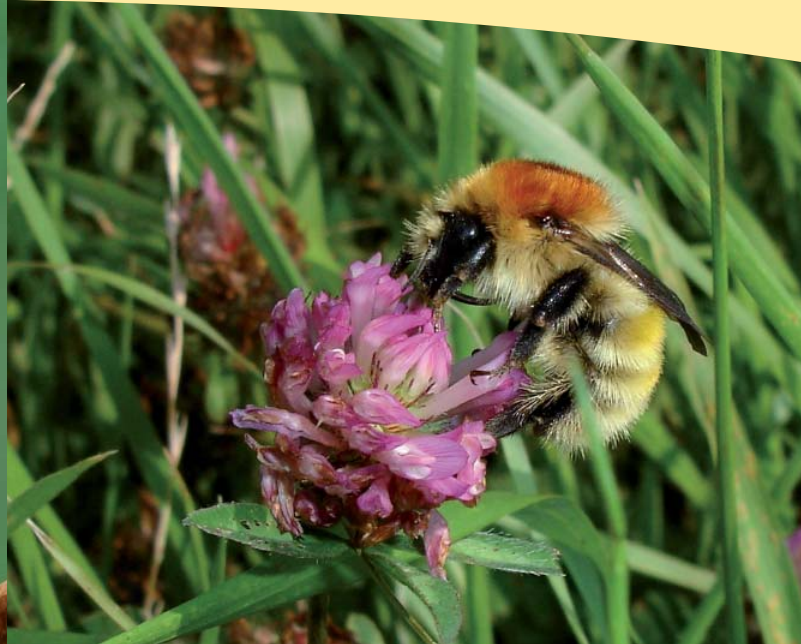


# Shrill carder bee (*Bombus sylvarum*) and Brown-banded carder bee (*Bombus humilis*)

Shrill carder bee (*Bombus sylvarum*)Brown-banded carder bee (*Bombus humilis*)

**The Shrill carder bee has a single black band on its thorax, and two dark bands across its body with a pale orange tail. In comparison the Brown-banded carder bee is a tawny coloured bee with a brown band on the top of the body. Both of these bumblebee species were once widespread in the early part of the 20th century, they rapidly declined in the 1960s and due to the extent of their declines they are now both national Biodiversity Action Plan (BAP) species.**

### Life cycle

Both species have similar life cycles. In May the queens emerge from hibernation and build new nests then from June to September the workers are flying. From July to September males can be seen in flight and at the end of their cycle the queens will hibernate from October to April.

### Reasons for decline

Agricultural intensification and the loss of field margins and set aside especially unimproved grasslands have all resulted in the loss of large areas of flower-rich grassland, which has been the main cause of decline in these species. There were once large areas of flower-rich unimproved habitat, however these habitats are now small and are still being lost. Other issues that threaten

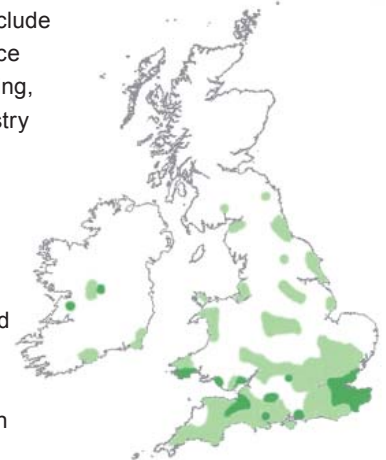
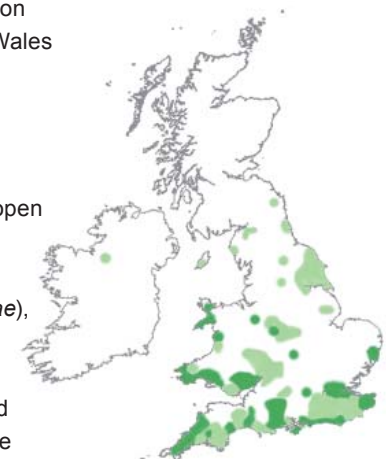
these flower-rich habitats for these species include scrub encroachment and excessive disturbance such as vegetation clearance, new grass-cutting, grazing regimes and drainage as well as forestry and development issues.

### Distribution map

The Shrill carder bee was previously more widespread and common particularly in southern England, however, it is now restricted to small areas of the South and East of England and in Wales. The Brown-banded carder bee was previously present as far north as Yorkshire and Lancashire, it has now been lost from most of its northern range and many inland sites but it is still quite common on the coast of southern England and South Wales and on inland chalk grasslands areas, notably Salisbury Plain.

### Habitat

These species need large areas of fairly tall, open flower-rich grasslands with a variety of plant species particularly long-tubed flowers from the Pea (*Fabaceae*), Figwort (*Scrophulariaceae*), Broomrape (*Orobanchaceae*) and Mint (*Lamiaceae*) plant families. The species do have varying habitat needs; both species need large areas of flowers, but the Shrill carder bee needs continuous patches whereas the Brown-banded carder bee uses smaller patches that are widely distributed. These species nest on the surface or just below

Shrill carder bee (*Bombus sylvarum*)Brown-banded carder bee (*Bombus humilis*)

Dark green = recent records (after 1980)  
Light green = historic records (before 1980)



Shrill carder bee/Brown-banded carder bee habitat

ground, either at the base of long vegetation or under accumulated plant litter, most commonly in mature undisturbed grassland that has a sunny exposure and a slope.

### Habitat Management

- **Pollen and nectar flower mixes** (options HF4 and EF4/EG3): Mixes should be flower-rich and contain at least three pollen and nectar rich plants particularly Red clover favoured by this species, other species that should be present are Bird's-foot trefoils, Black horehound, Red bartsia, Lucerne and Fodder vetch.
- **Sow mixes in strips or blocks:** Blocks of 0.5ha, with at least one block every 20ha and stimulate late flowering by cutting half of the sown area to 20cm in June then the whole area to 10cm between 15 September and 31 October, and remove the cuttings.
- **Flail and low level grazed areas:** As these are effective techniques for producing the target flower species. Encourage brambles and Black horehound adjacent to flower-rich habitat for late season pollen and nectar provisions.
- **Cutting at the correct time:** If pollen and nectar sources are abundant cutting should preferably occur September to March and cuttings should be removed. If pollen and nectar sources are limited cutting areas of grassland during April to September should occur on a small scale and in sections or on rotation, this type of cutting will ensure that suitable plants are always available for bumblebees.
- **Remove stock:** Removal from a site between 15 April and 1 September and stands of knapweed, burdock or thistle still flowering should be protected to provide food for queens.
- **Create grassy areas at the edges of scrubby patches:** As these provide potential nesting sites. Additional nesting sites should occur within a kilometre of flower-rich sites with southern facing slopes with sunny aspects and a mix of habitats present. Nesting areas should only be cut, at the most, bi-annually or with very low grazing to allow the important grass swards and litter and moss layers to

develop. Some areas with a longer cutting rotation may also be of benefit.

### Environmental stewardship options

Ensure that pollen and nectar sources are present from April to September. The nectar flower mix alone as an option is unlikely to provide spring foraging for queens and so it is important that this option is combined with other non-cropped land and field corner options.

#### HLS options

- HB11/HB12** Management of hedgerows of very high environmental value (both sides/one side)
- HE10** Floristically enhanced grass buffer strips
- HE11** Enhanced strips for target species on intensive grassland
- HF1** Management of field corners
- HF4** Nectar flower mixture
- HF9** Unfertilised cereal headlands within arable fields
- HF14** Unharvested, fertiliser-free conservation headland
- HF20** Cultivated fallow plots or margins for arable plants
- HJ3** Arable reversion to unfertilised grassland to prevent erosion or run-off
- HK6/7/8** Maintenance/restoration/creation of species-rich, semi-natural grassland
- HK15/16/17** Maintenance/restoration/creation of grassland for target features

#### HLS Capital Items

- GS** Native seed mix
- HR/PH/HF/HSC/HSL** Hedgerow options

#### ELS options

- EB1-5/UB14-15** Hedgerow options
- EC25** Hedgerow tree buffer strips on grassland
- EE1-6** Buffer strips on cultivated land/intensive grassland
- EF1** Management of field corners
- EF4** Nectar flower mixture
- EF9-10** Conservation headlands
- EF11** Uncropped cultivated margins for rare plants
- EG1** Undersown spring cereals
- EK3** Permanent grassland with very low inputs

### References

This sheet can be accessed on the web at [www.buglife.org.uk](http://www.buglife.org.uk)  
The Bumblebee Conservation Trust has detailed factsheets on why and how different management options can be used to create beneficial habitats for bumblebees. These are downloadable from [www.bumblebeeconservation.org](http://www.bumblebeeconservation.org) - just follow the links to 'Farming and land management'.

Bees, Wasps & Ants Recording Society [www.bwars.com](http://www.bwars.com)  
Aculeate Information Sheets - How the habitat requirements of BAP aculeates relate to their HAP.2. Bumblebees, *Bombus* species, associated with open grasslands - Hymettus Ltd 2006.



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