

#### Welcome to BeeWalk!

Furry, brightly-coloured and instantly recognisable, bumblebees are icons of the British summer, and they also contribute more than £400 million every year to the British economy through pollinating crops. But they're in trouble. Bumblebees are declining across the country (we've already lost two species), and to better understand the reasons why, we need data – lots of data – on where we can find the remaining bees, how many there are and what they're doing.

That's where BeeWalk comes in. Set up by the Bumblebee Conservation Trust after a successful trial in 2008, BeeWalk is a long-term national recording scheme to monitor the abundance of bumblebees on fixed routes (transects) across the country. These transects would be impossible without volunteers, who identify and count the bumblebees they see on their route each month from March to October.

The information collected by BeeWalk volunteers is integral to monitoring how bumblebee populations change through time, and will allow us to detect early warning signs of population declines. All data collected will contribute to important long-term monitoring of bumblebee population changes in response to changes in land-use and climate change, and, ultimately, to informing how we manage areas for wildlife.

Anyone with basic identification skills can become a BeeWalker – all you need is a spare few hours every month between March and October, to walk a fixed route of about 1-2 kilometres (you choose where it goes), and send us your sightings. It's essential that your transect is a fixed route to allow direct comparisons of bumblebee population trends over time.

# Quick set up guide (see full details below):

- Step 1: Register as a BeeWalker here and then create a new account on the BeeWalk website.
- **Step 2**: Decide on your fixed route of around 1-2km, split into at least 3 different sections. Using our Habitat and Land Use Site form, note down the habitat type and land use for each section.
- **Step 3**: Register your transect on the BeeWalk website, <u>www.beewalk.org.uk</u>.
- **Step 4**: Walk your fixed route every survey month (March to October), year on year, recording the bumblebees you see. Note down unknown for any species or caste (queen, worker, male) you are unsure of.
- **Step 5**: Enter your records on the website <a href="www.beewalk.org.uk">www.beewalk.org.uk</a>. Any bumblebees you aren't sure of the species, can be recorded as Bumblebee on the data entry page.

We hope you'll be able to join in – without the fundamental information provided by volunteers across the country, we're fighting blind in the struggle to reverse the plight of the bumblebee.

Best Wishes,

The BeeWalk team

beewalk@bumblebeeconservation.org 01786 594129



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# Step-by-step guide to setting up a BeeWalk transect

- 1. Before you start, consider if you are able to commit to doing a monthly BeeWalk between March and October. You will need a couple of hours or so each month to walk a transect of around 1-2km and submit the data.
- 2. Register as a BeeWalker here and then create an account on the BeeWalk website here
- 3. If you are new to bumblebees, you can prepare by brushing up on your identification skills: attend a bumblebee <a href="ID">ID training event or a guided bee walk</a>, or look at the ID resources listed on the BeeWalk website, <a href="https://www.beewalk.org.uk/node/11">https://www.beewalk.org.uk/node/11</a>, we have full ID online training videos.
- 4. Find a suitable location for a transect, somewhere you visit regularly, or want to visit, and which has a range of bee-friendly habitats, these can be anything from gardens and grass verges to coastal dunes and heathland.
- 5. Using our <u>Habitat and Land Use site form</u>, walk your proposed transect and split it into at least 3 different sections (based on habitat, or if it is all one habitat, split by land mark/topography). Note what habitat each section falls under and what the land is being used for. It will also give you an idea of how long it's likely to take to walk your transect. Remember it will take longer in summer months when bumblebees are at their peak.
- 6. Set up your transect on the <u>website</u>. Click on 'My sites' tab, then click 'Add site' and enter the name of your transect. Use the map to zoom in to the site of your route, click to set a central grid reference, select the county, enter the number of sections and the year you are setting it up in. Click save. The length can be accurately calculated once you have drawn your route, using Section Length in the 'Section Details' tab.
- 7. Draw the route of each section on the map (to change between satellite and map view, click the cross in the blue square in the top right corner of the map). Click the section number and single-click on the map where the section starts. Then, join-the-dots style, click on the map where the section goes, double-clicking to save it.
- 8. After repeating this process for each section, click 'Section details' to enter the habitat and land use types for each one. Using the lengths provided, add up the total transect length and enter onto the 'Site details' tab.
- 9. It is now time to get outside and do a BeeWalk. <u>Download the monthly recording form</u> to record your data Ideally, walk your transect between 11am-5pm, choosing approximately the same time of day every month and around the same date. It is best if the weather is warm and sunny, with no more than a light breeze. Don't forget to record the date, start and finish time and the weather conditions.
- 10. On your return, submit your data to the website **even if you didn't see anything**. Click on the 'My walks' tab to bring up a list of dates to the present day and a dropdown menu where you can select your transect. Click on the relevant date and you will be taken to a recording screen where you can enter weather conditions and the time your walk started and ended (24hr format).
- 11. Click 'Next step' at the bottom right corner. This will take you to the data input page. In the species column, type in the name of the bees you saw (English or Latin). Then choose the section number from the drop-down menu and fill in the number of each caste (queen, worker or male) that you saw in that section. You can record an unidentified bumblebee by entering Bumblebee in the species column. There is an option to select White/buff-tailed worker in the species list, as the workers of these species can be difficult to tell apart in the field.
- 12. There is a final page where you can note any changes to the transect such as flooding before finally clicking 'Save'. Congratulations, you have finished your first BeeWalk!



# Things to think about

## Picking a transect route

- Most transect routes are about a mile (1-2km), and take about 45-60 minutes to walk. Bear in mind that walks will take longer in summer, with bees everywhere, than in spring/autumn with much lower numbers.
- Identify a route that takes in some flower-rich habitat. Your route should be convenient and easily accessible, as the same route will be walked monthly from year to year to enable sightings to be compared.
- **Divide your transect into at least 3 sections.** These should ideally be at natural breaks in habitat or landscape type (see the <u>Habitat and Land Use site form</u>), but can also be at waypoints to split what would otherwise be very long sections.
- Identify the dominant habitat and landuse in each of your transect (see the <u>Habitat and Land</u> Use site form ).
- The grid reference and section lengths will be filled in automatically when drawing your transect on the website.

# **Recording bumblebees**

- Bumblebees should be recorded on the monthly recording form. A separate form should be
  used for each month. Honeybees should also be noted if possible. You do not need to record
  solitary bees.
- **Fill in the environmental and transect details first.** Before you begin walking fill in your name, site, date, weather conditions and start time in the spaces provided on the form.
- Walk your transect route at a steady pace. Do not linger in hotspots to improve your count, as this will bias results.
- Record all the bumblebees you see within your 'recording box'. This extends 2m either side of you and 4m ahead. Do not look behind, and do not count bees seen outside this box.
- Where possible record the caste (queen, worker, male) of each individual as well as species, and make a note of any interesting behaviour, such as mating. Record unknown bumblebee or caste for any bumblebees you are unsure of.
- **Nets and pots can be used** to capture bumblebees for closer examination when necessary. For details on suppliers see the BeeWalk website.
- Ensure that all recording is completed on the form at the end of each walk. Double-check for errors and omissions, as it will be impossible to accurately fill in any blanks later.
- Where estimates have to be made (e.g. when numbers are too large to count accurately) make sure an actual figure is recorded (e.g. 45 rather than 40+).
- If something unusual is recorded, add a note at the bottom of the recording sheet to confirm that what you have recorded is correct. If it's an unusual species, it should ideally be photographed for confirmation. Unusual data will be followed up via email.
- Don't forget to fill in the finish time at the end of your walk.



#### Verification of records

There are around seven common and widespread species of bumblebee in Britain, but many of the rest are scarce or rare. Some, like the Great Yellow bumblebee (*Bombus distinguendus*) are distinctive when seen, but others, such as the Moss carder (*Bombus muscorum*) are very similar to common species and can be difficult to tell apart in the field.

If you're lucky enough to see a rare bumblebee, please try and photograph it – range changes for rare species are significant and it is important to verify sightings, please don't be offended if the sighting is checked, we will contact you via email if we need to double check any records. Bees can be tricky to identify from photos, but it at least helps rule species in or out. We've written a guide on which bits of the bee you need to photograph to maximise the chances of an ID – it's at the end of this document.

# **Identification training**

Don't let inexperience deter you from taking part in BeeWalk. Even if you can only confidently identify a few species and mark the remainder as unknown, you are making a valuable contribution to bumblebee conservation – and you'll be amazed how quickly you can pick up ID skills once you start looking.

We've put a section on the Trust website dedicated to tips for bumblebee identification (<a href="https://www.bumblebeeconservation.org/identification-tips/">https://www.bumblebeeconservation.org/identification-tips/</a>) and the resources section of the BeeWalk website lists several other useful books and sites. There is a range of online training videos on the <a href="Trust YouTube channel">Trust YouTube channel</a>, including full basic and intermediate ID.

There's only a handful of species that you're likely to see on a regular basis and you'll quickly learn these and spot anything that looks a bit different – check these out in a bit more detail. The <u>UK Bees, Wasps and Ants Recording Society have a Facebook</u> page which can be used to confirm ID if a picture is posted.

The Bumblebee Conservation Trust also run ID training workshops at locations across the country - details can be found on the Trust Events page (<a href="https://www.bumblebeeconservation.org/events-calendar/">https://www.bumblebeeconservation.org/events-calendar/</a>). This will be regularly updated as new workshops are organised.



Data policy - By using the BeeWalk website, you agree to these Terms and Conditions of Use. If you do not agree, please do not use the site.

- 1. When you use this website, you create and upload content for instance, bumblebee observations and photos, your descriptions, and messages to the forums. By putting this information on the site, you are saying that:
  - (a) the content is yours, or you have the permission of the owner to agree to this usage, and
  - (b) you agree that the content can be used on this site, and
  - (c) you agree that your wildlife observations can be made publicly available for wider use.
- 2. Wildlife observations collected through this site will be stored securely at the Biological Records Centre and made available to experts for verification.
- 3. Verified observations will be made available via the NBN Gateway. BeeWalk records will be collated alongside other data and made available via the NBN Gateway by the Bumblebee Conservation Trust and the Bees, Wasps and Ants Recording Society. If you do not want your observations to be made available in this way, please do not submit them.
- 4. Once verified records have been made available, their use will be governed by the NBN Gateway Terms and Conditions, e.g. use of the data for commercial purposes will not be allowed without written permission from the organisation administering the dataset.
- 5. Please do not submit records to this site that have already been submitted to a Vice County Recorder, Local Records Centre, National Recording Scheme or another online wildlife recording system, owing to the potential for duplication.
- 6. Having submitted a record to this site, please do not submit it to other organisations or online recording schemes. It will be made available to local records centres, conservation organisations, natural history societies and others with a legitimate interest in the data via the NBN Gateway.
- 7. You may view wildlife records submitted to this website by other users, but you may not store them, republish them, exploit them for commercial or academic research purposes, or pass them on to any third party.
- 8. Your contact details will be held in a database at the Biological Records Centre and by the Bumblebee Conservation Trust. They will only be used to contact you regarding the BeeWalk recording scheme via email and enewsletter, you can unsubscribe from this at any time. Full details on the Trust's Privacy policy can be found <a href="here">here</a>.
- 9. Your contact details will not be passed on to any third parties without your permission.
- 10. Your name will be stored as part of the record and may be made publicly available via the NBN Gateway along with the species name, date and location of the record.
- 11. If you submit a record of a species that could be vulnerable to disturbance or persecution if the record is made publicly available, the record will be flagged as 'sensitive' and will not be made publicly available.



# **Health and Safety**

## **Volunteer responsibility**

Whilst carrying out activities for the Trust each volunteer has the responsibility of ensuring they are aware of their own health and safety and that of others around them and act accordingly. As a BeeWalk volunteer you are not under any obligation to continue with the survey scheme, as such if you feel your health and safety is compromised you should not continue your activities or place yourself or others in danger. Any concerns should be raised with staff via beewalk@bumblebeeconservation.org

#### **Risks**

BeeWalk surveys are undertaken at your own risk. Before undertaking survey activities, please consider the particular health and safety hazards associated with each survey site (such as terrain, livestock, proximity to roads or waterways etc.) and whether you will be exposed to particular hazards. If you do not feel that you can reduce the risks associated with surveying a site (such as by wearing suitable footwear, avoiding fields with livestock etc.) please do not put yourself in danger.

#### **Access permission**

To enter private land, or land not subject to open access legislation, please ensure you have permission from the relevant landowners or tenant. A letter confirming your involvement in survey monitoring work can be provided, email <a href="mailto:beewalk@bumblebeeconservation.org">beewalk@bumblebeeconservation.org</a> if you would like a copy. If it is possible and practical to do so, it is courteous to advice the landowner of what you are doing and why.

Abide by The Countryside Code <a href="www.gov.uk/government/publications/the-countryside-code/the-code/the-

#### **Parking**

When visiting a site take care to park cars sensibly, preferably off-road, and do not block entrances and gates.

#### Covid-19

Ensure your transect route and your journey to and from your site, allows you to maintain social distancing rules at all times. Always follow any locally imposed restrictions and check your site is safely accessible.

#### **General precautions**

Check weather reports before undertaking outdoor activities and wear appropriate clothing. Long-sleeved clothes and trousers will help prevent scratches, nettle stings and tick bites. In hot conditions wear sun protection. Ensure you take adequate water and food supplies suitable to the length of your survey. Avoid or abandon outdoor activities in bad weather. Avoid working alone wherever possible. If you do survey alone ensure you make someone aware of your activities, location and route and time expected back. Advise them of who to contact in case of emergency. If possible carry a mobile phone with you for emergency use, note that mobile phones may not work in some remote areas. In case of an emergency you can use either the European Emergency Number (112) or 999 (see <a href="www.eena.org">www.eena.org</a> for more information). 112 can be dialled even if the keypad is locked.

#### Difficult terrain

Plan routes to avoid difficult and dangerous terrain, such as close to cliff edges and watercourses. Take extra care in boggy areas and areas with unstable ground, such as areas with loose rock and collapsed underground burrows. Wear high visibility clothing when surveying areas close to roads. Avoid crossing



potentially hazardous sites, such as quarries and railway lines and take notice of warning signs, do not enter private land that has been deliberately obstructed.

## Livestock and agricultural machinery

Take special care when entering areas with livestock, especially cattle, rams and horses. Do not enter fields containing bulls or cows with calves and be especially cautious with farm/guard dogs. Rutting deer can also be aggressive in the autumn. Avoid undertaking surveys in close proximity to working agricultural machinery or forestry operations.

#### **Human confrontation**

Avoid confrontation with landowners, land workers or members of the public. You may wish to carry conformation of the activities you are undertaking, a letter confirming your involvement in survey monitoring work can be provided, email <a href="mailto:beewalk@bumblebeeconservation.org">beewalk@bumblebeeconservation.org</a> if you would like a copy. If you have any concerns about your personal safety, stop activities immediately.

# Lyme disease

Lyme disease is a bacterial disease transmitted by animal ticks associated with rank vegetation, which can lead to severe symptoms if left untreated. A variety of animals act as hosts for the bacteria, including sheep, deer and pheasants. Make regular checks of skin and hair following survey work. Remove ticks from the skin as soon as possible. Wear light-coloured clothing so that ticks are visible, tuck trousers into socks so that ticks cannot attach or climb up the inside of clothing without being seen.

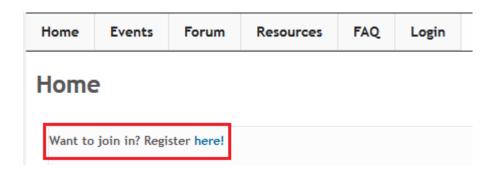
If you are still unsure of anything, please don't hesitate to contact us at beewalk@bumblebeeconservation.org



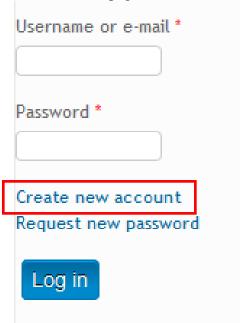
# Picture guide to using the website (for video guides see the Trusts **YouTube Channel**)

# Registering

On the home page <a href="http://www.beewalk.org.uk">http://www.beewalk.org.uk</a>, click on the <a href="Register here">Register here</a> button. This will take you to a form where you can register as a BeeWalker and complete a short bumblebee ID quiz. The quiz allows us to understand what level of identification experience you currently have and will help us see your progress as you become more experienced in surveying for bumblebees.



On the BeeWalk home page click on the link to Create new account on the right-hand side.



Fill in the boxes (mandatory fields are marked with red asterisk). There's a tickbox for BeeWalk Pro - this lets you record recording the flowers bumblebees are visiting on your transect. Make sure you've entered your real email address – anything that comes from the website (verification questions, etc) will go to that address.



Then click the blue 'create new account' button at the bottom of the page. You'll get a verification email (keep an eye on your junk box) click on the log-in link and it'll take you to a page to set your password. Click 'save', and you're all done.

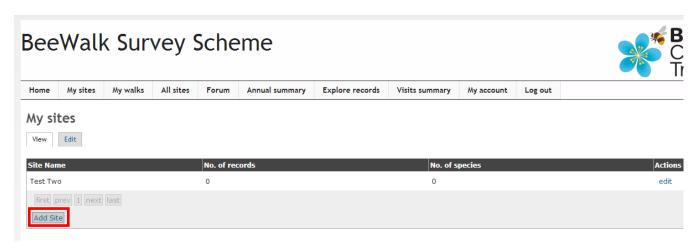
# Setting up a transect

We recommend you walk your transect first, to get an idea of the best route, where the section breaks should fall, what kind of habitat is there and roughly how long it's going to take.

To start, click on the 'My sites' tab:



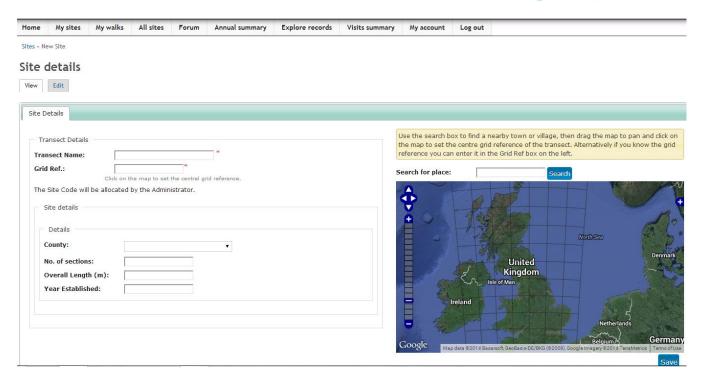
To set up a new transect, click on 'add site' at the bottom-left:



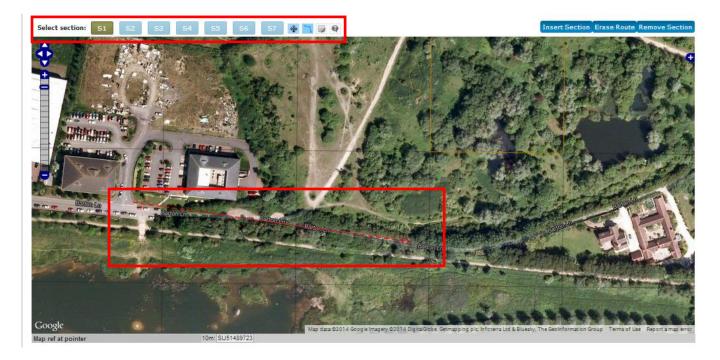
Enter your transect name, then use the map to zoom in to your site (the 'search for place' box should help you find the general area).

Click roughly in the middle of your transect to set the grid reference. Select the county, enter the number of sections your route has and the year you are setting it up. The length can be accurately calculated once you have drawn your route. Click 'save' in the bottom-right corner.



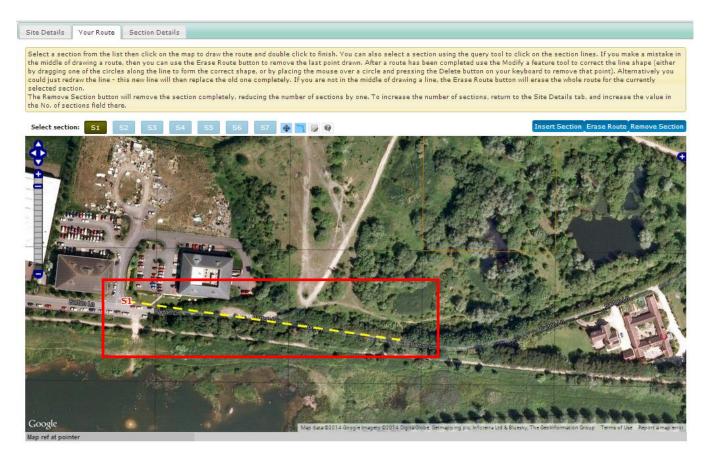


That will take you to a page where you can draw the details of each section of your transect. Click on a section number to select it – the one you're working on will appear green, the rest a faded blue. Single-click on the map at the start of a section, and you'll get a red dotted line between that point and the cursor:

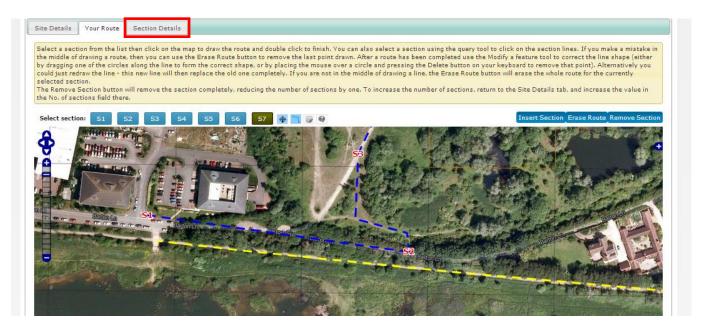


Single-click again to 'stick' the line to the map (eg where you turn a corner), and then double-click at the end of the section to store it. The line will turn yellow and be labelled with the section number:





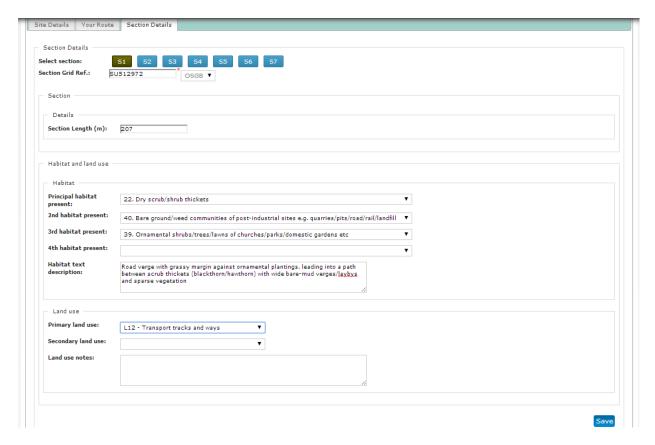
Repeat the process for each section (non-selected sections will show up as blue dashed lines) – click the section number, draw the route, double-click to finish (you can move the map by holding the left mouse button and dragging), until your whole route is drawn out. Once it's all mapped, click 'section details':



That'll take you to a page where you can fill in details about each section. The grid reference and length for each section will have been filled out automatically from the map (add up the lengths of each section to get your total transect length, then add this on to the <u>Site Details</u> page) – you just need to add in the



habitat and land use types for each section. You'll need to do this for each section in turn by clicking on the number at the top. If you need to adjust any of the section maps, click the 'your route' tab, NOT the back button. Click 'save' in the bottom-right corner, and you're all done.

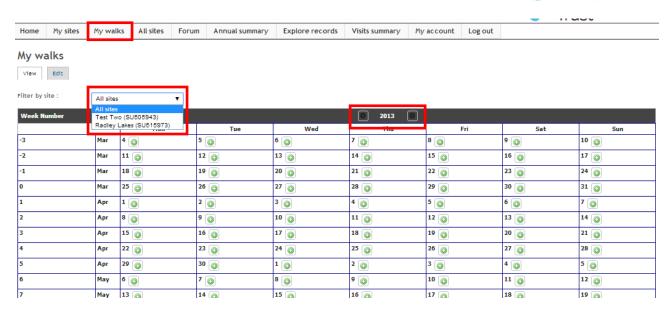


## Submitting your survey data

It's vital that you do this whenever you walk your transect, even when you didn't see anything. If you don't submit the record, we can't tell the difference between 'walked the transect and didn't see anything' and 'didn't walk the transect', that's a big difference when we come to use the data.

To begin submitting your data, first click on the 'My walks' tab and you'll get a screen of dates. Every date up to the current date will have a green-and-white plus-sign next to it. Make sure you're in the right year. Select your site from the drop-down menu, then click on the plus-sign next to the relevant date.





That will take you to a recording screen. Location, date and name should be already filled in automatically (if location is blank, select it from the drop-down menu). Select the amount of sunshine, temperature (°C) and the wind strength (Beaufort scale) from the drop-down menus and enter the start and finish times in 24 hour format (make sure you use: to separate hours and minutes). Then click 'next step' at the bottom right corner.

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Comont, Richard	
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End Time (hh:mm):	
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<b>v</b>	Google Map Data   Terms of Use   Report a map error
	Next Step

Now we get to the bee data. The recording form looks intimidatingly blank at first, but that's because it automatically recognises what you're typing rather than picking from a menu.

In the 'species' column, start typing the name of a bee (common or scientific names both work). The site will work out what you're typing and give you a list of options – click on the correct one and another row will appear underneath.



If you type something it doesn't recognise, you won't get a suggestion, the typed text will turn red and it won't give you another line to fill in. Be aware that most bumblebees have several common names! If you accidentally enter the wrong species, the red x to the left of the name will delete that row.

If you are recording an unidentified bumblebee, enter "Bumblebee" in the species column.

White-tailed and Buff-tailed bumblebee workers are very hard to distinguish in the field. If you are unsure which you saw you can select "White/buff-tailed" in the species column.

Once you've put in a species name, choose the section number from the drop-down menu and fill in the number of each caste that you saw in that section. You also have two columns on the right, 'flowers visited' and 'comments'. If you were recording what flowers the bees were on, add it to the 'flowers visited' column. If you saw two bees of the same species on the same section, but visiting different flowers, please record these on separate rows so that we can see how many individuals were on each flower type. 'Comments' is for anything else you noticed – mating, etc.

Once all your bees are entered, click 'next step' at the bottom right. If you saw no bees on your survey, go straight to this step and leave the page blank



The final page is for any notes – mown sections, flooding, etc.



Then click 'save' at the bottom right. You should see a Thank You message with a green tick:



If there have been any issues you will see a message with a red cross:





The commonest reason for data not submitting, is accidently omitting a section number:



If you return to the data entry page and complete this, and click save again, the data will be submitted.



# **Transect and Data FAQs**

I want to start a BeeWalk, but it's not March. Do I need to wait until next year? No. Feel free to begin BeeWalking whatever the month. The field season starts in March, but there's no reason not to start new transects whenever you like.

Can I walk my transect more often than once a month? Yes. We ask for transects to be walked at least monthly, but more frequently is absolutely fine.

Can I post in paper forms or email spreadsheets - do I really have to use the website? Yes, please. The survey is continually growing fast with over 500 transects submitting data currently. With 8 months surveyed across each transect, we just don't have time to deal with paper/spreadsheet records as well as supporting BeeWalkers and using the data.

**I'd like several people to walk the same transect - can this be done?** Yes - send us the transect name and the website usernames of the different recorders, and we'll set them all up on the same transect.

#### How do I find out if there is a transect close to me?

- Go to the 'explore records' page
- Create filter (top-right of the map)
- Click on 'when' and for max. record age enter 12 months to see transects recording within the last year
- Zoom in to your location (use the mouse scroll wheel or the slider on the left of the map)
- Each transect is represented by a blue square, and if you zoom in far enough you can see the route

**Does it matter if there is a transect close by?** No, even if your transects cross the data is still valuable – having transects that are close to each other actually helps us work out how bumblebees move through the landscape.

How do I complete the data entry section if I didn't see any bees? Please still add the survey into the data base by submitting the details of the walk (date, time, weather etc) and leave the species list blank and click next step, at this point you can leave a comment that you didn't see any bees. This tells us that you did a survey that month but didn't record any bees.

How I do I complete the data entry section if I saw a bumblebee but couldn't identify it to species? In the species column enter Bombus sp/bumblebee. Then select which section you saw the unidentified bumblebee in and enter how many of which caste (if known, if not put the number of individuals in the unknown column).

Can I edit my data after I have submitted it? If the data you entered for a BeeWalk is incorrect, you can edit this via 'my walks', choosing the walk you need to correct, then re-enter the data and submit. This will overwrite the previous data submitted. Any corrections need to be made before the end of the year.

Can I download my own records? The website doesn't currently have this function, please email beewalk@bumblebeeconservation.org and we can download and email the data to you.



What happens to the records? At the beginning of the year all the records are downloaded and analysed by our Science Manager. Now we've got enough years of data, we have begun analysing population trends across Britain, published each year as a BeeWalk Annual Report. We're also investigating habitat use and flower visitation, amongst other things.

How do I find out the latest results of the survey scheme? The mid-season BeeWalk e-newsletter provides an overview of the year so far for bumblebees from the information submitted to date. The end of season BeeWalk e-newsletter provides an overview of that year's complete survey season, and the spring e-news will link to the Annual Report. Not on the BeeWalk enewsletter mailing list? If you'd like to receive this please email <a href="mailto:beewalk@bumblebeeconservation.org">beewalk@bumblebeeconservation.org</a> and let us know.

When do I need to submit my data? Please enter your data as soon as possible after your month's walk if at all possible, as the sooner we receive data the better picture we get of the year so far for bumblebees. At the latest, please submit the data by the end of the year – we'll send out a reminder at the end of the survey season.

For any other questions please contact: beewalk@bumblebeeconservation.org



# **Habitat and Land-use Classification FAQs**

How can I be sure what habitat type I have on my transect? Choose the description that is closest to what you can see, your best guess is fine - many habitat types merge into each other. Please email <a href="mailto:beewalk@bumblebeeconservation.org">beewalk@bumblebeeconservation.org</a> for advice if you are having trouble defining the habitat.

There is only one habitat type on my transect, is this ok? This is fine, but please break the route into at least 3 sections (this makes it easier for us to know which part of the route you saw which bumblebees in). These could be marked by changes in the topography or landscape such as the end of a line of trees, or a change in direction of the route.

What do I do if the habitat changes permanently on my transect? Depending on the scale of the change we may be able to alter the transect slightly on the system or we may need new transect data entered. Please email beewalk@bumblebeeconservation.org for advice.

# What should I classify my garden as?

Land Use L23 Dwellings

Habitat H39 Ornamental shrubs/trees/lawns of park/domestic gardens etc.

# What should I classify a country lane with verges as?

Land Use L12 Transport tracks and ways.

The habitat depends on the vegetation of the verge and is likely to be one of either:

H15 Dry semi/unimproved (flower rich) chalk/limestone grassland

H16 Dry semi/unimproved acid grassland

H17 Dry semi/unimproved (flower rich) neutral grassland

H18 Agriculturally improved/re-seeded/heavily fertilised grassland

H19 Seasonally wet and wet marshy grassland

H32 Bare ground/herb/grass mosaics of wood rides, hedgebanks and green lanes

H38 Bare ground/weeds of arable field margins or fallow/recently abandoned arable crops (e.g. set-aside)

#### What should I classify a man-made ditch as?

Ditches would be classified by the surrounding land use and habitat, for instance:

Land Use L1 Agriculture

Land Use L12 Transport tracks and ways

Land Use L6 Outdoor amenity and open space

Habitat H38 Bare ground/weeds of arable field margins or fallow/recently abandoned arable crops (e.g. set-aside)

Habitat H14 Inland swamp/fen stands without open water (e.g. reedbeds)

Habitat H21 Stands of tall herbs (e.g. nettle and willow-herb beds)

## What should I classify my local park as?

L6 Outdoor amenity and open space



The habitat depends on the grassland and is likely to be one of either:

H15 Dry semi/unimproved (flower rich) chalk/limestone grassland

H16 Dry semi/unimproved acid grassland

H17 Dry semi/unimproved (flower rich) neutral grassland

H18 Agriculturally improved/re-seeded/heavily fertilised grassland

H19 Seasonally wet and wet marshy grassland

H39 Ornamental shrubs/trees/lawns of park/domestic gardens etc.

## What should I classify my local sports field as?

Land Use L6 Outdoor amenity and open space Habitat H18 Agriculturally improved/re-seeded/heavily fertilised grassland

#### What should I classify my walk along the river bank as?

Land Use L17 Waterways

The habitat could be:

H10 Fen/swamp/marsh vegetation of inland freshwater edges

H11 Bare ground/sparse vegetation of inland freshwater edges

H15 Dry semi/unimproved (flower rich) chalk/limestone grassland

H16 Dry semi/unimproved acid grassland

H17 Dry semi/unimproved (flower rich) neutral grassland

H18 Agriculturally improved/re-seeded/heavily fertilised grassland

H19 Seasonally wet and wet marshy grassland

H21 Stands of tall herbs (e.g. nettle and willow-herb beds)

H24 Wet Willow scrub of fen, river and lake-side

For any other questions please contact: beewalk@bumblebeeconservation.org



# Habitat and Land Use site details (see Habitat and Land Use classification guide below)

Site name	
County	
Year transect established	

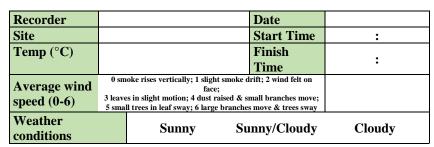
Section number	Habitat description	Habitat code(s)	Land use description	Land use code(s)
1				
2				
3				
4				
5				
6				



# Habitat and land-use classification

Code	Habitat Type	Code	Land Use Type
H1	Marine saltmarshes/estuaries/saline reedbeds	L1	Agriculture
H2	Coastal dune grassland	L2	Fisheries
Н3	Coastal dune and sand heath	L3	Managed forest
H4	Coastal dune and sand scrub	L4	Un-managed forest
H5	Coastal dune and sand woods	L5	Mineral workings and quarries
Н6	Coastal dune slacks	L6	Outdoor amenity and open spaces
H7	Coastal machair	L7	Amusement and show places
Н8	Coastal shingle	L8	Libraries, museums and galleries
Н9	Coastal cliffs/undercliffs	L9	Sports facilities and grounds
H10	Fen/swamp/marsh vegetation of inland freshwater edges	L10	Holiday parks and camps
H11	Bare ground/sparse vegetation of inland freshwater edges	L11	Allotments and city farms
H12	Acid bog/mire habitats	L12	Transport tracks and ways
H13	Flushes	L13	Transport terminals
H14	Inland swamp/fen stands without open water (e.g. reedbeds)	L14	Car parks
H15	Dry semi/unimproved (flower-rich) chalk/limestone grassland	L15	Vehicle storage
H16	Dry semi/unimproved acid grassland	L16	Goods and freight terminals
H17	Dry semi/unimproved (flower-rich) neutral grassland	L17	Waterways
H18	Agriculturally improved/re-seeded/ heavily fertilised grassland	L18	Energy production and distribution
H19	Seasonally wet and wet marshy grasslands	L19	Water storage and treatment
H20	Bracken dominated glades or hillsides	L20	Refuse disposal
H21	Stands of tall herbs (e.g. nettle and willow-herb beds)	L21	Cemeteries and cremetoria
H22	Dry scrub/shrub thickets	L22	Post and telecommunications
H23	Wet and dry heathland/ dry heather moorland	L23	Dwellings
H24	Wet Willow scrub of fen, river and lake-side	L24	Hotels
H25	Hedgerows	L25	Residential Institutions
H26	Mature broadleaved woodland	L26	Medical and healthcare services
H27	Mature coniferous woodland	L27	Places of worship
H28	Mature mixed broadleaved and coniferous woodland	L28	Education
H29	Lines of trees or scattered trees of parkland	L29	Community services
H30	Small man-made woodlands	L30	Shops
H31	Recently felled areas/early-stage woodland and coppice	L31	Financial and professional services
H32	Bare ground/herb/grass mosaics of wood rides, hedgebanks and green lanes	L32	Restaurants and cafes
H33	Orchards, hop gardens and vineyards	L33	Public houses and bars
H34	Inland screes/cliffs/ rock pavements, and outcrops	L34	Manufacturing
H35	Intensive arable crops	L35	Offices
H36	Horticultural crops	L36	Storage
H37	Organic arable crops	L37	Wholesale distribution
поо	Bare ground/weeds of arable field margins or fallow/recently	120	Vacant
H38	abandoned arable crops (e.g. set-aside)	L38	Vacant
H39	Ornamental shrubs/trees/lawns of parks/domestic gardens, etc.	L39	Derelict
H40	Bare ground/weed communities of post-industrial sites	L40	Defence

# **Monthly Recording Form**





Species	Section	Caste (q/w/m)	Number	Flower/Comment



# A photographer's guide to taking identifiable bumblebee photos

Taking photos of the bees you see is a really useful thing to do - in particular, it's a great way to confirm your sightings, especially with scarcer species that you're less familiar with.

Although it is very useful, seeing a photograph is still second-best to having a specimen in the field or in the hand. Cameras and lighting can alter colours, and supplementary information is lost – size, behaviour, habitat, location, time, date, and movement/flight characteristics can all be important in getting to the right species. What's in the photo is all we have – there's no way to see the bits that aren't shown, or aren't in focus, and very limited opportunity to zoom in on smaller features. That means getting the right bits inshot and in focus is crucial.

Bumblebees aren't the easiest things to ID from photos, as they have useful ID features scattered all over their bodies. Typically, when on flowers, they curl up into a semicircle, hide their head and tip of the tail, and tuck their legs in, which hides some of the most useful features. The best way to make sure your mystery bee is identifiable from photographs is to take several, from different angles, showing as many ID areas as possible.



A typical bee-on-flower view. We can see the thorax well, and the head well enough, but most of the abdomen is hidden, including the very tip of the tail. The antennae are clearly present, but you'd struggle to see details of the segments, and all the useful features on the hind legs are hidden.



#### Head and face



Face shape is essentially impossible to see from a top-down picture, but is a useful ID feature to split round-faced/long-faced/very long faced bees, in particular the Garden bumblebee (*Bombus hortorum*) and the Large garden bumblebee (*Bombus ruderatus*).

The presence and colour of facial hair is important for several species, particularly in deciding the sex of the bee.

The antennal segments are also useful for this – males and females have different numbers of segments, while the shape of some of the antennal segments can be used to split some species pairs, particularly males of the Gypsy and Southern cuckoo.

# Hind leg and side





It's really useful to see the femur of the hind leg, as it's the easiest way to sex the social bumblebees and to split them from cuckoos. Only female social bumblebees collect pollen, and when not carrying pollen they have wide, flattened, shiny femurs with long fringing hairs, forming the pollen basket. Male socials have thinner, hairier legs without a pollen basket, and cuckoos also have hairy legs without a cleared space for pollen.

Additionally, the legs carry useful ID features for some species – for example red hairs fringing the pollen basket split the Red-shanked carder (*Bombus ruderarius*) from the Red-tailed bumblebee (*Bombus lapidarius*), and the spines are also useful for some species.

# Tail tip



Tail colour is usually very important in bumblebee ID. It can often be seen from above, but bees on flowers often curl round so that it's not always obvious, particularly with species that don't have much colour to the tail.

Also, several species have two-tone tails, with a different colour on the very tip.

Tail shape is useful to help sex the bee - males have a blunt, rounded back end while females come to a point, which can help make sense of other ID pointers.