UK- Butterfly Monitoring Scheme
Fixed-route transects

The UK Butterfly Monitoring scheme is a partnership project between Butterfly Conservation, The UK Centre for Ecology & Hydrology (CEH), The British Trust for Ornithology (BTO) and The Joint Nature Conservation Committee (JNCC).

This information is taken from the UK-Butterfly monitoring scheme website (www.ukbms.org) and gives more detailed information on the survey method.

Ensuring data consistency

If results are to be comparable from year to year, it is important to follow the standard methodology and remain consistent. By walking exactly the same route, recording the butterflies and the weather conditions weekly, during the months that butterflies fly, the results provide information on changes in butterfly numbers over the site in relation to UK trends (e.g. due to changes in management).

When do I do my transect walk?

Once a week from 1st April – 29th September (*or as required in your group).*

As many weeks as possible should be walked, as gaps reduce the quality of the data and too many render it virtually useless.
The walks could be brought forward to late March and extended into early October if the weather is suitable. As many weeks as possible should be walked. Weeks run from 1-7 April etc. regardless of the day.

Time of week: Try and walk the first opportunity the weather is suitable that week on any day. You only need to record more than once a week if the weather on your first walk did not meet the criteria.

Time of day: Walk between 10:45-15:45
Between 10:00 and 17:00 hours is usually allowable, though butterfly activity may drop off rapidly during the late afternoon, so later times should be avoided.

Weather conditions:

Check the weather before you go out and only carry out the walk in warm, bright weather which meet the following conditions:

- Don't walk when the temperatures are below 13°C
- Don't walk when it is raining
- The minimum criteria are 13-17°C, with at least 60% sunshine.
- Over 17°C in any amount of sunshine (including none).
- Windspeed should be no more than 5 on the Beaufort scale (unless the transect route is sheltered from the wind – *which it isn't*, the Beaufort scale is shown below).

If you miss a week: Keep going and don't worry! It is possible to estimate at a later date the numbers seen for the missing week.

What equipment do I need?

- Use the recording form provided
  (*UK-BMS F2 form has been adapted to be site specific – a draft is below*).
- Use a new recording form for each visit.

Equipment:

- Recording form
- Spare sheet of paper
- Pencil
- Clip-board
- Binoculars (optional)
- Thermometer (*a cheap one is fine*)
- Butterfly ID sheet
  (*Consider buying - Guide to the Butterflies of Britain by the Field Studies Council - £4 from FSC*)

How do I fill out the recording form on site?

(*A site check list has been developed to help you record all this information and will be sent separately)*

The transect is divided into sections based on changes in habitat and management type, these sections will be labelled on the transect map.

1. Complete the top of the form before the start time
2. Record the start time
3. Record each section only once
4. Record butterfly numbers and % sunshine for each section
5. Add any additional records/info into the notes
6. Record the finish time
7. Make notes of any management activities or other points of interest
8. Check that you have filled in all the relevant boxes on the recording form
9. Calculate the butterfly totals and average % sunshine for your walk (*this can be done at home*).

How do I record the weather?

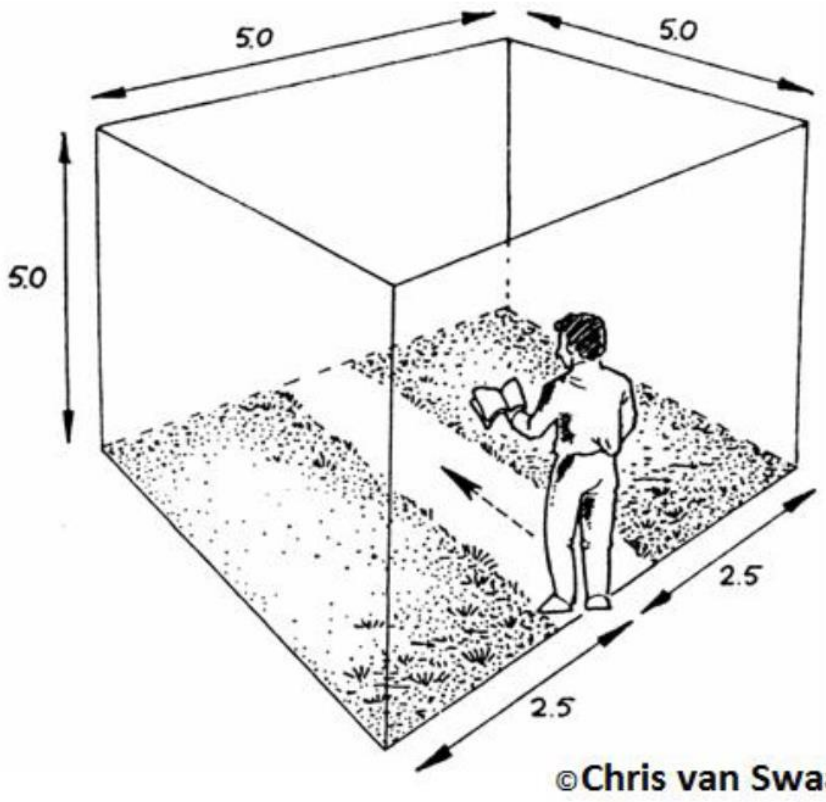
- Place a thermometer in the shade at the beginning of the transect
- Wind speed should be estimated using the Beaufort scale
- Wind direction can be taken from the weather forecast and checked on site
- Record % sunshine in each section as you go along
  Sunshine should be estimated to the nearest 10% of the time it was sunny while you were walking that section. If a distinct shadow is cast (bright cloud) then conditions may be classed as sunny.
- Record the shade temperature at the end of the walk (*and retrieve the thermometer*)

The Beaufort Scale

Code	MPH	Description	Specifications on land
0	0-1	Calm	Smoke rises vertically
1	1-3	Light air	Slight smoke drift
2	4-7	Light breeze	Wind felt on face & leaves rustle
3	8-12	Gentle breeze	Leaves & twigs in constant motion
4	13-18	Moderate breeze	Raises dust & small branches move
5	19-24	Fresh breeze	Small trees in leaf begin to sway
6	25-31	Strong breeze	Large branches move & trees sway

How do I record the butterflies?

- This transect is fixed. So, always follow exactly the same route each time you make a transect walk. This makes your data more accurate.
- Walk the transect at a slow, steady pace counting all butterflies seen within a fixed distance - 2.5m either side of the transect line, 5m ahead and 5m above.



- Try to avoid double counting where possible (e.g. when an individual butterfly repeatedly flies in and out of your recording zone).
- If you lose sight of an individual and see the same species later do not assume this is the same individual.
- Do not count butterflies behind you.
- Do not stop walking and wait at favoured hotspots to improve your count, as this will bias results.
- Record the actual number seen – but an estimate will do if it is not possible to be exact.
- Try to identify and separate all the species. If similar species, such as small skipper and Essex skipper are flying together, you may want to net a sample (a small clear pot can be used to confine the butterfly while you identify it – do this in the shade). Then determine the proportion of each species present and divide your overall count accordingly.
  E.g. if you net 8 small skippers and 2 Essex skippers a count of 30 'small' skippers can be converted to an estimate of 24 small skippers and 6 Essex skippers.
- If you see an interesting species outside your recording area these should not be included in the transect count, it can be recorded in the notes section at the foot of your form (or on the back).
- Record butterfly numbers and % sunshine in each section as you go along.
- Don't worry if you don't see any butterflies a negative result is still a valid result.

Who should record a transect and what if I take a friend?

Recorders should have reasonable eyesight and mobility and be able to accurately identify butterflies in natural situations.

Ideally transects should be recorded by a single recorder (with a second recorder to cover), as this eliminates recorder bias. Increasingly, transects are operated by a team of recorders. In this case, it is vitally important that all recorders know:

- The exact route to walk
- The start and end of each section
- The recording area limits (2.5m either side, 5m in front, 5m above).
- *Groups will need to work together to make sure they are recording consistently. We can work this out during training and through group chats.*

When accompanying a recorder:

- Walk almost alongside or just behind the person recording,
- Do not obstruct their line of sight (or distract them).
- Only the butterflies seen by the recorder should be recorded.

New recorders should be taken on a transect walk with the main recorder two or three times before recording on their own and they should check the forms together to ensure all the data is entered correctly.

How do I submit my data?

All transect data should be submitted through the UKBMS online data entry system at www.ukbms.org/mydata. In order to submit data, you will need to register for an account on the website and endure that the relevant transect routes are linked to your account (*Julia and I will help set this up*).

Please ensure all data are submitted by 31 October each year to allow your local co-ordinator time to verify the records. Keep hold of your F2 weekly recording forms until the following spring, in case any queries arise.

Your submitted UK-BMS data and the General Data Protection Regulations

Please take a look at the UKBMS Privacy Notice (ukbms.org) to see how your data is used.

When you submit data to the UKBMS your name will be included alongside the survey information to form the biological record. You may be contacted by Butterfly Conservation (BC) with queries about the records to validate and verify them and therefore your name and best contact details will be stored.

We also collect information automatically about any visits to the UKBMS website, we use this information to monitor website performance, design, summary statistics and protection.

Your data may also be shared with BC volunteers to enable them to carry out their role. Your records will be shared with other organisations for the purposes of scientific research and your name may be included as part of the scientific records in these datasets.

Site name: | Week number:

Date (day/month/year): | Start time: | Finish time:

Average temp. °C: | Wind speed: | Wind direction:

Section	1	2	3	4	5	6	7	Total
Skippers								
Small skipper								
Essex skipper								
Small/ Essex skipper								
Large skipper								
Whites								
Brimstone								
Large white								
Small white								
Green-veined white								
Orange-tip								
Blues								
Small copper								
Brown argus								
Common blue								
Holly blue								
Vanessids & Fritillaries								
Red admiral								
Painted lady								
Small tortoiseshell								
Peacock								
Comma								
Browns								
Speckled wood								
Marbled white								
Gatekeeper								
Meadow brown								
Ringlet								
Small heath								
Hairstreaks								
Brown hairstreak								
Others								
TOTAL								

Section	1	2	3	4	5	6	7	Average sunshine
% SUNSHINE								

Notes: