

Bumblebee Conservation Trust

Habitat Management Recommendations for Tenterden Town Council



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Project: Bee Connected

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Background

Plants provide protein-rich pollen and sugar-rich nectar which bumblebees use exclusively for their source of nutrition. Whilst feeding on nectar and collecting pollen, they help pollination by transferring pollen from one flower to another. Certain flowers have evolved so they can only be pollinated by bumblebees, for example, long tubular flowers such as foxgloves, can only be pollinated by long-tongued bumblebees.

Bees are responsible for a large part of pollination. We have three types of bees in the UK: honeybee (one species), solitary bees (250 species) and bumblebees (24 species). Different species pollinate different plants, so it is important to conserve all of our bees and other insect pollinators. Many of our bumblebees have suffered serious long-term declines, largely due to the loss of 97% of wildflower rich habitat; resulting in a huge loss of suitable forage and nesting habitat.

Therefore, it is so important that we create new areas of habitat as well as protect and enhance existing sites. The key is having a wide variety of plants which flower at different times, to provide a steady supply of nectar and pollen throughout the bumblebee lifecycle (March-October). In addition, different species have different tongue lengths and will visit different flowers, so again, a wide variety of plants is vital.

Site Details

With five of the seven UK BAP (Biodiversity Action Plan) schedule 41 species, Kent is the most important county in the UK for bumblebee diversity. In close proximity to the town of Tenterden, four of the seven UK BAP species have been recorded: Ruderal bumblebee (*Bombus ruderatus*), brown-banded carder bee (*Bombus humilis*), moss carder bee (*Bombus muscorum*) and red-shanked carder bee (*Bombus ruderarius*) (Figure 1, See Appendix).



Figure 1. The four rare bumblebee species which have been recorded in areas close to Tenterden. See appendix for more details on these species.

Site 1 Description – Millennium Garden

The Millennium Garden is positioned between the White Stuff clothing shop and The White Lion pub, located down a narrow pathway leading off the main high street path and in to the public garden. The site measures at approximately 0.1ha.

Map of Site 1: Millennium Garden



Soil Type:

Clay soils, typical of the area.

Site 2 Description – Station Road Car Park Planter

The Station Road car park planter is positioned next to the public toilets and Station Road short-stay car park, located down Station Road leading off the main high street and towards the Steam Railway Station. The site measures at approximately 26m².

Map of Site 2: Station Road Car Park Planter



Soil Type:

Clay soils, typical of the area.

Site 3 Description – Station Road Churchyard

The Station Road churchyard is positioned next to the Station Road short stay car park, located down Station Road leading off the main high street and towards the Steam Railway Station. Access is gained via a pathway which leads off the car park and in to the churchyard. The site measures at approximately 0.23ha.

Map of Site 3: Station Road Churchyard



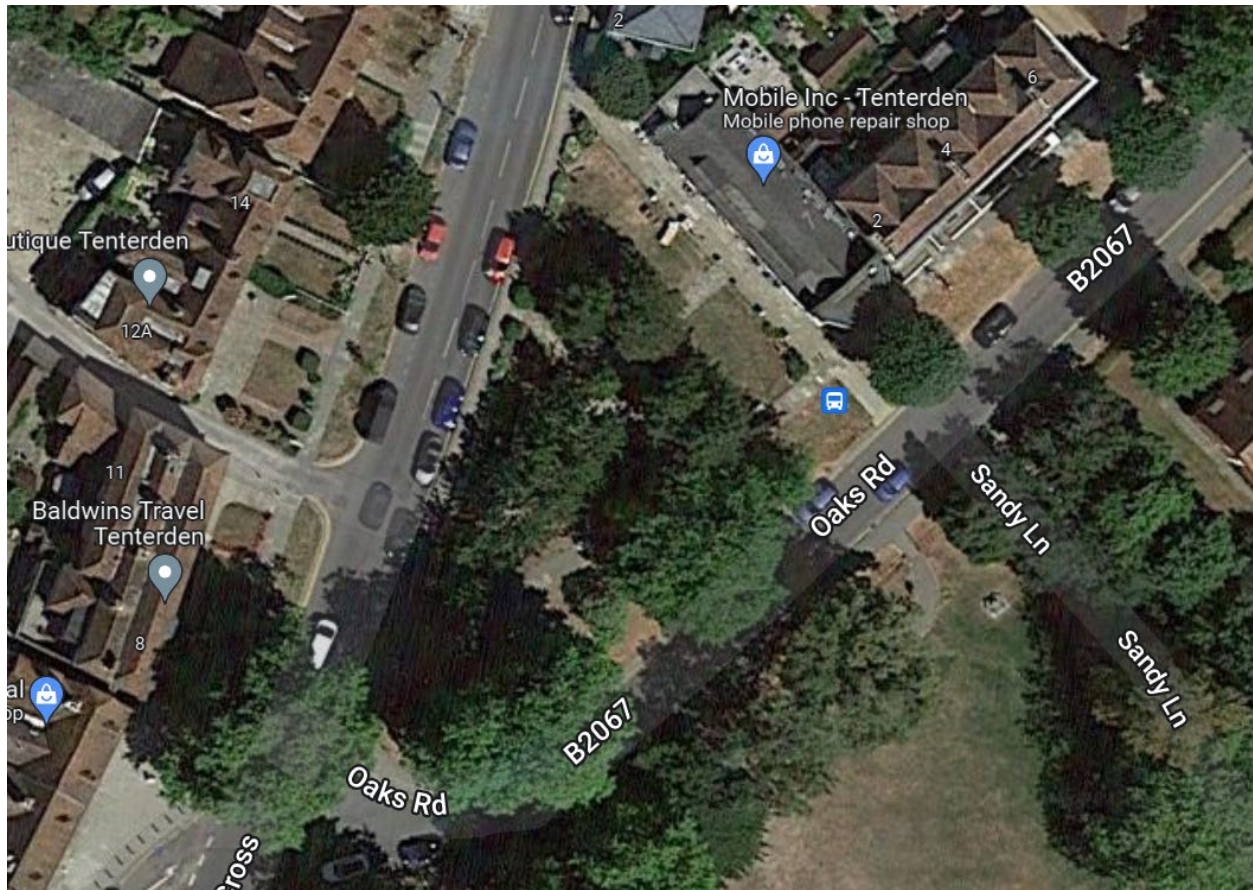
Soil Type:

Clay soils, typical of the area.

Site 4 Description – East Cross Garden

The East Cross Garden is positioned between Oaks Road and Ashford Road at the junction, located down various nearby pathways leading off the main high street, across the road, and in to the public garden. It borders a row of small shops on one side. The site measures at approximately 0.14ha.

Map of Site 4: East Cross Garden



Soil Type:

Clay soils, typical of the area.

Site 5 Description – Kiln Field Nature Reserve

The Kiln Field Nature Reserve is positioned near Abbott Way residential close, located down a pathway leading off the close and in to the public reserve. The site measures at approximately 1.8ha.

Map of Site 5: Kiln Field Nature Reserve



Soil Type:

Clay soils, typical of the area.

Site 1: Millennium Garden

Plant Suggestions

- Currently good clover and buttercup diversity, with some yellow rattle present. Possibility to create a small wild flower area/meadow.
- Avoid using bedding plants and highly cultivated flowers as they are of no use to pollinators.
- There could be a herb sensory garden area, using drought tolerant plants such as sage, rosemary, mint, thyme, nepeta and lavender.
- Things to consider: Providing a continuation of bumblebee forage throughout the seasons and to have flowers in various shapes and sizes, as bumblebee species have different tongue lengths.
- Native primrose, cowslip and flowering currant for a nice show of spring colour.
- Native spring bulbs, daffodils, snowdrops, wild garlic, grape hyacinth, celandine, bluebells, allium and cyclamen. Native varieties produce plenty of pollen and nectar for the bees.

- Mahonia and alpine heathers for winter flowering.
- There could be a cornfield annual plot including poppies, corn flower, corn cockle and corn marigold. Another part of the garden could have a perennial wild flower plot to show variety and different flower species (management and maintenance in below section).
- Hedgerows; hawthorn, blackthorn, honeysuckle, dog rose and hazel. Providing flowers, fruits and nuts for pollinators and other wildlife.
- Cultivar roses provide little pollen and no nectar. Instead try single petalled roses which are not as highly cultivated.
- Russian comfrey could be introduced into the borders. It is a hardy hybrid which does not spread. It will stay where you plant it. It can become quite bushy. It's a hedgerow species that likes shady areas.

Management Suggestions

- Leave the perennial meadow area to flower until Autumn, if looks 'messy' can cut half of the area in mid-July to dead head it and it will re-flower. All arisings must be removed.
- Where yellow rattle is present, do not cut between March and mid-July as it's an annual and will be lost.
- Spring sowing is not productive when there's a drought summer. Autumn is better for planting and seed sowing. But if spring planting use more developed plants with a good root system.
- Other wildlife features could include log piles, bird boxes and solitary bee hotels on a south facing fence.
- Simple information signage could be provided for visitors of the garden to learn about the native plants used and how the garden is encouraging the local wildlife in.
- Native bulbs need to go in autumn time but some can be planted in the green.
- The Bee Connected project is happy to help with habitat work party days.

Site 2: Station Road Car Park Planter

Plant Suggestions- English Cottage garden

- Colourful native bulbs would look great and provide plenty of pollen and nectar. These can be planted in the green or in Autumn.
- We would recommend planting early spring flowers such as native cowslips, primroses, foxgloves etc
- For summer flowering ornamental thistles, lavender, Bowles everlasting mauve, rosemary, foxgloves, lambs ear etc
- We would suggest hardy plants that are tolerant of drought conditions such as herbs.
- Suggest using perennials which are good for pollinators and offer people an example of what they can provide for bumblebees in their own gardens.

Management Suggestions

- As this area is in a public space we would suggest planting a formal English cottage garden with perennial plants.

Site 3: Station Road Churchyard

Plant Suggestions; wildflower meadow natural regeneration

- Ox-eye daisy and cowslip are already present here but there is the potential for more wild flowers to establish.
- We would suggest adding in yellow rattle seeds to reduce the abundance of grass and its dominance as the ground is very fertile. Yellow rattle can be plug planted in Spring or sown as seed from September-December.
- By reducing the fertility with yellow rattle this will reduce the grass dominance open up the sward and allow other wild flowers space to germinate.
- We would suggest mowing a path through the middle of it for visitors.

Management Suggestions

- This churchyard plot is ideal for a wildflower meadow and could be allowed to regenerate naturally with the addition of yellow rattle.
- Cut and clear the pathway down the middle for visitor access.
- Cut the meadow once a year in Autumn (with brush cutters or pedestrian mower) and remove all the arisings.
- If an area has dense grass this could be cut in mid-July to reduce its abundance. All arisings should be removed.
- Create a compost heap to place all arisings. A compost is a great habitat for reptiles and nesting and hibernation sites for bumblebees. It could be contained within pallets and sign posted.
- Bumblebee Conservation Trust volunteers and staff could help with the management and maintenance of this area i.e. Autumn cut and collect.
- A small amount of bramble present, which is great for wildlife, but will need cutting back to stop encroachment.
- Other wildlife features could include installing bird and bat boxes, log piles, simple information signage and solitary bee hotels.
- Perhaps the local schools could get involved with helping out.
- This site with the others mentioned could be part of a nature trail for families to follow. Wildlife themed and self-led. There could be a public event to launch it with communications via social media and the local newsletter. It could explain the wildlife benefits behind the meadow and sensory garden areas and ideas for what people can do in their own homes.

Site 4: East Cross Garden

Plant Suggestions- traditional English Cottage Garden

- At present the site is a mixture of cultivated flowers with no cohesion of planting.
- We would suggest a formal garden along the English Cottage garden theme.

- Avoid bedding plants as they are no good for pollinators but flowers such as herbs (cat mint, lavender, rosemary, sage), lambs ear, native spring bulbs, native primroses and cowslips would be ideal.
- We would suggest planting that provides something in flower across all seasons such as alpine heathers in winter, spring bulbs etc. This is good visually for the public and also for pollinators.

Management Suggestions

- Use perennial flowers with a good root system and plant in Spring. Herbs are ideal as they are hardy and are more drought tolerant.
- Some native bulbs can be planted in the green.

Site 5: Kiln Field Nature Reserve

Plant Suggestions

- A pond is present in the reserve. Water mint, purple loosestrife, marsh marigold and yellow flag iris could all be added to increase flower diversity.
- In the woodland, bluebells, foxgloves, appear with rotational coppicing. Natural regeneration with coppicing will provide open glades good for flower regeneration and plants for pollinators.
- Very good diversity in the grassland. Lots of clovers and knapweeds, wild carrot, bird's-foot trefoil. Already very good diversity.

Management Suggestions

- Already a good diversity of flower species present, no extra seeding or plug planting needed. The management of cutting once a year is ideal and the cutting are removed to a compost area. If the area does become too grass dense, we would suggest adding in yellow seed in autumn or a very low cut (creating bare ground).
- The hedge leading up to the nature reserve could it be cut once every three years, if possible to talk to the land owners.
- School groups could be taken here.
- Could do a green hay cut from here and then take it to the Tenterden Station Road churchyard site to spread- we can help with volunteers.
- Some ragwort is in the meadow, though only a small amount. It had been thinned it out in 2022 as it had taken over slightly. Recommend removing ragwort as and when needed if it becomes too dominant.
- Some simple information signage in the reserve would be a good idea to communicate with visitors what is there, why and how the site is managed.

Sourcing Seeds and Plug Plants

When buying seeds and plug plants, it is really important to ensure that they are of native province and sourced locally and responsibly. Local seeds and plants are also more likely to germinate and survive, as they are what should naturally occur in that habitat. We recommend:

- Emorsgate Seeds (www.wildseed.co.uk)
- NatureScape (www.naturescape.co.uk)
- Agrifactor (<https://www.heathfield.net/businesses/farms-and-farm-services/agrifactors/13>)
- Wild Native Bulbs (<https://wildnativebulbs.co.uk/index.html>)
- Local garden centres – look out for the ‘bee-friendly’ label.

Perennial Wildflower Beds

Seeds: Perennial seed mix which will include species such as bird’s-foot trefoil (*Lotus corniculatus*), yellow rattle (*Rhinanthus minor*), field scabious (*Knautia arvensis*), common knapweed (*Centaurea nigra*), oxeye daisy (*Leucanthemum vulgare*), wild red clover (*Trifolium pratense*), self-heal (*Prunella vulgaris*), meadow buttercup (*Ranunculus acris*) and meadow cranesbill (*Geranium pratense*). Typical meadow flowers you will expect to see over time in the churchyard and Kiln nature reserve.



Figure 6. Perennial wildflower plot (species shown: red clover, meadow vetchling and tufted vetch) at the RSPB Dungeness Nature Reserve.

Managing and Maintaining a Perennial Wildflower Bed

- To extend the flowering season you can cut a portion of the area at the end of June/mid-July, removing the cuttings. If you do this, make sure to leave an area uncut to ensure continued bee forage.
- Mow the whole area once it has set seed beginning-end of September (see Figure 7).
- Leave the cuttings for 1-2 days to dry and drop seed, then rake off.
- Mow re-growth through to late autumn.

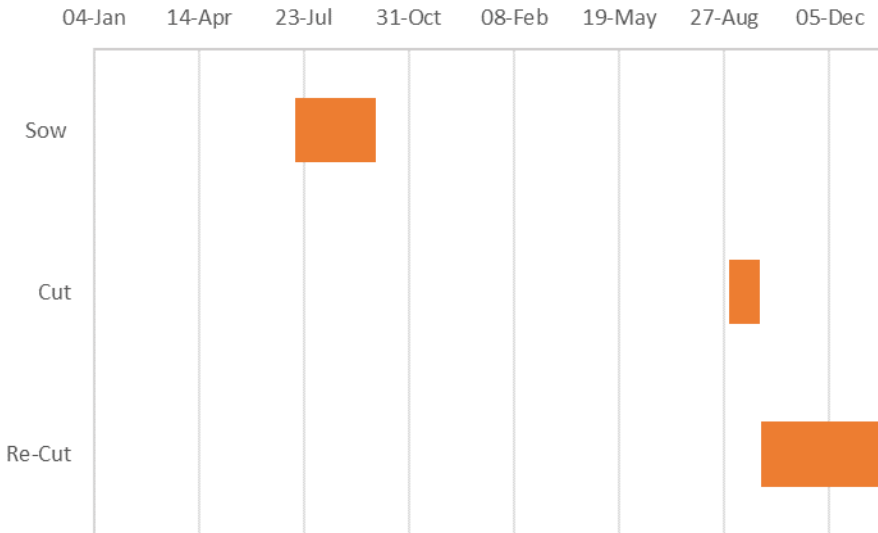


Figure 7. Timings for perennial wildflower plots.

If the area is dominated by grasses or is nutrient rich, yellow rattle (*Rhinanthus minor*) seeds or plug plants can be introduced (see Figure 8). This species parasitizes grasses, suppressing their growth and therefore opening up space to allow wildflowers to grow. Yellow rattle should be sown in autumn as they need frost to break seed dormancy. We recommend sowing at a rate 3x the suggested amount, as seeds can be difficult to establish. Sow seeds directly on the soil surface and do not cover. Once yellow rattle has been established, it will allow natural regeneration from the seedbank. If you find there is still not enough diversity, you can add in plug plants (as in the seed mix above).



Figure 8. Yellow rattle (*Rhinanthus minor*) in flower (left) and seedling (right).

Creating a Log Pile

Creating a log pile is a great way of reusing old wood. The rotting wood will attract a variety of wildlife, including beetles, solitary bees, frogs and newts. They also provide nesting and hibernation opportunities for bumblebees. There is no right or wrong way to arrange the wood, but a variety of different sizes and shapes are useful. Over time, any branches which fall from the trees in the churchyard for example can be added to the pile. A small sign could be added to inform visitors of its importance.



Figure 9. One example of a log pile.

Solitary Bee Hotels

For solitary bees, artificial housing known as 'bee hotels' can be put up. These should go in a sunny south or south-east facing spot at a height of about 6ft. They can be bought from shops or online, or alternatively you can make your own using bamboo canes, old logs with a variety of hole sizes drilled in, or cobb bricks. Canes/holes need to ideally be 15cm deep with a range of sizes from 2-10mm wide, as different species need different sizes.



Figure 10. An example of a solitary bee hotel.

Sources of Information and Further Reading

- 'Bumblebees: An Introduction' written by Dr Nikki Gammans, Dr Richard Comont, S.C Morgan and Gill Perkins, Bumblebee Conservation Trust, 2018.
- 'Managing Wildflower Meadows for Bumblebees', Factsheet 2, Land Management series, Bumblebee Conservation Trust.
- 'Plants for Bees: A Guide to the Plants that Benefit the Bees of the British Isles' written by W.D.J. Kirk and F.N. Howes, 2012.
- 'The Bumblebees of Kent' written by Dr Nikki Gammans and Geoff Allen, Kent Field Club, 2014.
- 'Wildflowers of Dungeness' written by Barbara Gray and Heather Silk, 2007.

Appendix

Rare Bumblebee Identification

These four rare bumblebee species have been recorded near to Tenterden; Ruderal bumblebee (*Bombus ruderatus*), brown-banded carder bee (*Bombus humilis*), moss carder bee (*Bombus muscorum*) and red-shanked carder bee (*Bombus ruderarius*).

Ruderal bumblebee (*Bombus ruderatus*)

Found in three different colour forms; Light form, intermediate form and dark form (melanistic).

Light form: Three dark yellow bands. One on the top and bottom of thorax which are the same thickness as each other, and one on the abdomen (in garden bumblebees, the second thoracic band is always narrower than the first). White tail which extends up the sides of the abdomen.



Intermediate form: Yellow bands are much darker, and the abdominal band can be hard to see on the worker caste. White tail is still present, but with much more dark hairs.



Ruderal bumblebee, Nikki Gammans

Dark form: An all-black bumblebee (melanistic).

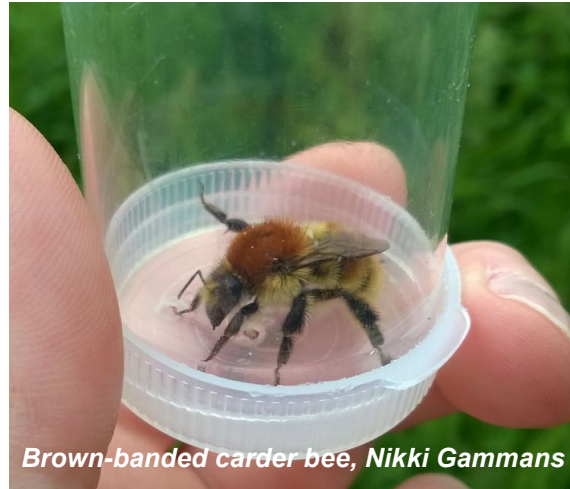


Ruderal bumblebee, Nikki Gammans

Males have the same colour pattern as the females. A good way to tell apart males of ruderal and garden bumblebees is to look for the mandible hairs. Male ruderals have red mandible hairs, whereas male garden bumblebees have black mandible hairs. This feature cannot be used in females. Ruderals have very long tongues, so favour tubular flowers such as vetches and clovers. They have a long horse-like face.

Brown-banded carder bee (*Bombus humilis*)

This species has a ginger thorax with lighter blonde hairs under the wing bases. There will be black hairs at the wing bases – sometimes only two or three. On the abdomen, the second band has a strip of ginger hairs which match the colour of the thorax and extends around the sides of the abdomen. Males have the same colour patterns as females. This is a long-tongued species, so will favour plants such as red clover, bird's-foot trefoil and vetches.



Moss carder bee (*Bombus muscorum*)

The moss carder bee has a thorax covered in short gingery-brown hair which is neat and even all over. The thorax often has a neat blonde 'halo' around a darker gingery centre. The abdomen is an even blonde/ginger, and occasionally has a partial brown band near the top of the abdomen. This species never has any black hairs. Males have the same colour patterns as the females. This is a long-tongued species, so will favour plants such as red clover, bird's-foot trefoil and vetches.



Red-shanked carder bee (*Bombus ruderarius*)

A black bee with an orangey-red tail. The key feature is that unlike the red-tailed bumblebee, this species has bright red hairs on the hind legs. Males also have the red hairs on the hind leg, but unlike the females, will have two dusky straw-coloured bands at the top and bottom of the thorax. This species has a medium tongue length and visits flowers such as red clover, bird's-foot trefoil and knapweed.



Red-shanked carder bee, Steve Reynaert