

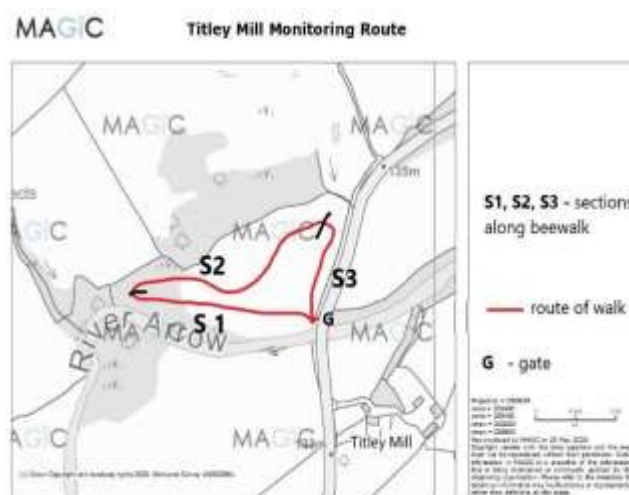
Herefordshire Meadows bumblebee monitoring for meadow restoration

What does this monitoring method involve?

- Walk a fixed route transect survey twice a year recording all the bumblebees you see.
- Select a transect route in advance of the 1st survey, mapping out sections along the route
- Select dates to walk the transect during peak bumblebee season (May – July) and before the grassland hay cut. Aim for similar dates each year so we can compare data in the long term.

Setting up your transect

1. The length of your transect can vary (up to 2 km). Herefordshire Meadows restoration projects are required to survey the field selected for restoration work, as a minimum, but may also include other species-rich and species-poor grassland on the farm
2. Walk your route in advance. Use a paper map to draw out the route making notes on it about habitats and land-use as you go. The transect should be divided into sections and these should indicate either change of habitat or change of field. The restoration field/s needs to be clearly separated from other fields and habitats by creating new sections.
3. If you only have time to survey the field being restored, ensure you map the route walked through the field, split into sections. Remember to ensure your route crosses the middle of the restoration field.
4. Please do the bee survey separately from any plant surveying in the same field.
5. Send your completed map to Rory (rory@herefordshiremeadows.org.uk) for verification before embarking on first monitoring session. A quick email will suffice.
6. Once set up keep to the same route and same sections each year – additional sections can be added to the end of the walk.
7. Ideally, you should walk your transect between 11am- 5pm, choosing approximately the same time of day each time you walk the route. It is best if the weather is warm and sunny, with no more than a light breeze.



What equipment to take into the field with you?

- A [What's that Bumblebee Guide](#) The most useful drawings and common species
- Transect route map – prepared by you
- [Survey recording form](#) clipboard and pen
- Beginner butterfly/bee net. Available from [Watkins and Doncaster](#) or [NHBS](#)
- A queen bee marking pot from [Watkins and Doncaster](#) or [NHBS](#)
- Plastic/glass tubes [Watkins and Doncaster](#) or [NHBS](#)
- Tissue to put inside pot (blue roll ideal)
- A hand lens x 10 optional from [NHBS](#)

- Thermometer – for recording outside temperature – a simple kitchen food temperature probe will suffice – from any kitchen/hardware store

Recording bumblebees

- Bumblebees should be recorded on separate [recording form](#) each month (note honeybees too)
- 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.
- Where possible record the flowers you see the bees visiting.
- When you move into a new section remember to record this on the form.
- Nets and pots can be used to capture bumblebees for closer examination when necessary. See equipment list above.
- Ensure that all recording is completed at the end of each walk. Double-check for errors and omissions, as it's almost impossible to fill in any blanks later.
- Where estimates have to be made (e.g. when numbers are too large to count accurately) take a stab at an actual figure to record (e.g. 46 rather than 40+).
- If rare bee 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 try to [photograph bees](#) for confirmation. Unlikely records will be omitted, or you'll be asked to confirm later.
- Don't forget to fill in the finish time at the end of your walk.
- At the end of the year send completed forms to Rory Johnson at Herefordshire Meadows (rory@herefordshiremeadows.org.uk). All the group records will be entered onto BeeWalk website with Herefordshire Meadows special prefix so we can compare the group's records in future.
- If you have a large farm or landscape scale project or want to do the full BeeWalk with monthly surveys from March to October then please set up your own account and enter the data directly as well as sharing your records with us please.

Further reading and resources: ID books, Websites and Apps

[Bumblebees: An Introduction](#). Gammans, N, Comont, R.F., Morgan, S.C., Perkins, G. (2018) Bumblebee Conservation Trust. ISBN 0995773904

[Field Guide to the Bees of Great Britain & Ireland](#) (Field Guides). Falk, S (2015) British Wildlife Publishing. ISBN 978-1910389034. More in depth guide to all bees with keys

Everything you need to know about bumblebee surveying is [on Bumblebee Conservation Trust BeeWalk](#) page; forms, guides, videos, photography, H&S guidance and more.

[The Big 8 ID guide from Bumblebee Conservation](#) free to download and print

[Buglife's B-Lines Network](#) national project [mapped by Buglife with many partners in Herefordshire](#)

[British and Irish bumblebees App](#) [BBCT Youtube channel](#) [BWARS website](#) [BeeWatch App](#) for ID help

Support and questions

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