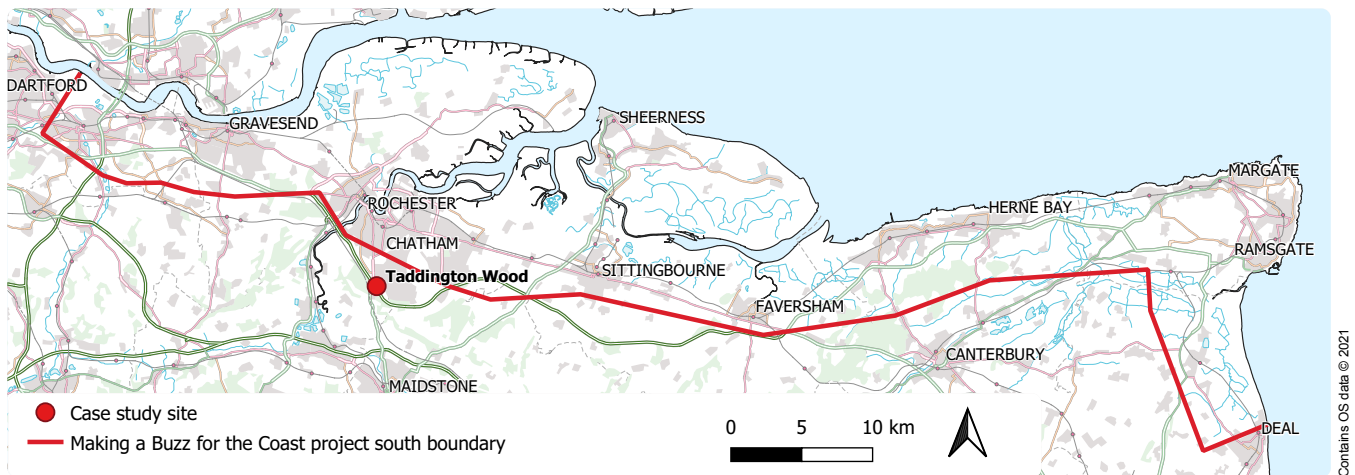


Taddington Valley Wood

Land management options for bumblebees and pollinators in an urban fringe, ancient woodland

Making a Buzz for the Coast

The north Kent coast is recognised nationally for the diversity of bumblebee species it supports with 22 of the 24 UK species, including five of the seven nationally rare and scarce bumblebees. Much of Kent's cultural and economic heritage is intrinsically linked to bees, with a landscape of orchards, arable flowering crops and grassland. Kent's bumblebee diversity can be linked to its varied habitats and the milder southern climate.



The Making a Buzz for the Coast project was set up to re-address the decline and help to conserve wild bees in north Kent. Making a Buzz for the Coast is working to safeguard Kent's wild bees, focusing on coastal areas from Dartford to Deal. The aims of this ambitious project, are 1) to create and restore flower-rich habitat 2) recruit, train and support volunteers to take action for bumblebees and other wild bees 3) raise awareness about the value of these important insects and their conservation needs.

Making a Buzz for the Coast is a multi-partner project led by Bumblebee Conservation Trust (BBCT) and with key partners including Kent Wildlife Trust, Kent County Council, Natural England, Royal Society for the Protection of Birds, Swale Borough Council, Thames Water and Thanet District Council, as well as numerous landowners and supporters. Its primary funder is the National Lottery Heritage Fund.

Site introduction

Taddington Valley is a Tonbridge and Malling Borough Council (TMBC) owned site located in Walderslade in Kent. The site and the surrounding area were originally a wooded valley and this still remains the predominant character of the area. Much of this original woodland has however been lost in recent decades to make way for housing, but several woodland areas were retained within the housing as Public Open Spaces; Taddington Valley being one. A few parts of this site are classified as Ancient Woodland, but much of the site has been planted with Sweet chestnut for coppicing.

Taddington Valley is a long, narrow site, covering 14.5ha, running in a north west to south east direction. The site lies very close to the M2 motorway corridor, and is now almost completely surrounded by housing and roads. A footpath down on the central valley floor follows the original trackway and there remains some grassland glades present in the central valley floor. The valley banks remain wooded on either side.

The site is well used by the public for a variety of amenity uses including dog walking, walking, and as a throughroute between the housing areas. There are 17 public entrances into the site from the surrounding roads.

Field survey

Initial contact between Making a Buzz and TMBC was made at a presentation given about the project. In June 2019, a site visit was carried out, investigating the habitats, and recording the bumblebee species encountered. Areas that met bumblebee habitat requirements were also recorded; warm and undisturbed tussocky grassland habitat for nesting, flower rich areas that provide forage throughout the entire flight season (February to October) and cool, north facing hibernation sites. A mosaic of pockets of bumblebee nesting and foraging habitats across the site would be particularly beneficial.

The site has a good diversity of flowering plants including plants with long flowering structures, preferred forage for long tongued pollinators such as bumblebees. Plants included Yellow rattle, Bird's-foot trefoil, Yellow archangel, Vetch species,



Hedge woundwort, Selfheal, Red clover and White clover, Spear thistle, Common knapweed, White dead-nettle, Ground ivy, Black horehound, Teasel, and Bramble.

Bumblebee records are low for this site but this is most likely due to under-recording as the site has the potential to support good pollinator populations, particularly with the proximity of suburban gardens backing immediately on to the site. During the site visit in June, five common bumblebee species were recorded.

Connectivity

The site visit indicated a big difference between the bumblebee numbers recorded from one end of the site to the other. Few bumblebees were recorded in Compartments 1–2 even though a greater range of bumblebee forage plants were present. At the other end of the site, up to 5 bumblebee species were recorded in Compartments 7–8. From this data, improving habitat connectivity between different compartments was seen as the most important aspect to improve the site for bumblebees.

Previous management

Prior to working with Making a Buzz for the Coast, the grassland glades and compartments on site have mainly been managed as meadow areas with an annual cut in late summer/autumn with arisings left on the ground. Some of the larger areas and paths are mown more frequently (eight times per year) for access and amenity purposes, being cut right up to the woodland edge.

Areas are cut by TMBC's grounds maintenance contractor; a flail tractor without a collector attachment is being used. Currently the volunteer group, manage the land so smaller scale woodland and scrub management, mainly for safety purposes, takes place. Volunteers also rake off arisings in some areas on site on an ad hoc basis.

Bumblebee enhancements and new management

The aim of new conservation management work is to increase habitat connectivity throughout the whole site, creating a corridor of tussocky nesting sites and flowering plants as pollen and nectar sources for bumblebees and other pollinators. Also providing continuous forage throughout the bumblebee flight season from spring to autumn. Rare bumblebees that are still present in Kent, such as the Shrill carder bee (*Bombus sylvarum*) emerge late so need available forage in October to successfully complete their nest cycle and produce males and new queens so making sure an abundance of late season forage on site was also an important factor.

Grassland management

Grassland enhancement took place in autumn 2020 with UK native wildflower seed being added to selected grassland compartments throughout the site.

Volunteers from Medway Valley Countryside Partnership (MVCP) lightly scarified selected areas with a tractor and harrow attachment after grassland areas had been cut and cuttings removed. The aim was to create at least 50% bare ground. Wildflower seed was surface-broadcast by hand and trodden in to allow for maximum seed to soil contact but not buried.

UK native wildflower seed mixes were chosen to suit the grassland quality. Ruderal and higher weed burden areas were sown with a tall herb seed mix that would work well competing with tall, fast growing existing vegetation. Patches with a higher floristic diversity and lower weed burden were sown with a long season wildflower mix. Due to sowing into existing grassland, a 100% wildflower seed mix was used. (If sowing into bare ground, a mix of wildflower and grasses would be used.)

Extra Yellow rattle was added to all seed mixes; Yellow rattle is known as the 'meadow maker' because it is a hemi-parasitic plant that feeds on nutrients from surrounding grass roots, reducing the grass vigour and allowing other wildflower species space to establish. This helps create a diverse sward and the plant itself is a favoured forage plant of long tongued bumblebee species.

Patches of wildflower grassland are recommended to be cut once a year in late autumn allowing plants to flower and providing forage throughout the bumblebee season with particular focus on providing late season forage. Cuttings should be removed which helps to reduce nutrient levels in the soil and keeps the grass sward more open which benefits wildflower diversity and help reduce weed burden.



Hedge woundwort in previously cleared scrub scallop.



Photo-credit: Kate Fidczuk-Sterny/Bumblebee Conservation Trust

Tractor scarification work prior to seed sowing.



Photo-credit: Medway Valley Countryside Partnership

MVCP volunteers see-sowing task day.



Photo-credit: Bumblebee Conservation Trust

Woodland ride scallop after clearance in autumn 2020.

To create a tussocky grassland habitat for nesting carder bumblebee species, a rotational cutting regime of every 2–3 years can be used for designated areas.

Glade and ride management

During the summer and winter of 2020, the work on site was undertaken by volunteers from the Medway Valley Countryside Partnership. Task days consisted of cutting back undergrowth and strimming scrub and woodland edge habitat, creating a network of large (approximately 5m²) scallops throughout the woodland glade and ride system. This reduced bramble and ruderal growth, allows less vigorous wildflowers to naturally regenerate and provides increased floristic diversity within shadier areas. This also creates connectivity throughout the site by encouraging closely located pockets of wildflower forage.

Maintenance of the site will include periodic cutting back of the scallop areas, to prevent these becoming overgrown with brambles.



Photo-credit: Bumblebee Conservation Trust

Common carder bee (*Bombus pascuorum*) on Red dead-nettle.

In grassland glade compartments that are cut regularly for amenity purposes, an uncut margin has been added along the woodland edge supporting plants to flower throughout the bumblebee flight season and connecting habitat areas on site. This allows pollinator species to move through the site, increasing their range. This also helps to create diverse woodland edge gradient habitat, with a transition from open grassland to tall woodland, an important feature that supports a range of plant species and in turn a wide range of wildlife generally.

Monitoring

A Making a Buzz for the Coast volunteer is now undertaking a BeeWalk. A bumblebee transect is set up on site using the BeeWalk methodology, which forms part of Bumblebee Conservation Trust's national monitoring scheme. Bumblebees are counted monthly along this fixed route between March and October each year. This will allow monitoring of the bumblebee population at the site linked to the management changes implemented.

The future of Taddington Valley

Tonbridge and Malling Borough Council will continue to manage the site in line with the bumblebee habitat management recommendations and await with anticipation the wildflowers that should appear over the coming years. In turn, it is hoped that an increase of bumblebee species and numbers will be recorded on site.

Acknowledgements

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