority species and 15 priority habitats currently listed. For more information see www.essexbiodiversity.org.uk.

The UK BAP

(from Explanatory Note by Defra and Natural England on Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 - Habitats and Species of Principal Importance in England)

The England Biodiversity List has been developed to meet the requirements of Section 41 of the Natural Environment and Rural Communities Act (2006). This legislation requires the Secretary of State to publish a list of species of flora and fauna and habitats considered to be of principal importance for the purpose of conserving biodiversity.

The S41 list will be used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006 'to have regard' to the conservation of biodiversity in England, when carrying out their normal functions. In particular:

- Regional Planning Bodies and Local Planning Authorities will use it to identify the species and habitats that should be afforded priority when applying the requirements of National Planning Policy framework (NPPF) and PPS9 Circular to maintain, restore and enhance species and habitats.
- Local Planning Authorities will use it to identify the species and habitats that require specific consideration in dealing with planning and development control, recognising that under NPPF and PPS9 Circular the aim of planning decisions should be to avoid harm to all biodiversity.
- All Public Bodies will use it to identify species or habitats that should be given priority when implementing the NERC Section 40 duty.

Habitats of Principal Importance

Fifty-six habitats of principal importance are included on the S41 list. These are all the habitats in England that have been identified as requiring action in the UK Biodiversity Action Plan (UK BAP). They range from habitats such as upland hay meadows to lowland mixed deciduous woodland and from freshwater habitats such as ponds to marine habitats such as subtidal sands and gravels.

Species of Principal Importance

There are 943 species of principal importance included on the S41 list. These are the species found

in England which have been identified as requiring action under the UK BAP. In addition, the Hen Harrier has also been included on the List because without continued conservation action it is unlikely that the Hen Harrier population will increase from its current very low levels in England.

Relationship with the UK Biodiversity List of Species and Habitats

The UK BAP list of priority species and habitats is an important reference source and will be the focus for conservation action across the UK over the next decade. It has been used to draw up the species and habitats of principal importance in England under S41 of the NERC Act.

The revised UK BAP list of priority species and habitats can be downloaded from the UK Biodiversity Website: <http://www.ukbap.org.uk/NewPriorityList.aspx>

Relationship with the biodiversity duty under Section 40 of the NERC Act

There is a general biodiversity duty in the NERC Act (Section 40) which requires every public body in the exercising of its functions to 'have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity'.

There is no direct relationship between the Section 41 duty on the Secretary of State to publish the list and promote the taking of steps to conserve the habitats and species on it, and the Section 40 duty on public bodies to have regard to the purpose of conserving biodiversity. Importantly:

(a) Biodiversity, as covered by the Section 40 duty includes all biodiversity and not just the habitats and species of principal importance. However, there is an expectation that public bodies would refer to the S41 list when complying with the section 40 duty.

(b) The duty on the Secretary of State to promote the taking of steps by others is not restricted to public bodies.

Defra guidance for local authorities and public bodies on implementing the biodiversity duty in the NERC Act draws attention to the S41 list, emphasising that local authorities and public bodies have a role to play in ensuring the protection of these species and habitats. Copies of the guidance can be downloaded from:

<http://archive.defra.gov.uk/environment/biodiversity/documents/pa-guid-english.pdf>

Appendix 3. Global & National Red List and Scarce Designations

Red Data Book Species

National Red Data Book species are those falling within the Status categories defined in the British Red Data Books (Bratton, 1991; Shirt, 1987). These are internationally recognised species listed in the various Red Data Books published by, or under the auspices of, the International Union for the Conservation of Nature (IUCN). Species included may not be informally removed or transferred between categories. Nationally Endangered (RDB1) taxa are those considered to be in danger of extinction and whose survival is unlikely if the causal factors continue operating. These include species known from only a single locality since 1970, species restricted to habitats which are especially vulnerable, species which have shown a rapid and continuous decline in the last twenty years and are now estimated to exist in five or fewer ten km squares and species believed extinct but which would need protection if re-discovered. Nationally Vulnerable (RDB2) taxa are those that are believed likely to move into the Endangered category in the near future if the causal factors causing their decline continue operating. This includes species declining throughout their range, species in vulnerable habitats and species whose populations are low. Nationally Rare (RDB3) taxa are those with small populations that are not at present Endangered or Vulnerable, but are at risk. This includes species known or estimated to exist in only 15 or fewer post 1970 ten km squares. Insufficiently Known (RDBK) taxa are those suspected of falling into categories 1-3, but about which there is insufficient information to be certain.

Some families in Diptera (flies) have recently had new status reviews published (Falk, S.J. & Crossley, R., 2005; Falk, S.J. & Chandler, P., 2005). A brief outline of the revised IUCN criteria and their application, as summarised in these reviews, is given below.

EXTINCT (EX)

A taxon is Extinct when there is no reasonable doubt that the last individual has died.

EXTINCT IN THE WILD (EW)

A taxon is Extinct in the wild when it is known to survive only in cultivation, in captivity or as a naturalised population (or populations) well outside the past range. A taxon is presumed extinct in the wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual) throughout its range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

CRITICALLY ENDANGERED (CR)

A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future, as detailed by any of the criteria A to E. *

ENDANGERED (EN)

A taxon is Endangered when it is not Critically Endangered but is facing a very high risk of extinction in the wild in the near future, as defined by any of the criteria A to E. *

VULNERABLE (VU)

A taxon is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium term future, as defined by any of the criteria A to D. *

LOWER RISK (LR)

A taxon is Lower Risk when it has been evaluated but does not satisfy the criteria for any of the categories Critically Endangered, Endangered or Vulnerable. Taxa included in the Lower Risk category can be separated into three sub-categories:

Conservation Dependent (cd)

Taxa which are the focus of a continuing taxon-specific or habitat-specific conservation programme targeted towards the taxon in question, the cessation of which would result in the taxon qualifying for one of the threatened categories above within a period of five years.

Near Threatened (nt)

Taxa which do not qualify for Lower Risk (Conservation Dependent), but which are close to qualifying for Vulnerable.

Least Concern (lc)

Taxa which do not qualify for Lower Risk (Conservation Dependent) or Lower Risk (Near Threatened).

DATA DEFICIENT (DD)

A taxon is Data Deficient when there is inadequate information to make a direct or indirect assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat or Lower Risk. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that a threatened category is appropriate.

NOT EVALUATED (NE)

A taxon is Not Evaluated when it has not been assessed against the criteria.

Nationally Scarce species

The concept of Nationally Scarce (Notable) species was introduced by Ball (1986). They are species which are estimated to occur within the range of 16 to 100 ten-kilometre squares of the British National Grid system since 1970 and are subdivided as follows: Notable/Na refers to species estimated to occur within the range of 16 to 30 10-kilometre squares of the National Grid System. Notable/Nb refers to species estimated to occur within the range 31 to 100 10-kilometre squares of the National Grid System. Diptera (flies) and some Coleoptera (beetles) are not separated. Categorisations have been revised for various taxonomic groups including Araneae (spiders) in Merrett (1990), aculeate Hymenoptera in Falk (1991a), Coleoptera in Hyman & Parsons (1992, 1994), Diptera in Falk (1991b), Hemiptera in Kirby (1992) and Pyralidae (Lepidoptera) in Parsons (1993).

The concept of nationally scarce (Notable) species is unaltered in the new status reviews (e.g. Falk, S.J. & Crossley, R., 2005; Falk, S.J. & Chandler, P., 2005), but the status is now known as Scarce.

In a new national spider review a 'Watching Brief' category is included for some species where the data available suggest a greater level of threat, but there is uncertainty about the evidence of decline. There are also a number of much more widespread and common species where the data suggest strong declines may be occurring. These have placed these in the 'Watching Brief' category outside of the national status review, but these species should be specifically monitored in the future to understand their status more satisfactorily.