

Counting Dorset's Butterflies & Moths



**All you need to know about recording
butterflies & moths in Dorset
Twelfth Edition 2023**



Introduction

This booklet is about why we need to record butterflies and moths, and how to become involved in Dorset.

Dorset is lucky – it has a wide variety of habitats and a coastline which gives it a large number of butterfly and moth species. It is also fortunate in having a very active branch of Butterfly Conservation which co-ordinates the recording and use of the data captured.

We have written the text as both an introduction to people new to butterfly recording, and to be a quick reference guide for more experienced walkers.

Happy Recording!

Robin George & Lyn Pullen

Front cover shows a Peacock, a Red Admiral and a Small Tortoiseshell.
Photo: Dave Law.

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Why record?

Counting butterflies and moths is important. Many species are reducing rapidly in number: in the UK, long-term trends show that 80% of butterfly species have decreased in abundance or distribution. If we are to reverse this decline, we need to understand why this has happened.

To monitor the progress of a species you have to record its numbers and distribution over the years, and to link this data with other information such as climate and land management. This, hopefully, leads to being able to deduce why a species is reducing in numbers. This in turn enables us to try to alter the way in which its habitat is managed, to aid the species' recovery.

It is obvious that this monitoring and the subsequent work need to be carried out on a national rather than a local scale to be truly effective. The first UN Biodiversity Treaty was signed at the Earth Summit in Rio de Janeiro in 1992. This led to the UK government establishing biodiversity indicators to measure its success in

complying with the treaty. The targets were updated in 2011 (the Aichi targets). The COP15 meeting in December 2022 is the most recent conference about the Biodiversity Treaty. The latest set of UK biodiversity indicators, published in December 2022 includes an indicator based on butterflies: see www.jncc.gov.uk - Our Work - Biodiversity Indicators, Section C6.

But who can do all this monitoring? The answer is that a lot of it is done by amateurs who volunteer their time. Entomology is one of the areas of science where it is still possible for the amateur to be heavily involved and to make a real contribution to scientific knowledge. Look at the "Millennium Atlas of Butterflies in Britain and Ireland" (see page 6): the vast majority of the huge quantity of data used in this very important work was recorded by volunteers. It is also the data collected by amateurs which has made it possible for researchers to provide sound evidence for the approach of climate change via earlier emergence of many common species and their spread northwards.

There are various ways in which the recording can be organised, and the methods used in Dorset are the subject of this booklet. Each has its own purpose and suits different people, from the very involved recorder to the person willing to jot down what they see on their way to the shops.

Monitoring butterflies need not be an onerous task: they mainly only come out in good weather. Moths are rather different, but

have a fascination all of their own, with a beauty both in their appearance and their names.

Have a look through the booklet, decide which methods of monitoring suit you and give it a go—you'll soon be hooked.

Please note that the term “monitoring” refers to ascertaining the abundance of butterflies, while “recording” measures the range across which a species is found.

Learning to identify and record butterflies and moths

There are only some 60 butterfly species in the British Isles, so the task of learning them is not too demanding. Do remember that there are a lot of day-flying moths, too.

There are several possible approaches to learning about butterflies: you can go online, read books, attend lectures, or go out into the field with experienced butterfly watchers. Your best bet is probably to do all four, suiting the method to the season.

Online

Our Branch website: **www.dorsetbutterflies.com** is a very good starting place: see the box opposite.

The website of the national Butterfly Conservation, is at **www.butterfly-conservation.org**. Offers help with butterfly and moth identification.

www.dorsetmoths.co.uk
A great resource for local moth information.

On the Species pages:

- **Identification details** of the butterflies you are likely to find in Dorset, with lots of tips from us on how to tell one species from another. You may be able to identify a life stage other than the adult butterfly, so information on the plants each species' caterpillars eat is included.
- **A size guide** - the Chalkhill Blue is a lot larger than the Silver-studded Blue, so size is helpful to identification.
- **Flight times.** A chart helpful to local recording, as it is based on Dorset sightings. This chart is reproduced in this booklet on pages 18 & 19.
- **A map of where each species has been recorded.** Some butterflies are very restricted in their range, so this can be another clue to identification,

On the Recording pages:

- **Recording Form.** An easy way to report your sightings.
- **Recent sightings.** If you think you have seen a certain species, check to see if others are reporting it.
- **First sightings.** Is your species on the wing yet?
- **White holes.** If you want to help with recording butterflies in Dorset, this page shows you which areas are currently under-recorded. Searching out areas with no or few sightings reported can lead you to some fascinating bits of Dorset.

www.ukmoths.org.uk

Over 7,000 photos of moths.

iRecord Butterflies is a free app which will help you to both identify and to record butterflies.

https://shiny-apps.ceh.ac.uk/whats_flying_tonight/

Will show you what moths are currently flying in your area.

There are also Facebook and Twitter groups which will help identify your photos. These include:

Our own Twitter page, BC_Dorset, but please limit this to species seen in Dorset: we are a small voluntary group and cannot take on a wider role.

UK Moth Identification on Twitter: @MOTHIDUK

The wonderful wildlife illustrator Richard Lewington will help identify caterpillars on Twitter: he is @rlewington2

Books - Butterflies

Richard Lewington. **“Pocket guide to the butterflies of Great Britain and Ireland”**. British Wildlife Publishing. Second ed. 2019. Field guide with the butterflies shown life

size in both natural and “set” (wings spread) positions. Also shows other stages in the life cycle and some day-flying moths.

Newland, Tomlinson & Still. **“Britain’s butterflies”**. WILDGuides 2020 (4th ed). Field guide with multiple photos of each species as adults, caterpillars, pupae and eggs.

Jim Asher, et al. **“The Millennium atlas of butterflies in Britain and Ireland”**. Oxford University Press, 2001. Not an identification guide, but a superb book about butterflies in the late 20th century, which uses the recording work of hundreds of volunteers throughout the British Isles.

Jeremy Thomas & Richard Lewington, **“The Butterflies of Britain and Ireland”**, British Wildlife Publishing. 2019 (revised edition). Not a book you can carry with you in the field, but excellent text and illustrations which show the male and female butterflies as well as the other life stages.

Jeremy Thomas. **“Philip’s Guide to Butterflies of Britain and Ireland”**. Philips. 2014. Possibly a bit dated, but still a

good guide (replaces the earlier Hamlyn edition). Covers each species separately but also gives side-by-side pictures to aid identification of similar species.

Peter Eeles. “**Life cycles of British and Irish Butterflies**”. Pisces 2019. Illustrates each life stage of our butterflies.

Books—Moths

Paul Waring & Martin Townsend. “**Field guide to the moths of Great Britain and Ireland**”. British Wildlife. 2017 (Third ed). Illustrated by Richard Lewington. Shows the moths in their natural resting positions rather than in the traditional “set” (wings spread) position. There is also a reduced version: “**Concise guide to the moths of Great Britain and Ireland**”. British Wildlife Publishing. Second ed. 2019.

Sterling, Parsons and Lewington. “**Field guide to the micro-moths of Great Britain and Ireland**”. British Wildlife Publishing 2012.

D. Newland, R Still, & A Swash. “**Britain’s day-flying Moths**”. WILDGuides. Second edition 2019.

Books—Caterpillars

Jim Porter. “**Colour identification guide to the caterpillars of the British Isles**”. Viking, 1997. Many of the caterpillars you will find in your garden are those of moths rather than butterflies, and may alert you to species of moth you would not see as adults.

Tim Crafer. “**Foodplant list for the caterpillars of Britain’s butterflies and larger moths**”.

Atropos 2005. As the title suggests, this is just a list, but starting with the foodplant is often your best way of identifying the caterpillar.

Lectures and walks

The Dorset Branch of Butterfly Conservation arranges an excellent series of indoor and outdoor talks and walks every year: see the branch website, www.dorsetbutterflies.com.

Other events in Dorset are run by different organisations, and you can find out about them from various publications and websites, including the following:

- **Dorset Wildlife Trust.** See www.dorsetwildlifetrust.org.uk or tel 01305 264620.

- **www.visit-dorset.com** can be searched under “nature/green events”.
- **Moors Valley Country Park (East Dorset)**
www.moors-valley.co.uk .
- **Avon Heath Country Park (East Dorset)**
www.dorsetcouncil.gov.uk and look under “Countryside, coast and parks”.
- **Durlston Country Park (Near Swanage)**
www.durlston.co.uk

Nationally, the **Field Studies Council** holds residential courses in venues throughout the UK. Tel 01743 636114 or www.field-studies-council.org. There are some butterfly/moth courses.

Some general advice on identifying butterflies

Identifying butterflies and moths can be made easier by doing a bit of research before you go out:

- What time of year is it? Most butterflies are only on the wing for a few weeks each year, so check the flight times chart on the centre pages of this booklet to find out what species are likely to be about.
- Many butterflies stick to

certain habitats – Speckled Wood are found in wooded areas, Marbled Whites in grassland, etc.

- What part of the British Isles are you in? The Lulworth Skipper is only found on the south coast, while the Northern Brown Argus only appears in northern England and Scotland.
- How is the butterfly behaving? If it’s blue and it’s flying along the top of a hedge, it’s probably a Holly Blue – none of the other Blues tend to fly this high.

Learning how to record butterflies

Read this booklet! Dorset Branch also organises annual

meetings of the butterfly walkers in the north, south, east and west of the county where you can talk to the walk organisers and hear about the results of the year’s monitoring. You could also go on any of Dorset Branch’s walks and talk to the leader. There are plenty of people willing to help you – just ask!



Sending in your records

It is helpful to us if you can send your records digitally, but paper records are also welcome: please contact Robin George for details of the latter.

As of 2021 our Branch database held records of more than 5 million butterflies!

1. The best method for occasional recorders is to use our website: www.dorsetbutterflies.com where you will find a map-based recording form that makes working out your grid references easy.

Please note: your record can only be used properly if you put in a map reference. (see page 17). Also, please answer the question “Will you be sending this information via other means?” This prevents your record being double counted. It would be preferable for you to send in your records only once, but we know some people want to tell others of their sightings immediately even though they will be sending them in as part of e.g. their transect walk results later.

2. There is now an app for your smartphone, designed to help you identify the butterfly as well as record it: go to iTunes or Google Store for *iRecord Butterflies*.

3. If you are sending in a large number of records from many different places and do not wish to use the website, we can supply a pre-formatted spreadsheet for you, which makes it easier for us to process your records - please contact Robin George.

4. If you normally send records besides butterflies to the Dorset Environmental Records Centre you can now register for their Living Record scheme. Go to www.derc.org.uk and click “Living Record” in the top bar. Once registered you can enter your records directly on to a map.

We receive butterfly records from both Living Record and iRecord, so please do not duplicate across these various schemes.

What happens to the records?

Explaining what happens to the records in detail would take a lot of pages, so the following is a rather simplified outline.

All records which ultimately feed into official databases are verified by us to ensure that obviously false recordings are not used. It is easy to slip a line when filling in a form, or for a new recorder to mis-identify a butterfly, and the verifier will use their knowledge of butterflies to pick up unlikely records. The verifier may contact the recorder to talk about the record. When you realise that we receive around a quarter of a million records a year, you can see our verifiers are busy people!

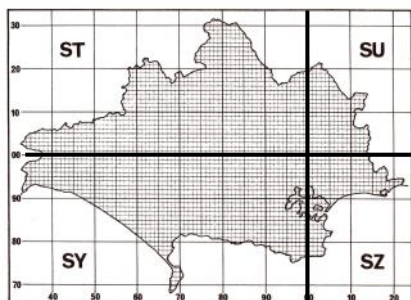
After verification, all records which were not entered online are computerised. The computer records themselves are then validated to check for any errors in data entry. Final versions of the database are ultimately passed by Dorset Branch to the Dorset Environmental Records Centre, and to the national Butterfly Conservation, and end up in the UK Butterfly Monitoring Scheme (UKBMS) databases. The UKBMS is run as a partnership between Butterfly Conservation and the Centre for Ecology & Hydrology. The scheme also benefits from active involvement of the National Trust, RSPB and Forestry England plus wildlife trusts and local authorities; it is funded by a multi-agency consortium

These records are then used in myriad ways to help improve our knowledge of butterflies and their habitats. Dorset has an impressive range of data, which is very heavily used, not least because some of its transect walks have been going for well over 30 years now. This long time scale helps overcome temporary recording “blips” (like the lack of records in early 2001 due to the foot and mouth restrictions) and also helps researchers to see how changes in the numbers of butterflies are linked to weather and to the way the land has been managed (assuming this data is available).

Using map references

A “Map reference” or “Grid reference” describes the place you have seen a butterfly very accurately so you must use them to record your sightings. The country has been divided up into squares by Ordnance Survey, and these squares are given letters and numbers.

Each lettered square is further divided into numbered squares.



Dorset covers part of four of the lettered divisions on OS maps: ST, SU, SY and SZ.

These days, there are many GPS gadgets that can work out your grid ref: from a smartphone app to a dedicated GPS device. Some devices give longitude and latitude rather than a grid reference: if you need to turn long/lat into a grid ref, use

www.gridreferencefinder.com. Another way of finding the grid ref is to use our website www.dorsetbutterflies.com. On the “submit sightings” page is a map tool you can use to precisely pin-point where you saw your butterfly, which will automatically provide the grid ref; it offers a ‘Google Earth’ type view, which can be very helpful. You can also see the latitude and longitude figures for the location.

A grid reference can be given with various numbers of digits: the more digits the more precise the location. For our use, we are happy with four or six digits for most species, but for rarer species, the more digits the better. Our own website recording form goes up to six digits. If you have GPS, and are seeing a longer number, the way to reduce it is to count the number of digits in the complete number and divide it by two, which gives the numbers indicating east/west and north/south separately, then quote the first (say) three digits of the first half of the number followed by the first three digits of the second half of the number. So

8561285403 becomes 856854.
There is also a way of converting a postcode to a grid reference - www.gridreferencefinder.com. Enter the postcode and then click on the pin which appears on the map.

If you want to use a physical map, you will need the Ordnance Survey map for the appropriate area - 1:50,000 or the 1:25,000 scale map.

There is a panel to the side of every OS map which gives the key and shows which lettered squares this map covers. Some also show the letters on the four corners of the map itself.

The 100km squares on the map are then divided into kilometre squares, described with numbers. These are shown at the bottom of the map by a row of numbers called Eastings, and up the sides by another row of numbers, called Northings. Record the Easting first and the Northing second—think of an aeroplane which has to go along the runway before it goes up into the sky.

These numbers allow you to identify a kilometre square:



Portland Bill, for example, is in square 67/68, 67 being the Easting and 68 the Northing.

To give even more accuracy, you imagine each of these squares divided into another ten squares, so if your butterfly was seen halfway between 68 and 69 you describe it as 685; if it was very near 69 but not quite there it is described as 689. There is a degree of estimation in this, but it is possible to be quite accurate. You use the same technique for the Northings, so Portland Bill is more accurately described as being at SY 677683.

Ordnance Survey have some videos to help you understand grid refs: <https://getoutside.ordnancesurvey.co.uk/guides/beginners-guide-to-grid-references/>

Method One: Recording every butterfly you see

We all see butterflies: as we look out our window, as we go to the shops, on the walk we take.

You may feel that recording a few common butterflies isn't very worthwhile, but it is. Species which were once common in Dorset are now rare, and we want to ensure that this does not happen to more of them. We need to identify downward trends early, so noting down even a Large White is a valuable exercise.

It is also very helpful to record away from the known hot-spots for butterflies, which do not give a realistic idea of how various species are doing more widely.

This method of recording is as simple as sending us a record of any butterfly you see. See page 9 for how to send in your records.

Sorry to have to say this...

Helping butterflies and moths costs money. Our main expenses are maintaining our Butterfly Reserves, sending out newsletters and keeping our website going. Only a very small proportion of membership subscriptions are passed to the branches of Butterfly Conservation.

As of 2023 we have money in the bank, but our outgoings exceed our income, so in a few years we will have to make severe cuts unless we can increase our income.

Donations can be made via our Branch website www.dorsetbutterflies.com, or please remember us in your will (you will need to specify the money is to come to the Branch if that is your intention).

Method Two: Recording in your garden

Recording in your garden is easy and satisfying.

You can build up your own count of the number of species you see and perhaps introduce plants to attract more. A small urban garden should attract at least six species, while a large garden in a rural setting could see over twenty.

There are currently both paper and online recording methods.

Paper forms can be obtained from the Butterfly Garden Records' Co-ordinator Adrian Neil (see contacts list inside back cover) or you can print one off from www.dorsetbutterflies.com/recording/become-a-recorder. Completed forms are sent to Adrian at the address on the form.

There is also a national online system: www.gardenbutterflysurvey.org. The branch will receive the records from this, though it does not give us the personal contact with you which we value.

Adrian Neil collates the Dorset garden butterfly records from both sources each year and reports back at our four 'Butterfly Trends' meetings early in the next year and in our annual Butterfly Report. See www.dorsetbutterflies.com for details of the Butterfly Trends meetings.

Please do not count the butterflies every day: you will often be reporting the same individual butterfly. Report species you have not seen before this year, or all your sightings perhaps once a week.

For tips on gardening for butterflies, see www.dorsetbutterflies.com or butterfly-conservation.org.

If you prefer books, try:

Butterfly Gardening, a book written from the author's own experience, by Jenny Steel. This started life as a pamphlet but is now a book, published by Brambleby Books in 2015.

Attracting butterflies to your garden

As gardeners, we can do a lot to help butterflies, though you have to be realistic about the species likely to visit; some species need very precise habitats which gardens do not provide. Plants which help butterflies and moths will help other pollinators such as bees and hoverflies as well.

Do not use weedkillers or pesticides and don't be too tidy: leaf litter may well contain chrysalises, so if you need to sweep it up, put it somewhere to allow any butterflies/moths to emerge.

As well as flowers for nectar, it is very important to provide leaves for caterpillars to eat. Grow single flowers, not doubles, and have some old-fashioned flowers and wild flowers. Caterpillars are best with native plants, but adult butterflies can use some introduced species.

Blooms with lots of flowers in a single head are good: the insect can access lots of food without wasting energy flying between them.

Plant in the sun - butterflies won't nectar on plants in the shade.

Try for a long season of nectar so they have food from early spring through to late autumn.

Think of moths as well as butterflies - you may not see them so often, but they are there.

Suggested plants: buddleia; verbena bonariensis, perennial wall-flower, sweet rocket (caterpillar food as well as flowers for nectar); sedum, scabious-type flowers.

See our website for more ideas.

Method Three: Recording near your home

This is a method to encourage you to methodically record butterflies in the nine kilometre squares centred on your home, and is therefore particularly suitable for those who do not drive.

There is nothing special about how the butterflies are recorded in this method – you still record every butterfly you see, (page 9 gives details of how to send them in). The distinguishing factor is that you concentrate on the area around your home to give you a focus for your recording.

It is easiest to see the Ordnance Survey grid reference (see page 12 for more explanation of grid references) lines on a printed map, so obtain a printed Ordnance Survey map of the area around your house, and identify the kilometre square within which it falls. You then identify the eight squares which surround this central square, and this is the area you aim to survey.

There is an online version,

though it is not so easy to use: <https://britishnationalgrid.uk/>
This will enable you to come up with nine squares something like:

79 85	80 85	81 85
79 84	80 84	81 84
79 83	80 83	81 83

You will probably need to stick to the roads and footpaths available, to avoid trespassing, but if you know the local landowners you can always ask them for permission to go onto their land.

It is helpful if you can aim to cover the area more than once a season, as different butterflies are on the wing in different months.

Use the information on the butterfly identification and flight times chart (pages 14 & 15) to help you identify which species you might see in the habitats within your squares. The flight plan will also guide you as to

which months to go looking for which species.

The fascinating thing about this method is that it often leads to you finding footpaths and habitats quite close to your

home that you never knew existed. We had quite a few people try this method during the Covid lockdown and report they were finding good little butterfly sites which they had previously not known.

Health and Safety for all recording

- Do not trespass. Walking needs to be done along roads or footpaths/bridleways unless you have permission from the landowner.
- Shut all gates behind you.
- Keep dogs under control.
- Do not light fires.
- Park your car where it is not going to cause any problems and it is not on private property.
- Wear stout footwear unless you are going to be on a road or well-surfaced path all the time.
- Wear long sleeves and trousers against ticks which can cause Lyme Disease.
- Let someone know where you are going.
- On hot days, take something to drink and wear a hat.
- Consider downloading what3words.com on your phone so you can give the emergency services a precise location in the event of an accident.

Flight times of D

	April					May					June					July				
Small Skipper																				
Essex Skipper																				
Lulworth Skipper																				
Silver-spotted Skipper																				
Large Skipper																				
Dingy Skipper																				
Grizzled Skipper																				
Clouded Yellow																				
Brimstone																				
Large White																				
Small White																				
Green-veined White																				
Orange-tip																				
Wood White																				
Green Hairstreak																				
Brown Hairstreak																				
Purple Hairstreak																				
White-letter Hairstreak																				
Small Copper																				
Small Blue																				
Silver-studded Blue																				
Brown Argus																				
Common Blue																				
Chalkhill Blue																				
Adonis Blue																				
Holly Blue																				
Duke of Burgundy																				
White Admiral																				
Purple Emperor																				
Red Admiral																				
Painted Lady																				
Small Tortoiseshell																				
Large Tortoiseshell																				
Peacock																				
Comma																				
Small Pearl-bordered Fritillary																				
Dark Green Fritillary																				
Silver-washed Fritillary																				
Marsh Fritillary																				
Speckled Wood																				
Wall																				
Marbled White																				
Grayling																				
Gatekeeper																				
Meadow Brown																				
Small Heath																				
Ringlet																				

Information on this chart was drawn from Dorset flight times as recorded by the Dorset Branch

morset butterflies

	Aug	Sep	Habitat
			Open/rough ground, clearings
			Open/rough ground, clearings
			South-facing Purbeck hillsides
			South-facing close-grazed downland
			Open/rough ground, clearings
			Open/rough ground, clearings
			Open/rough ground, clearings
			Downland, but anywhere
			Woodland, downland, lanes, gardens
			Anywhere, gardens
			Anywhere, gardens
			Woodland rides, lanes
			Woodland rides, lanes, meadows, gardens
			Woodland rides, clearings
			Downland, scrubby commons
			Uncut Blackthorn scrub
			Mixed Oak/Ash woodland
			Flowering Elm hedgerows
			Widespread. Downland, open rough ground
			Downland, short turf calcareous area
			Heathland rides/firebreaks
			Mainly downland, some woodland
			Downland, open rough ground
			Chalk/limestone downland
			Sheep-grazed calcareous downland
			Lanes, rides, gardens, anywhere
			Downland, woodland rides/clearings
			Woodland
			Deciduous or mixed woodland
			Woodland, gardens
			Anywhere, gardens
			Anywhere, gardens
			Woodland edges, wooded lanes
			Anywhere, gardens
			Widespread, countryside, gardens
			Coppice, woodland rides, commons
			Downland
			Woodland
			Meadows, rough ground, downland
			Lanes, hedgerows, shady glades, gardens
			Downland
			Downland, open rough ground
			Heathland, some downland
			Lanes, hedgerows, long grass., gardens
			Lanes, rides, long grass, gardens
			Damp long grass, bracken
			Downland


Method Four: Filling White Holes

White holes is a term coined by Dorset Branch. Butterflies are recorded in five-year cycles, and as each sighting comes in, the kilometre square in which it occurred is “filled”. A white hole is when no record for that square has been received. At the end of the five-year cycle, all squares are wiped clean and we start filling them again.

This approach has really taken off thanks to our almost real-time recording on our website. Go to “Recording” and then “White Holes” and you will find a map showing how many sightings have been recorded in each square. In practice, there are a few variations:

- Sightings reported to the website up to the last month or so are shown by the square being filled in light red (1-9 butterfly species seen) or red (10+ species seen). Clicking on any square will show a message giving the grid reference for

the square and saying either “No species recorded yet” or listing the species recorded. In practice, this is updated as soon after the end of the month as our volunteers can achieve.



We count Dorset as having 2,915km squares. There are a lot round the edges that could be counted in or out.

- Sightings reported in the last 31 days can be brought up by ticking the “Last 31 days” box. This will bring up pins for any sighting in a square - click on a pin and you will see what species were recorded.

- Results from our transect walks and from other schemes such as the Big Butterfly Count or LivingRecord are added at the end of each year.

In 2021 our website was the second largest source of butterfly sightings after our transect walks, recording nearly 70,000 butterflies. These records have the advantage of recording all year, not just the April to September transect season.

Method Five: Transect Walking

A transect walk is a butterfly-monitoring walk which takes place once a week from the beginning of April to the end of September at the same place. It follows the same route every time, and there is a set of rules for how the walk and count are done which ensure the results are comparable over a period of time.

We do also have some targeted transect walks, which because they are aimed at recording a specific species, only take place when that butterfly is likely to be on the wing. They are usually undertaken by a single walker rather than a team of walkers.

Background

The concept of transect walking was devised in the 1970s by Dr Pollard. The area to be monitored is divided into sections (called sectors), which have their own types of habitat. E.g. sector one might be through woodland, sector two through scrub and sector three through open grassland. A walk is then planned to pass through all the sectors, which is walked once a week, counting the number of butterflies of each species seen

in each sector.

The point of the walk is not to produce an accurate count of all the butterflies in the areas being walked, but to make a statistical sample to enable a measure of any fluctuations from week to week and year to year. This type of controlled, long-term counting allows data to be gathered which can be used to manage the land being walked, for example, if a change in the timing of the grazing of the site has had an effect on the butterflies.

Sometimes cause and effect are fairly easy to deduce, but often it is unclear as to whether the decline in the population of a given species is due to a factor under local control (e.g. habitat management), or due to an external factor such as the weather. This problem is addressed by all transect walks in the UK being brought together in a central database. This is called the UK Butterfly Monitoring Scheme and is run jointly by Butterfly Conservation and the Centre for Ecology and Hydrology. www.ukbms.org

Dorset has been running transect

walks for over 40 years: Ballard Down started in 1976. This sort of long-term data is invaluable. A wide variety of walks is now running, with a variety of long and short walks and different habitats. Some of the walks are on private land, with the landowners' permission.

More walkers are always needed. One big advantage to doing transect walking is that the walk has probably been done for several years already, so there are records showing what butterflies you are likely to see in each sector, taking some of the guesswork out of identification for the less confident walker!

If you are able to volunteer, then you will be put in touch with the organiser of the walk you want to do, who can probably find somebody to do the walk with you at first, to help you with both the route and the butterfly identification. Beyond the walking, all you have to do is record your findings in a particular way. A few walks are done by a single walker throughout the season, but most are shared by a team of walkers who sign up to do specific weeks. You will agree with your walk organiser at the beginning

of the year which weeks you will walk.

The walking year is divided into 26 weeks: see the box on page 23 for a list of week numbers (needed when you fill in the recording form).

If you find yourself unable to do your walk at the last minute, please contact your organiser as soon as possible, so they can try and cover it. Too many missed weeks may invalidate the results of that walk for the entire year.

Don't think not seeing an expected species is failure: zero counts are important for us to see where species are struggling.

Reporting your transect records.

Your walk co-ordinator will either enable you to use the UKBMS online system to enter your results yourself, or they may ask you to send them the walk results so they can check and enter them.

Walking weeks in the transect year

Walking weeks do not automatically start on a Saturday or Sunday – they go from 1 April every year regardless of what day of the week this falls on.

Week 1	April 1-7
Week 2	April 8-14
Week 3	Apr 15 – 21
Week 4	April 22-28
Week 5	Apr 29 – May 5
Week 6	May 6 – 12
Week 7	May 13 – 19
Week 8	May 20 – 26
Week 9	May 27 – Jun 2
Week 10	June 3 – 9
Week 11	June 10 – 16
Week 12	June 17 – 23
Week 13	June 24 – 30
Week 14	July 1– 7
Week 15	July 8 – 14
Week 16	July 15 – 21
Week 17	July 22 – 28
Week 18	Jly 29 – Aug 4
Week 19	Aug 5 – 11
Week 20	Aug 12 – 18
Week 21	Aug 19 – 25
Week 22	Aug 26 – Sep 1
Week 23	Sep 2 – 8
Week 24	Sep 9 – 15
Week 25	Sep 16 – 22
Week 26	Sep 23 – 29

Join Butterfly Conservation

Butterfly Conservation is a UK-wide organisation, working to save butterflies, moths and the environment.

You can join us in this important work by going to www.butterfly-conservation.org.

Assuming you live in Dorset, you will automatically be enrolled as a member of Dorset Branch.

Help is always needed at a local level with conservation work and the running of the Branch as well as recording butterflies - contact our Chair, Nigel Spring (see inside back cover) if you can help.

You do not have to be a member to record butterflies or moths.

Moth recording is co-ordinated by our sister organisation, Dorset Moths: www.dorsetmoths.co.uk

List of Transect Walks in Dorset

The list below gives a grid reference for each transect walk we currently undertake. Walks can come and go, due to availability of walkers and new places asking for monitoring; we attempt to keep the list in this booklet up to date, but it is sometimes difficult to know whether to call a walk current or not! Some walks are only open to walkers approved by the landowner.

Please note that the grid reference given probably applies just to part of the site. The sites shown on the map but not here are not full transect walks but ones limited to the time of year when a certain species should be out.

The “South”, “West” etc at the end of each entry refers to which area of Dorset the walk has been allocated. This is mainly for the sake of the “Butterfly Trends” meetings we hold for each area early in the year, which feed back on the results of the previous year. See the Events list on the website for dates.

Targeted transects (see page 21) are indicated by an asterisk *. They are not shown on the map

Ailwood Down, SY 99/81 South.
Alners Gorse, ST73/10, North
*Avon Heath North, SU 12/03, East
Badbury Rings, ST 96/03, East
Ballard Down, SZ 02/80, South
*Bind Barrow, SY49/88, West
Bindon Hill, SY 82/80, South
Bishops Court North, ST 93/02 East
Bishops Court South., ST 94/03 East
Black Hill (Cerne), ST66/00 West
Brackett’s Coppice, ST 51/07, West
Broadcroft (Portland) SY69/72, West
Brownsea North, SZ 01/88 South
Brownsea South, SZ 02/87 South

Cashmoor, ST 98/13, North
Chafey’s Lake RSPB, SY66/80, Wst
Chard Junction, ST 34/04, West
Clubmen’s Down, ST88/18, North
Corfe Common, SY 95/81, South
Corfe, West Hill, SY 95/82, South
Duncliffe Wood, ST81/22, North
Durlston East, SZ 03/77, South
Durlston Meadows, SZ02/77, South
Durlston West, SZ 02/77, South
Ferry Road West SZ 02/84, South
Fifehead Wood, ST 77/21, North
Fontmell Down, ST 88/17, North
Garston Wood, SU 00/19, East

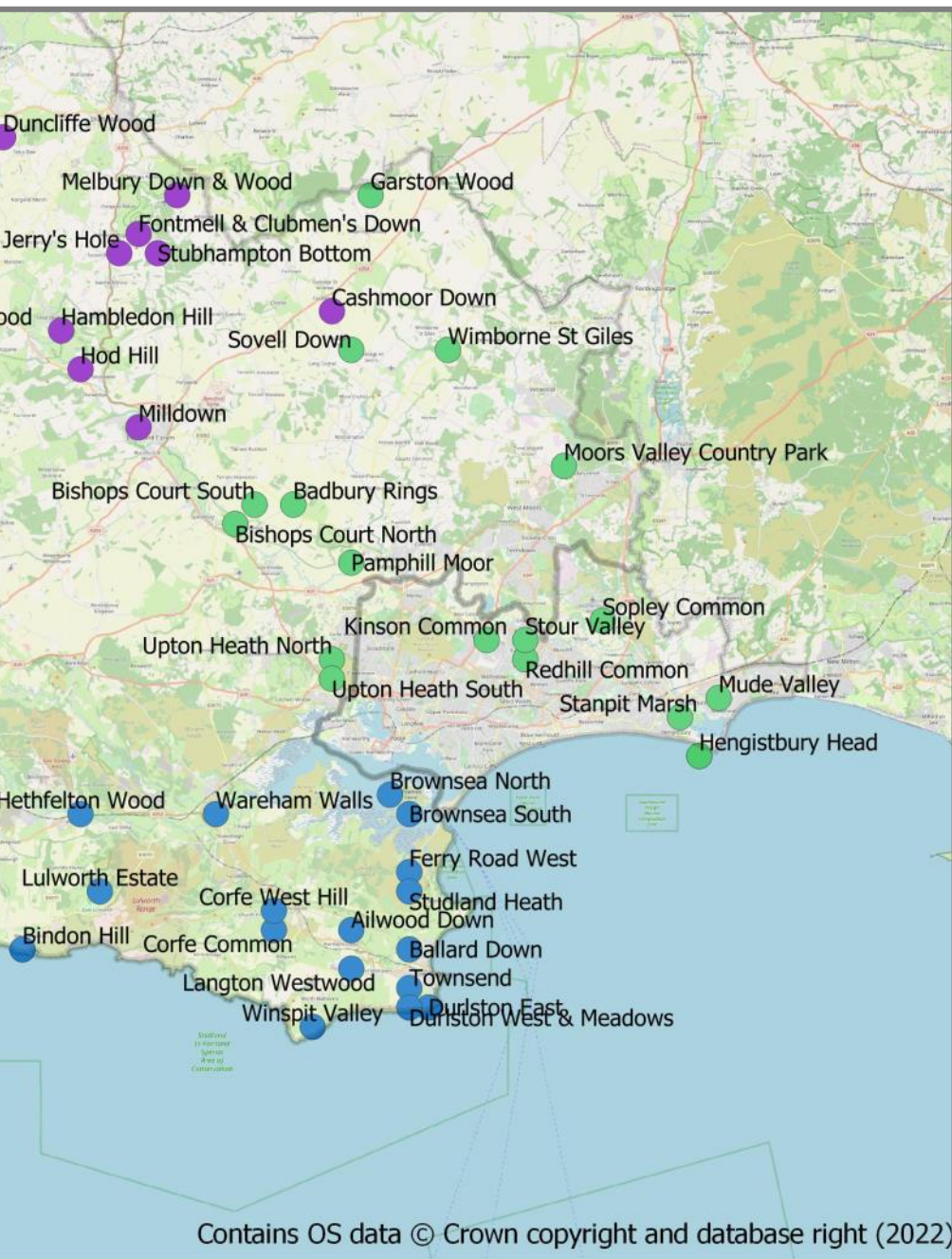
Giant Hill (Cerne), ST 66/01, West
 *Grange Arch, SY91/81, South
 Hambledon Hill, ST 84/12, North
 Hengistbury Head, SZ 17/90, East
 Hethfelton Wood, SY 85/87, South
 * Higher Hyde, SY85/89, South
 Hod Hill, ST 81/10, North
 Jerry's Hole, ST81/16, North
 Kingcombe Redholm, SY 55/98, West
 Kingcombe Stones, SY54/98, West
 Kinson Common, SZ 06/96, East
 Knowle Hill 1, SY 94/82, South
 Knowle Hill 2, SY 93/82, South
 Langton Westwood, SY 99/79, South
 Lankham Bottom, ST 60/00, West
 Lorton Meadows, SY 67/82, West
 Lulworth Lake, SY 86/83, South
 Lydlinch Common, ST 73/13, North
 Melbury Down /Wood, ST90/19, N
 Milldown, ST88/07, North
 Moors Valley Country Park, SU 10/05, E
 Mude Valley, SZ 18/93, East
 *Ninebarrow Down, SZ 00/80, South
 Pamphill, ST99/00, East
 Perryfields (Portland), SY 69/71, W
 Piddle's Wood, ST 79/12, North
 Powerstock Bridleway, SY54/97, W
 Powerstock North, SY 54/97, West
 Powerstock Rail, SY54/97, West
 Radipole, SY 67/79, West
 Redhill, SZ 08/95, East
 *Ridgeway Hill, SY 92/81, South
 Rooksmoor, ST7310, North
 Ryewater ST 66/10, North

* Slop Bog, SU 07/01, East
Sopley Common, SZ 12/97, East
Southfield Hog Cliff, SY62/96, West
Sovell Down, ST99/11, East
Stanpit, SZ 16/92, East
*Stoborough, SY92/85 East
Stonebarrow Hill, SY38/93, West
Stour Valley, SZ08/96, East
Stubhampton Bottom, ST89/16, N
Studland Heath, SZ 02/83, South
Tadnoll, SY 79/87, South
Tout (Portland), SY 68/72, West
Townsend Quarry, SZ 02/78, South
Upton North, SY 98/95, East
Upton South, SY 98/94, East
Wareham Walls, SY 92/87, South
Weymouth Relief Road,
SY67/85, West
Wild Woodbury, SY84/94, West
Wimborne St Giles, SU 04/11, East
Winspit Valley, SY97/76, South
Wyke Regis, SY65/77, West





Transect Wa



alks in Dorset

Short Checklist of rules for transect walkers

TIME Ideally walk between 10.45 and 15.45 BST.

TEMPERATURE/RAIN - Measure the temperature in the shade with a thermometer and fill in the form.

Below 13° C Do not walk

13° – 17° C Only walk if at least 60% sunshine

Above 17° C No sunshine necessary to walk

Do not walk if it is raining.

		Speed in mile/hr
0	Smoke rises vertically	
1	Slight smoke drift	1 – 3
2	Wind felt on face; leaves rustle	4 – 7
3	Leaves and twigs in slight motion	8 – 12
4	Dust raised; small branches move	13 – 18
5	Small trees in leaf begin to sway	19 – 24
6	Large branches move; telephone wires whistle	25 – 31

WIND SPEED Use Beaufort Scale above. Do not walk at 5 or above.

SUNSHINE Estimate sunshine for each section to the nearest 10% of the time it was sunny, i.e. you cast a distinct shadow.

WALK TECHNIQUE walk at a slow, steady pace counting all butterflies seen within a fixed distance – the recommended distance is 2.5m either side of the transect line and 5m ahead. In some habitats e.g. along sea cliffs or woodland rides, it is acceptable to record at a width of 5m along one side only of the transect line

For full guidance see the ukbms.org website: go to Get Involved - Standard Survey Methods - Traditional Transects, guidance pages.

Method Six: Wider Countryside Survey

The Wider Countryside Butterfly Survey (WCBS) is a national survey which aims to sample “ordinary” parts of the countryside. This is intended to give a more accurate picture as to how butterflies are doing throughout the country generally, as other methods of recording tend to concentrate on the rarer species or special habitats.

Dorset, along with all the other branches of Butterfly Conservation, is allocated a number of randomly chosen one-kilometre squares within its area. Volunteers make a minimum of two visits to their square, one in July and one in August. Using the standard Transect Walk procedure (see Method Five) butterflies are counted along two roughly parallel one-kilometre survey lines, each of which is divided into 200 metre sections. Most of Dorset’s squares have had the route for their walks established, but in a few cases one will have to be devised if a square has not been surveyed before (help will be given).

Recorders are encouraged to enter their results via the UK Butterfly Monitoring Scheme (UKBMS). You will be helped with the registration process. If online entry is not possible, results can be entered on a paper form.

You may see less butterflies on one of these walks than on a transect, but low or zero results are of great importance: they are what shows us that the butterflies in this area are struggling. On the other hand, you may see some of the less common species: 34 different species have been recorded in the WCS over the years.

In Dorset we regularly obtain results from over 60 WCBS squares, more than any other branch of Butterfly Conservation.

If you are interested, please get in touch with Adrian Neil, the Dorset Champion for the Wider Countryside Butterfly Survey (see contacts list inside back cover).

Method Seven: Recording target species

What are “target species”?

After the Earth Summit meeting in Rio de Janeiro in 1992 the British Government committed to developing a national Biodiversity Policy. In response to this, Butterfly Conservation, with funding from World Wide Fund for Nature, wrote Action Plans for conserving the 25 most threatened butterflies: these are known as the ‘target species’.

Action Plans were also written for moths and they are both updated over time. See the website www.butterfly-conservation.org for national information. If you go to the butterflies or moths tab on this website, you will find a link to “The state of Britain’s butterflies” (or moths, as appropriate) which detail how individual species are faring. Under the “Our work” tab there is also a ten-year conservation strategy document (under “Conservation Strategies”) and species action plans (under “Reports and Factsheets”).

This work used to be organised within identified regions across Dorset, each of which had a Regional Action Plan (RAP) but this approach has gradually faded over time, and we are considering moving to having Species Champions who can concentrate on organising monitoring of target species throughout the county. As of 2023, if you are interested in monitoring at a species level, please contact Robin George, who will be able to look at what you are able to do and which species you could seek out. As an example, in recent years we have had a particular push on:

- White-letter Hairstreak. A butterfly badly hit by Dutch Elm Disease destroying its caterpillar food plant.
- Chalkhill Blue. A species mysteriously disappearing from West Dorset, though still common on Portland and found in North Dorset.

One approach to measuring a given species is to undertake a Timed Survey, so we give information on this below. Unfortunately, some

target species are not sufficiently numerous for this approach to be valid. Whatever type of survey you undertake, remember that a zero result is very valuable, if disappointing.

How to carry out a Timed Survey

A) Before your visit

Check that you can identify your target species and the foodplants eaten by its caterpillars. Study the Ordnance Survey Map (Explorer series are best) to locate the precise position of your site, and look at your site recording form to be sure you know what information you will need to record. Since climate change has started to change dates of emergence for many species it is a good idea to keep an eye on the branch website in case it is an 'early' year for your target species: the "Recent Sightings" page will show you what is on the wing. A chart of flight times as experienced in Dorset is also on the website, accessed via the foot of the species page.

B) At the site for the target species

Make sure that the weather is sufficiently dry and sunny for butterflies to be on the wing. Spend a little time locating the most promising flight areas for your target species. If they cover more than one kilometre square be prepared to collect more than one set of data. Walk a zig-zag route through the assumed flight areas noting the times you started and finished counting. Record the actual numbers seen for all species, not just the target species. Make a note of any caterpillar food plants and nectar flowers used by the target species and any signs of management of the habitat – e.g. grazing animals, scrub control, grass heights. Note down the best location for the target species by giving it a six figure map reference (See p.11).

C) After the visit

Robin George will supply you with a spreadsheet on which to record your sightings. If you can also produce a rough map showing where the target species were found, that is very helpful for future surveyors: even a six-figure map reference is quite a big area on the ground.

Recording moths

Butterfly Conservation as an organisation is concerned with moths as well as butterflies. Dorset is lucky enough to have an active moth group, who we count as a sister organisation: see dorsetmoths.co.uk for their very detailed website.

People are less aware of moths than butterflies because many only come out at night, but in fact there are many more moth species than butterflies in this country, and there are more day-flying moths than there are butterflies.

Moths are divided into macro moths (the bigger ones) and micro moths (the smaller ones), and there are some 2,500 species in total, compared to about 60 butterflies.

Some moths have fascinating names: the Rosy Footman, the Powdered Quaker and the Obscure Wainscot to pick but a few. Whilst there are a number which are mainly brown in colour, there are many of great beauty: the Peach Blossom, the Scarlet Tiger and the Convolvulus Hawk-moth, for example.

We tend to know less about moths than butterflies because they have been less studied, so this is even more an area where the amateur can make a significant contribution. So whether you prefer to record just the ones that you happen to see, or make an effort to seek them out, you can help by recording your observations.

How to find moths

If you want to watch butterflies you can find a likely area of habitat on a day with good weather and expect to see several species. Because most moths are night-flying, if you want to see a reasonable number—and identify them—you need to lure them to you.

The main way in which this is done is using a moth-trap (also referred to as a light trap). This uses a bright light to attract moths, which will often then go down to the bottom of the light, where there is a container lined with egg trays. These egg trays form an ideal hiding place for the moths, who will stay there until you pick up the trays and examine your findings. This can be done during the evening/night

or left until the next morning. The moths are then released unharmed.

The main types of trap are the Skinner Trap, the Robinson trap and the Heath trap. Suppliers include Anglian Lepidopterist Supplies and Watkins & Doncaster. You can build your own Skinner trap - search the internet for details.

Traps can be powered by electricity, a petrol generator or some even by a car battery. Different bulbs in the light will attract different species.

Sugaring and wine roping are other techniques, especially for those species who do not come readily to light. Either boards or lengths of rope are painted or soaked in a mixture of substances, usually including treacle and beer or wine. These are then suspended somewhere where moths are likely to be found, and the moths will land on them, allowing you to identify them by torchlight.

There are also pheromone lures for some species, which mimic the sex attractant chemicals given off by the females to attract the males. A female Emperor Moth will assemble a

group of males from up to two miles away!

If you do not wish to use any of the above techniques you can just watch for moths which are attracted to your outside light, or go round your garden with a torch. You can help attract moths into your garden by growing plants with night-scented flowers, such as nicotiana (tobacco plant), honeysuckle, ivy and privet.

Why records are needed

The national Butterfly Conservation's most recent report on moths is the "State of Britain's Larger Moths 2021" (see www.butterfly-conservation.org for the full report). This shows that in abundance terms, the 900 species of larger moths in Britain have declined by 33% over 50 years, with losses worse in the south than the north. In distribution terms, some species have spread, while others have decreased, but the detail and the reasons are complex.

If the rich biodiversity of moth species and habitats is to be conserved in Dorset, records for all species are urgently needed.

Identifying Moths

For online and print resources, see page 4 and onwards.

Sending in your records

Moth recording has been revolutionised by the Heritage Lottery funded ‘Moths Count’ project, which has pulled in millions of UK moth records never previously collated and set up an on-going system for recording nationally.

If you record day-flying moths when doing transect walking, either:

- a) You may enter them via the UKBMS website with your butterfly records
- or
- b) Your sightings should be listed on the back of your paper transect record sheet which is sent in to your walk co-ordinator.

The Dorset Moth Group prefer digital records via www.livingrecord.net, but can also take records via iRecord or MapMate (see their website for details). Their website also has an example spreadsheet for recording your sightings in this manner.

Online you can use www.mothrecording.org. This is a site set up as part of the National Moth Recording Scheme, about which you can find more information on butterfly-conservation.org.

Moth Night

Every year there is a national “Moth Night” (usually actually 2-3 nights) organised by Atropos Magazine together with Butterfly Conservation and the UK Centre for Ecology and Hydrology. The date varies each year to enable different species to be targeted.

Moth events are held all over the country and people are asked to make a special effort to record moths and send in their records.

See the Dorset Branch website for local events organised by us. See also www.mothnight.info for wider event information.

If you find any out-of-date links in this booklet, please let us know via our website or email enquiries@dorsetbutterflies.com

Contacts

You can always contact us via the website contacts page:-

**[www.dorsetbutterflies.com/
contact/form](http://www.dorsetbutterflies.com/contact/form)**

or by using the email: -
enquiries@dorsetbutterflies.com

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Help is needed with all sorts of things besides recording butterflies and moths.

This could be with direct conservation work or with the behind-the-scenes work to keep the branch going. If you feel you could assist, please contact our Chair, Nigel Spring, listed above.



**Butterfly
Conservation**

Saving butterflies, moths and our environment



Butterfly Conservation exists to save wild butterflies, moths and our environment. It is a UK-wide society, with 32 branches and 40,000 members. The headquarters of Butterfly Conservation are based in Dorset. The national society has an excellent web site at www.butterfly-conservation.org

The Dorset Branch of Butterfly Conservation is a very active branch, with over 1,000 members. It carries out lots of advisory and conservation work, as well as an impressive programme of walks and talks. New members are always welcome and help with all aspects of branch work, from conservation to computers, is always welcome.

See www.dorsetbutterflies.com for more information about the Branch and its activities, or contact the Secretary (see previous page).

This booklet is printed on recycled paper. Further copies are available from Lyn Pullen (see previous page). Copies are free to Dorset Butterfly Conservation members or to those interested in taking up butterfly walking in Dorset. Anybody else is asked to send five second class stamps to cover the cost of production and postage.

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