



Herefordshire Meadows bumblebee monitoring workshop

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www.buglife.org.uk
@buzz_dont_tweet



The Invertebrate Conservation Trust

We are the only organisation in Europe devoted to the conservation of all invertebrates.

Our aim:

To stop invertebrate extinctions and achieve sustainable populations of invertebrates.

‘Saving the small things that run the planet.’



What we will cover...

- ***The HM Pilot bumblebee monitoring protocol***
 - How to set up your fixed-route transect survey
 - Capturing important information, walking your route, recording forms & survey equipment
- ***The BBCT national BeeWalk recording scheme***



Bombus humilis © Steven Falk

Andrena chrysoceles © Steven Falk

Arctophila superbiens © Steven Falk

Loss of insect abundance

A close-up photograph of a Common club hoverfly (Syritta pipiens) showing its distinctive reddish-brown wings and white body. The insect is centered in the frame against a blurred yellow background.

2017 study from German nature reserves revealed a 75% decline in flying insect abundance over 27 year period.

- Gather species data - abundance, distribution
- Assess population change
- Understand patterns of diversity, species interactions
- A conservation alert system
- Set conservation priorities and actions
- Set a baseline to measure change and effectiveness



Red shanked carder
bumblebee
(*Bombus ruderarius*)

Recorded on Lugg
Meadow, Hereford
during a BeeWalk
Previously
unrecorded



© Steven Falk

Bumblebee monitoring – overview

- Requirement of the project
- Simplified version of BBCT
BeeWalk recording scheme
- Walk a fixed route transect survey a minimum of two times per year, recording all the bumblebees you see (species and abundance)
- Set up transect and map in advance of first survey (June 2020)
- Walk during peak bumblebee season (May – July) at same time each year
- Send data at end of season to HM



How to set up your transect survey

- The length of your transect can vary (anywhere up to 2 km)
- Include field selected for restoration work (minimum requirement)
- Other fields/habitats can be included to create a longer route e.g. other grasslands (species-rich or poor)
- Walk your route in advance, draw out the route on a paper map and annotate with notes on habitats and land-use as you go.
- You may follow the 'W' shaped route used for your plant monitoring.



Colwall Orchard Group transect (603 m long)

How to set up your transect survey

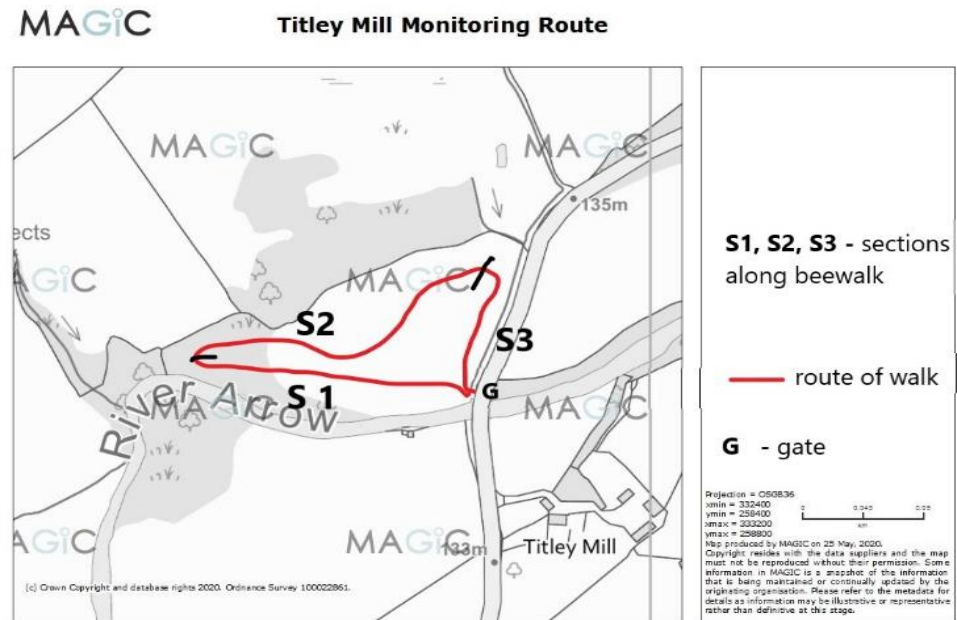
- The transect should be divided into sections and these should indicate either change of habitat or change of field.
- Once set up, keep to the same route and same sections each year – additional sections can be added to the end of the walk (2019 meadow makers only)



Bythans

Single field transects

- A single field transect should also be split in sections. Ensure you map the route walked through the field and number the sections. Land marks such as trees and changes in direction are useful points to start new sections.

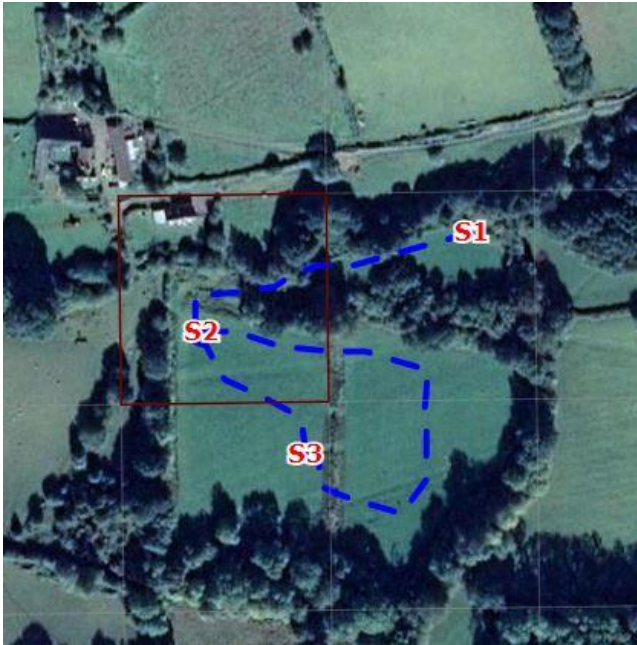


- Ideally, you should walk your transect between 11am- 5pm, choosing approximately the same time of day each time you walk the route. It is best if the weather is warm and sunny, with no more than a light breeze.

New transects need to be mapped and agreed with Sue (June 2020)

Trenant Farm – case study

1



2



Image 1 - S1 -S3 - donor species-rich grassland

Image 2 - S4-S7 – recipient restoration site (improved pasture)

Survey Kit

- Transect route map
- Survey recording form, clipboard and pen
- Thermometer
- What's that Bumblebee Guide
- Beginners bee/butterfly net
- A queen bee marking cage
- Plastic/glass pots
- Tissue to put inside pot
- A 10 x hand lens (not essential)





Walking the transect route

- Complete a separate recording form each month
- Fill in your name, site, date, weather conditions, start and end time
- Walk your transect route at a steady pace. Do not linger in hotspots to improve your count, as this will bias results
- **'Recording box'** 2m either side of you, 4m ahead, 2m from ground up
- Where possible record the caste (queen, worker, male) of each individual as well as species, include number of unknown
- When you move into a new section remember to record this on the form
- Double-check for errors and omissions
- 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. 46 rather than 40+)

Meadow Maker next steps...

1. Obtain survey kit
2. Set up transect and confirm route with Sue (June 2020)
3. Walk two transects before hay cut
4. Ensure you complete a new recording form correctly each time
5. Identify species including caste
6. Send completed recording forms to Sue once complete



- BeeWalk - bumblebee monitoring scheme
- National scheme gathering data on abundance and distribution to detect population decline over time
- Volunteers walk a monthly transect 1-2km from March to October (ID and count)



Bombus bohemicus © Steven Falk

- Choose a convenient accessible site
- Route is split into sections based on habitat
- Transect is registered on the website

www.beewalk.org.uk

Site details

View

Edit

Site Details | Your Route | Section Details

Transect Details

Transect Name:

This site has walks recorded on it. Please do not change the site details without considering the impact on the existing data.

Grid Ref.:

Click on the map to set the central grid reference.

The Site Code will be allocated by the Administrator.

Site details

Details

County:

No. of sections:

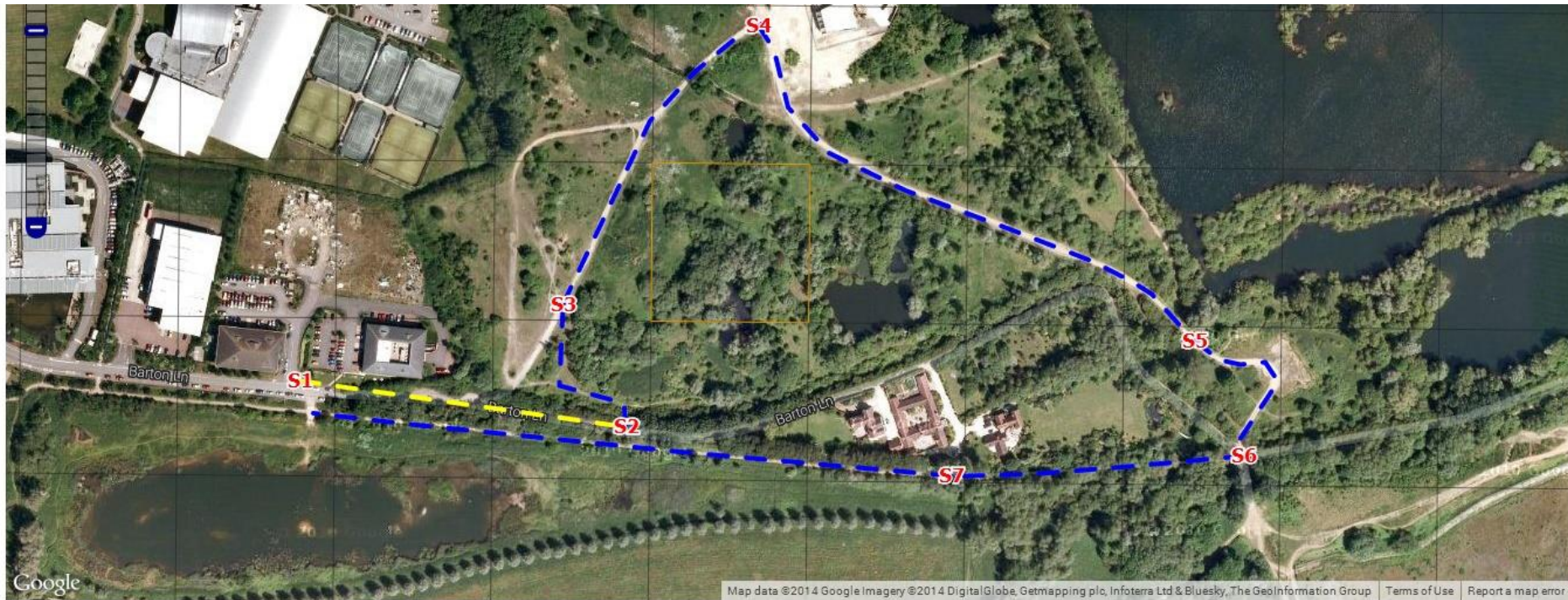
Overall Length (m):

Year Established:

An aerial satellite map from Google Maps showing a rural landscape with fields, trees, and a road labeled "Barton Ln". A yellow rectangular area highlights a specific section of the land. A vertical scale bar and navigation controls are visible on the left side of the map.

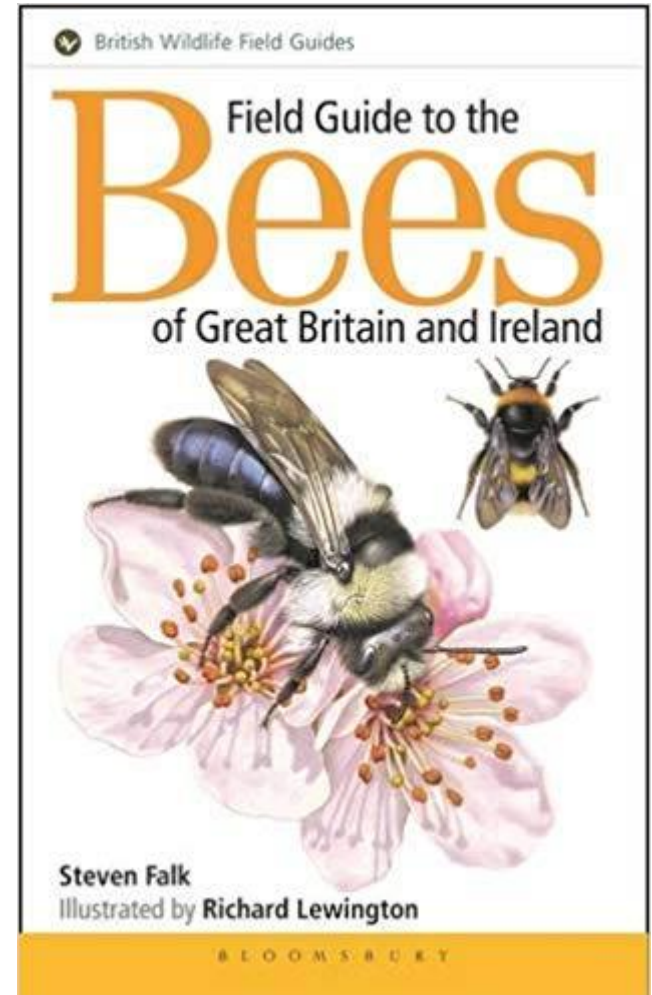
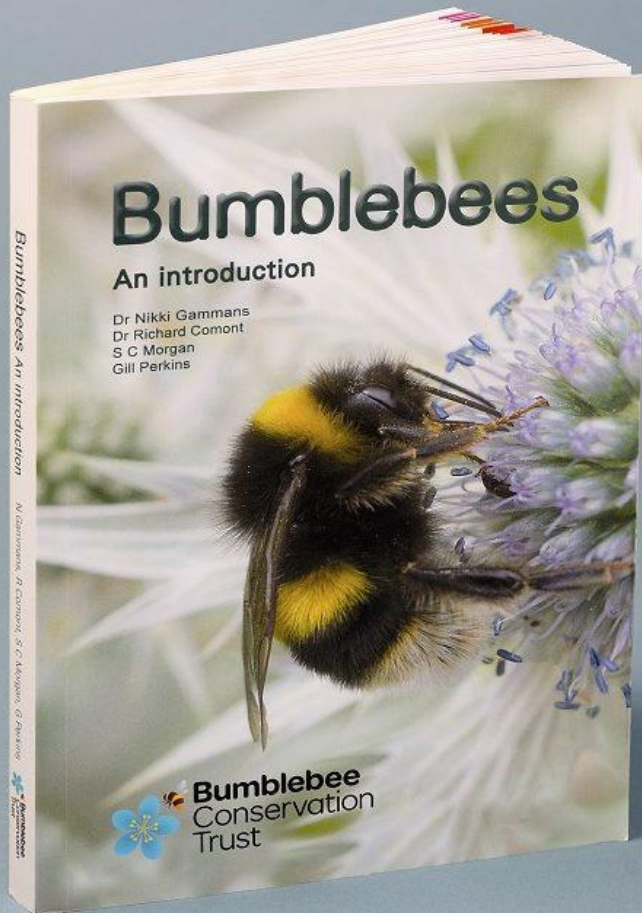
Survey and monitoring - bumblebees

- Transect walked between 11.00 and 17.00 when it is warm, not too windy, no rain
- Bumblebees (and honeybees) recorded within a 4x4x2m recording box



- Bees, Wasps and Ants Recorders Society (BWARS)
- Herefordshire Biological Records Centre
- iRecord
- UK Pollinator Monitoring Scheme - Flower-Insect Timed Counts (PoMS FIT count)





Time for any questions



Next week - Bumblebees – The ‘Big 7’



Tree bumblebee



Common carder bee



Red-tailed bumblebee



Buff-tailed bumblebee



White-tailed bumblebee



Garden bumblebee



Early bumblebee



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wouldn't exist
without bugs*

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your support**

mouthfuls of our
food depends on
insect pollination

Email: info@buglife.co.uk

**3
IN
1**

2/3

**OF THE
known
species
ARE
ON EARTH
invertebrates**



Some
AQUATIC
invertebrates are
VITAL
to maintain
GOOD
QUALITY
FRESHWATER
habitats



90%

**of wildflowers
depend on insects
pollination**



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