

**Butterfly Conservation Dorset Branch**  
**Newsletter No 99**

**Butterfly Report for 2021**

[www.dorsetbutterflies.com](http://www.dorsetbutterflies.com)



**Butterfly  
Conservation**

Saving butterflies, moths and our environment



# Contents

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Weather ..... 4

Total butterfly count ..... 6

Transect walk results ..... 8

Winners of 2021 ..... 13

Losers of 2021 ..... 16

Species up or down from zero .. 22

Rare and migrant species ..... 23

Targeted transects ..... 25

Chalkhill Blue search ..... 31

White holes progress ..... 32

Big Butterfly Count ..... 34

Garden records ..... 35

WCS ..... 37

Who's Who ..... 39



Small Tortoiseshells. Photo: Dave Law

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# Editor's Introduction

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**T**his report is an expansion of the interim report written by our County Records Officer, Robin George, which can be found on our website's News page by searching on "2021 Dorset Butterfly Report". There are instances where viewing the report online may enable you to see more detail in the charts and maps.

Some graphs included start with the year 2013. This is because it is the date from which the UK Butterfly Monitoring Scheme is sure that all data is on their system. Robin has started many statistics from scratch over the last two years, to ensure all our data matches that in the UKBMS system.

Front cover: Brown Argus. Photo: Brian Arnold

Whilst the bulk of the work in the report is that of Robin George, we also need to thank Bill Shreeves, Jon Bellamy, Lorraine Munns and Adrian Neil for their contributions.

A vast amount of work goes into gathering, verifying, analysing and publishing our butterfly data. Our thanks go to everyone who contributes their sightings, be that through transect walks, using our website recording form, entering the Big Butterfly Count or whatever - many thanks to you all: without your records we could not do the rest.

Once the data is with us, it is verified as far as possible, and when you consider that over 121,000 butterfly sightings came in from transect walks and over 65,000 from the website, you can see what a big job this is. Our thanks to Nick Urch, Steve Brown, Paul Dexter and Martin Raper. After that, all records are cumulated into our database, of which Robin George is the keeper - you are doing a great job, Robin: keep it up!

As an organisation, we do not work alone. There is a complex web of interactions between ourselves and other organisations, including the Dorset Wildlife Trust, the National Trust, Forestry England, local councils and the RSPB, as well as with many individual landowners. Together we can achieve much more, especially on the wider landscape level which is needed to have a serious positive impact on our butterfly and moth numbers.

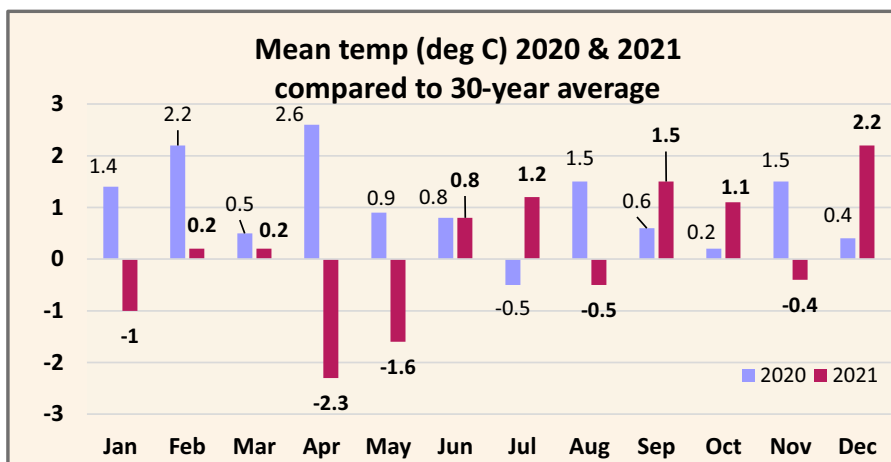
For us as individuals, however, one of the main things we can do is keep spotting butterflies (and moths) and recording them. Without this data we do not know how species are faring and do not have the clues as to what we can do to help them.

*Lyn Pullen*

# Weather

**O**ur very grateful thanks to John Oliver for providing the weather data. The temperature and rainfall data are from his own records in Dorchester and the sunshine data is from Bournemouth. We are showing the results for 2020 as well as 2021, as how well butterflies do in one year will often be determined by how their various stages handled the previous year's weather.

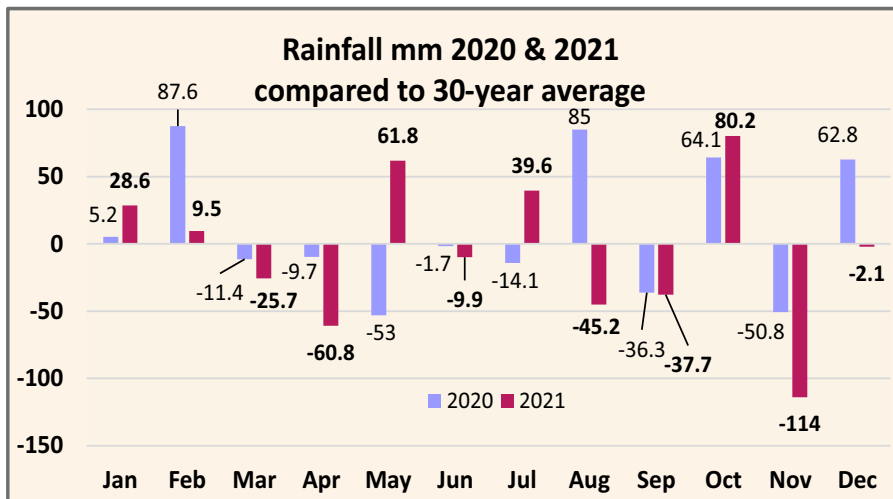
**Temperature.** Overall the year was the coolest since 2013 but just managed to retain a positive anomaly of 0.1°C. January, April, May, August and November were all colder than average months. April was the coldest since 1986 with air frosts recorded on 14 nights - the highest total in 60 years and was also remarkable for being the driest since 1984 and the sunniest month of the year.



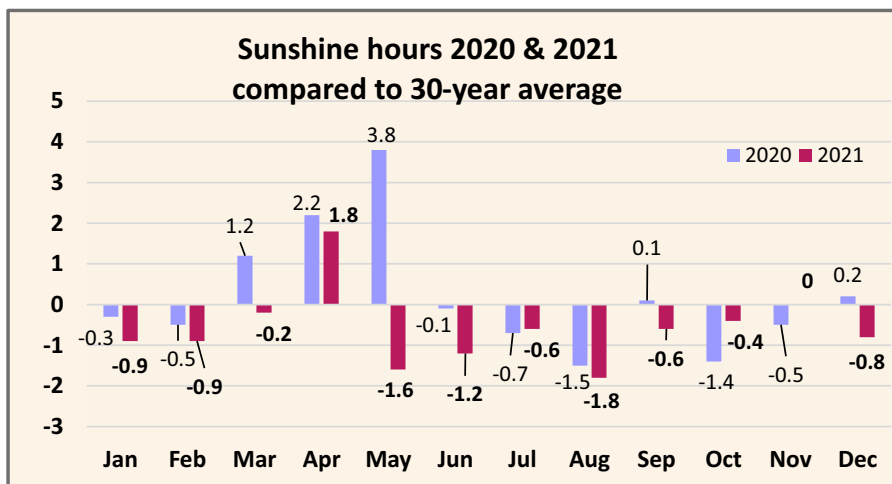
**Rainfall.** Rainfall in 2021 represented 93% of the average overall with some large swings in its distribution from one month to the next. April produced a shortfall of nearly 61mm while May provided an excess of 62mm. Similarly, in October an excess of 80mm was followed the next month by a deficit of 114mm in what was the driest November in more than 100 years.



# Weather



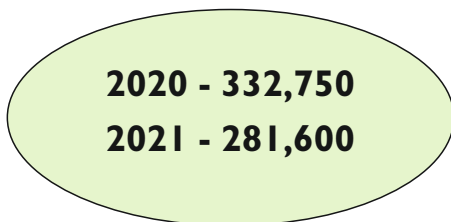
**Sunshine.** The year was the dullest since 2012 with the sunshine total 200 hours below the average and 350 hours below that of 2020. Every month except April showed a deficit.



# Total butterfly count 2021

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**2** 021 saw a lower total butterfly count than 2020:

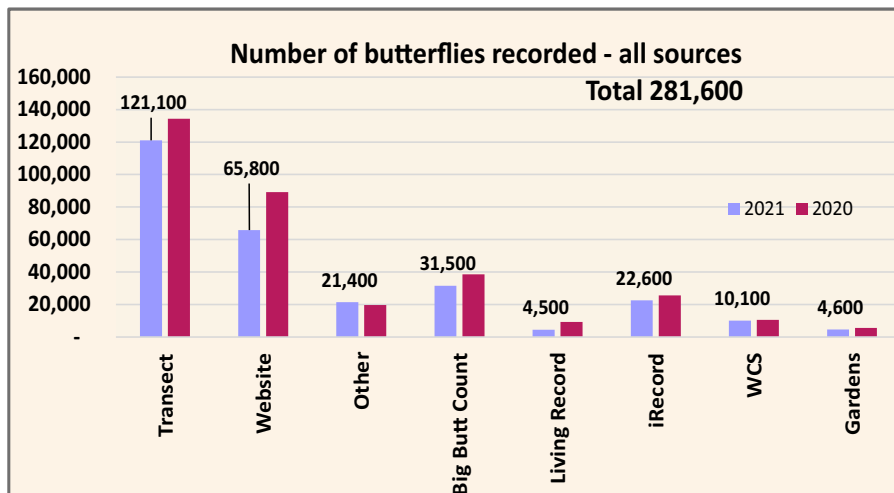


There is a possibility of recording effort being somewhat lower, as the 2020 Covid-19 lockdown led to more people going out for walks and spotting butterflies, but this is unlikely to account for the drop to any great extent. As you can see from the graph, the decrease applied to most sources of information, so it is likely to be a true reflection of the numbers of butterflies; the section labelled “Other” is the only one to show an increase, and this is not a reliable indicator: it encompasses records sent in on spreadsheet or on paper, so it can vary from year to year.

The reasons for this drop will vary from species to species, and not all will have decreased, as can be seen from the “Winners” and “Losers” later on in this report. There will also be differences for species that need very specific habitats and those which roam more widely.

In the long-term, butterflies (and moths) are probably under greatest threat from habitat loss or degradation, and the use of pesticides. Climate change brings another complicated set of factors: butterflies tend to need warmth, so higher temperatures can be beneficial, but we are having more extreme weather events these days: look at the weather information on the preceding pages and you will see April had the most frosts in 60 years, rain was hugely variable and every month except April was less sunny than the average. It can also work

# Total butterfly count 2021



against some species to have warmer winters, which can be detrimental to non-adult stages in that they encourage fungal diseases.

A few notes on the statistics:

- The total figure reported in the 2020 Butterfly Report had an error - it was given as 334,770, but should have been 332,750.
- The figure in the graph of 121,100 does not agree with the total on page 10 of 122,288. The number in the graph is derived from the actual transect walk sightings in our database. The numbers on page 10 come from the UK Butterfly Monitoring Scheme, which estimates numbers for missing weeks and so shows a higher figure.
- It is also worth noting that this counting only measures abundance: how many butterflies there are. Another very important factor is range: how widely are they found.

# Transect Walk Results 2021

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**T**ransect Walks are walks along a set route, undertaken every week from the beginning of April to the end of September (26 weeks), usually by a team of people each doing different weeks. There are various rules around exactly how the walk is undertaken to ensure, as far as possible, that the results are comparable across the years. In 2021 Dorset had 66 full transect walks as described above, plus some mini-transects aimed at recording certain species but under the same rules.

Please note that while we have 66 places where transect walking is done, we also refer to “the number of walks” sometimes and this is usually the 66 walks multiplied by the 26 walking weeks, so we could potentially be talking about 1,716 walks in this sense.

In practice, a few weeks will be missed, usually due to poor weather, or sometimes to national events such as lockdown or foot-and-mouth. We are constantly impressed with how dedicated our walkers are and how few weeks are missed.

	Number of Walks	Weeks Missed	Walks with only 1 or 2 missed
North	16	42	11
South	17	47	9
East	14	66	5
West	19	87	7
<b>Total</b>	<b>66</b>	<b>242</b>	<b>32</b>

# Transect Walk Results 2021

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In 2021, of the possible 1,716 full transect walks, 1,541 were carried out. If we supposed the average walk time to be 1.5 hours, this would make the total time Dorset volunteers walked to be 2,300 hours (96 days). At the current minimum wage, this was worth over £20,000!

We are planning to have six exciting new transects starting this year:

- Two on Wild Woodbury, a Dorset Wildlife Trust rewilding project at Bere Regis
- Two on Brownsea Island, working with the National Trust who are involved in a major Stewardship scheme with tree clearance, heath restoration and grassland renovation
- Two at Bishop's Court, a National Trust rewilding project near Kingston Lacy

It will be fascinating to see how these walks and butterfly numbers evolve. As ever, we will be needing lots of walking volunteers, so if you are interested in helping, we would love to hear from you: please contact Stephen Brown as listed inside the back cover.



Part of the Kinson Common transect walk. Photo: David Parish.

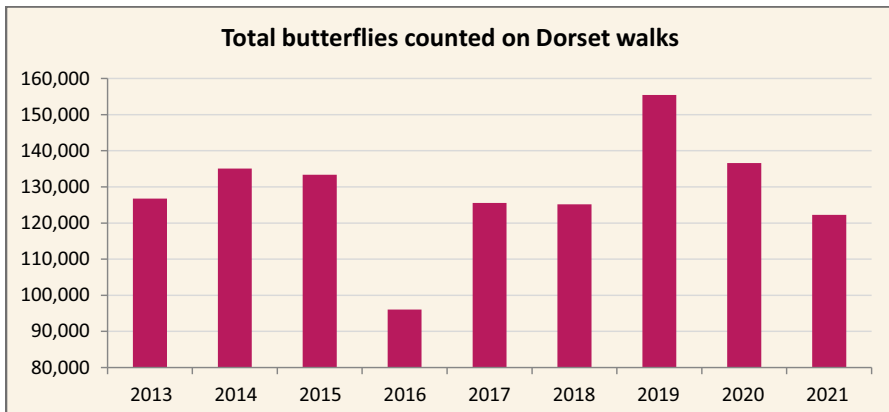
# Transect Walk Results 2021

## Total butterflies counted on all transect walks

The total numbers of butterflies were down in all areas of Dorset, as shown in the table below

	2021	2020
North	39,884	47,060
South	35,435	35,884
East	13,141	15,545
West	33,828	38,101
<b>Total</b>	<b>122,288</b>	<b>136,590</b>

Looking at the butterfly numbers counted since 2013, the numbers are down on the previous two years, but fairly similar to 2017 and 2018. The very cold start to the walking season can't have helped.





# Transect Walk Results 2021

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The highest count of butterflies in one transect walk for the season was at Durlston East. The top-scoring walks for each of the regions was:

- North - Fontmell Down 4,363
- South - Durlston East 4,954
- East - Badbury Rings 2,808
- West - Southfield Hog Cliff (near Maiden Newton) 3,226

Three of those walks also score top in their areas for the most species seen:

North - Fontmell Down 32 species

South - Durlston East 32 species

East - Badbury Rings 31 species

West - Giant Hill, Cerne Abbas 32 species.

Some transect walks had better numbers in 2021 than 2020.

Radipole Lake near Weymouth was up by 48%, Townsend Quarry near Swanage by 35%, Corfe Castle Common by 32% and Ferry Road West near Studland by 32%.

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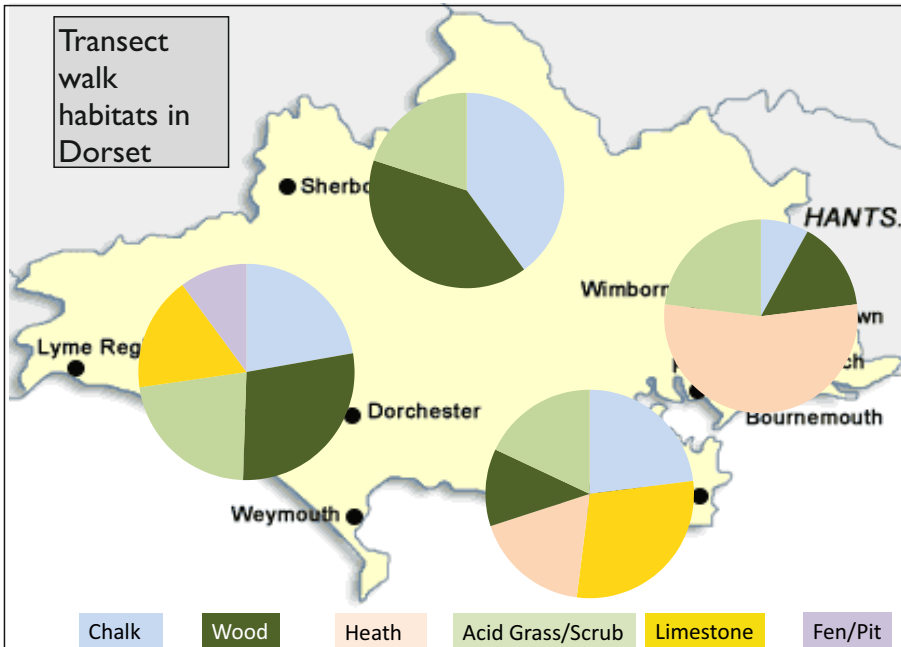
## Coloured Sheets

Those of you who have attended our four regional walkers' meetings in the past will know there has been a resume of how each species has fared on each full transect walk via what became known as the "coloured sheets", which were A3 pieces of paper in the pre-computer age! It is not possible to reproduce these sheets in this booklet because of size constraints, but we have put the 2021 sheets on the website and will aim to get earlier ones up in due course. To find them, go to [www.dorsetbutterflies.com](http://www.dorsetbutterflies.com) and go to the Recording page, then scroll down to find "Transect walk results" at the bottom and click the link.

# Transect Walk Results 2021

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Which species are found in a location is heavily affected by the habitats found in it. While some butterflies will roam long distances, some are habitat specialists. We are lucky in Dorset that our underlying geology gives us a wide variety of habitats.



The four circles represent our four regions:

North - 16 walks

South - 17 walks

East - 14 walks

West - 19 walks

A list of transect walks can be found in our “Counting Dorset’s Butterflies” booklet, which is available via the Recording page of our website.

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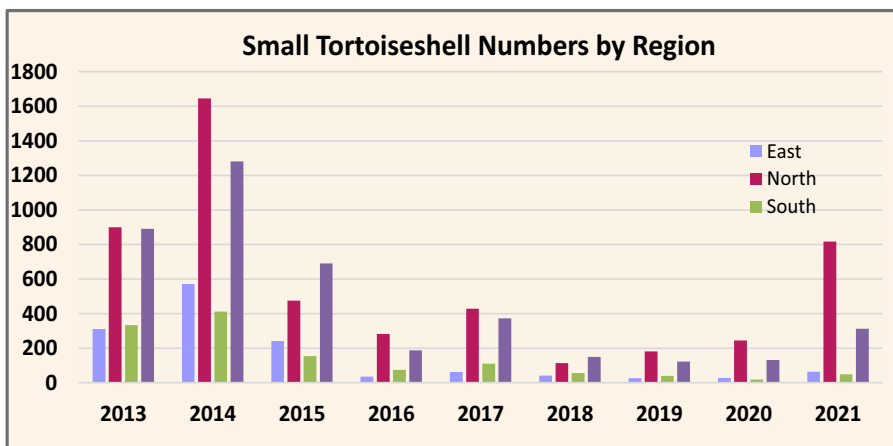
Our thanks to Jon Bellamy for the map above.

# Winners of 2021

**T**here are a number of ways you can judge “winners” and “losers” in terms of how various species are faring. The table below is on straight numbers counted on transect walks.

Species	2021	2020	% Increase
Small Tortoiseshell	1,243	421	195%
Orange Tip	929	379	145%
Grizzled Skipper	359	195	84%
Dingy Skipper	1,064	587	81%
Painted Lady	329	44	648%

It is very pleasing to see a resurgence of the Small Tortoiseshell, which has been doing very badly in recent years, possibly due to a parasite. Whilst numbers are not back to 2013 or 2014 levels, there may be grounds for some optimism, at least in the North and West (see graph below). Numbers in all regions were up on 2019 and 2020.



# Winners of 2021

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Dingy Skipper (top) and Grizzled Skipper. Photo: James Gould

The improvement for the **Orange Tip**, and possibly for the Grizzled and Dingy Skipper as well, could be more due to low numbers counted in 2020 due to lockdown: these are all butterflies which come out early in the season, but we will have a look at the results for the two Skippers in more detail.

The graphs on the opposite page show that in 2021 the emergence of the **Dingy Skipper** was later than usual, not peaking until weeks 10, 11 and 12 (the first three weeks of June). It seems likely this was due to the very cold weather we had in April and May. The

results do, however, show an increase in numbers recorded, which is good news.

The results for the less-common **Grizzled Skipper** show the same pattern: a late emergence but good numbers.

Nationally, both the Dingy and the Grizzled showed declines from 1976 to 2014, but a slight improvement over the 2005-14 period.

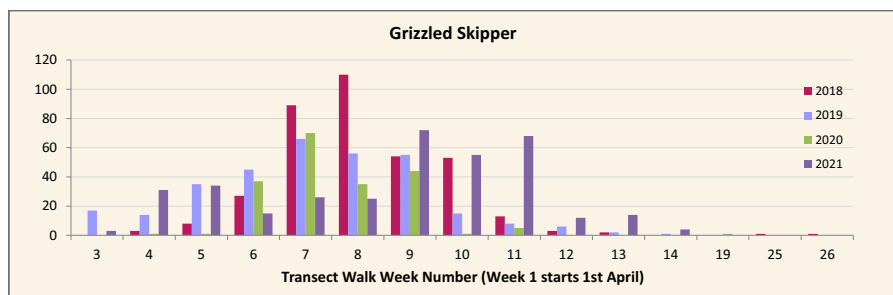
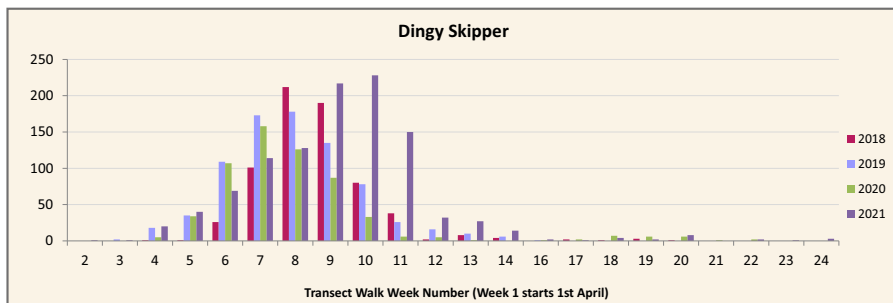


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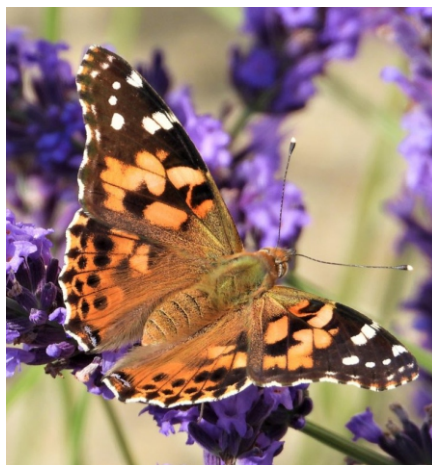
The Dorset Branch of Butterfly Conservation is one of 32 branches of the national charity; we all work to save butterflies, moths and the environment.

# Winners of 2021



The Painted Lady is a migrant, so we are unable to affect its numbers to any great extent. Numbers counted on transect walks were very low: 329 in 2021, (44 in 2020). The website showed 587 reported in 2021 compared to 91 in 2020.

Whilst not the much hoped-for Painted Lady year, they were recorded on 32 more transects than in 2020".



Painted Lady. Photo: Gary Holderness.

# Losers of 2021

**T**he losers of 2021, again, based purely on numbers counted on transect walks:

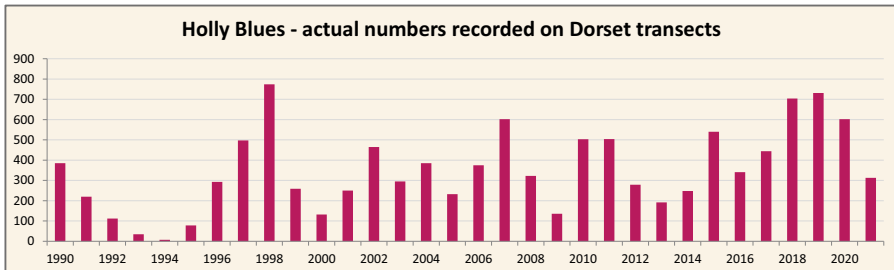
Species	2021	2020	% Decrease
Holly Blue	326	606	46%
Green-veined White	1,130	2,059	45%
Purple Hairstreak	79	135	41%
Wall	188	297	37%



Holly Blue. Photo: Ann Barlow

The **Holly Blue** is known to be subject to dramatic variations in number in a 4-6 year cycle due to a parasitic wasp *Listrodomus nycthemerus* whose numbers also fluctuate widely. Some years nearly every caterpillar may be parasitised, so Holly Blue numbers fall drastically. The wasp numbers then also plummet. Holly Blue numbers can then grow again, until the wasp population re-

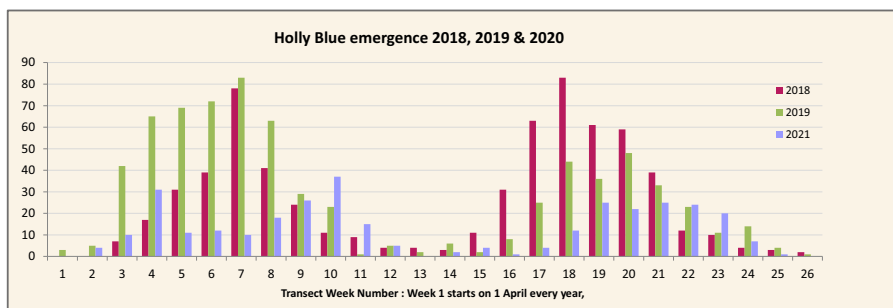
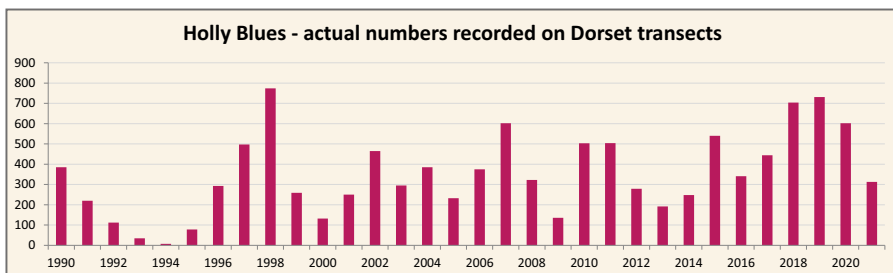
establishes itself. The graph below suggests we might be at a low point in the cycle.





# Losers of 2021

Still looking at the Holly Blue, it is interesting to look at their numbers over a longer period of time. The graph below shows the actual number of Holly Blues recorded on all transect walks in Dorset (ignoring any estimates for missed weeks). No attempt has been made to standardise the number of walks per year, which will have increased over time. The worst year was 1994, when only seven Holly Blues were recorded on transect walks, plus a further two recorded in casual records. It will be interesting to see if numbers go down further in 2022, or if the cycle reached its bottom.



It is also worth looking at the emergence times of the Holly Blue recently, and they show that the peaks of the Holly Blue emergence were two or three weeks later in 2021 than in 2018 and 2019. Was this due to the very cold weather in April? 2020 is not included as most of the first six weeks were not walked.

The first sightings recorded on the website were 5 April in 2018; 12 Feb in 2019; 25 March in 2020 and 4 April in 2021.

# Losers of 2021

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The **Wall** is not usually a butterfly you see in large numbers at one time. The numbers seen on transect walks since 2013 are:

	North	South	East	West
2013	5	350	1	187
2014	2	384		166
2015	5	249		77
2016		140	1	28
2017		312	1	72
2018	2	416		88
2019	5	400		56
2020	3	257	1	36
2021	3	152	2	31

Numbers are decreasing throughout Dorset, though not so badly in the south. A more detailed look at these results for the walks in the west of Dorset show that sites with low numbers have generally stayed low, whilst previously higher-recording sites have decreased.

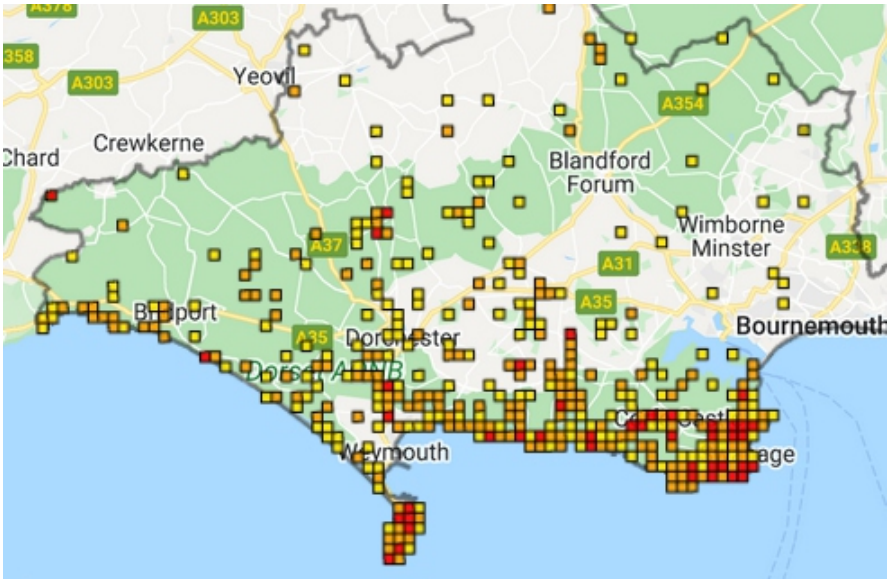
The picture of their distribution is confirmed by the map drawn from our website (overleaf) where numbers are much higher around the coast. This is probably due to more available habitat in the form of coastal margins with landslips and no grazing.



Wall Brown. Photo: Lynda Lambert

# Losers of 2021

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**Map of Wall Sightings reported to our website 2015-19**

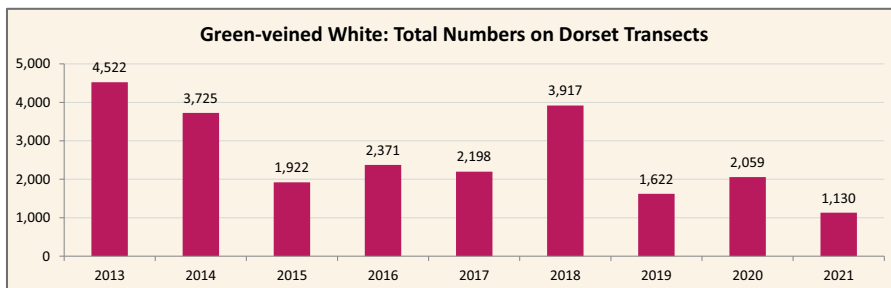
This reduction is not limited to Dorset. Looking at “The State of the UK’s Butterflies 2015” the long-term (1976-2014) trend is a 77% decrease in occurrence and a 87% reduction in abundance, while the short-term (2005-2014) trend is down by 36% for occurrence and 25% for abundance.

The “Millennium Atlas of Butterflies in Britain and Ireland” looks at the drop in numbers and has several suggestions:

- Weather. The Wall is very sensitive to temperature: numbers have been seen to decline in periods of cool, wet summers.
- Agricultural intensification leading to a) a lack of the habitat the butterfly needs of short open grassland where the turf is broken or stony and b) the application of nitrogen may disturb the butterfly’s natural life-cycle.
- Lack of rabbits or cattle to help break up the ground to create the bare patches needed for egg-laying.

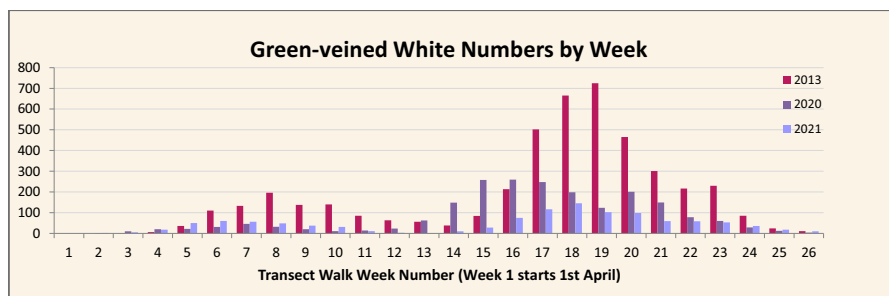
# Losers of 2021

The **Green-veined White** numbers have been declining: figures for 2021 are the lowest since 2013. If we look at the numbers recorded by region, we see that the transect walks in the north record many more than other regions, possibly due to having more suitable habitats in the form of damp areas and woodland rides.



Emergence dates for this butterfly, which has two broods a year, show that the second brood emerged earlier in 2020 than in 2013 (chosen as the first year in the database being used) or 2021. Interestingly, the first brood in 2020 was slightly smaller than in 2021, (292 to 322) but led to a much larger second brood (1767 to 808). The size of the second brood compared with first was:

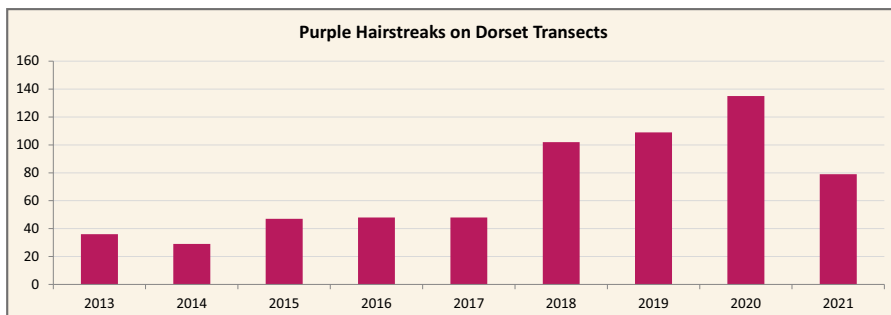
- 2013: 3.7 times as big
- 2020: 6.1 times as big
- 2021: 2.5 times as big



The week numbers on the graph are from 1, which is the first week of April to 26, which is the last week of September.

# Losers of 2021

The **Purple Hairstreak** had a very good year in 2020, but not so good in 2021, though still better than 2013-2017.



This is not an ideal species for counting via transect walks, as they tend to be up at the top of trees, and most visible in the evening, after transect walk hours. It may be possible to count them more easily in hot, dry summers, as they may come down lower to look for honeydew.



Purple Hairstreak. Photo: Adrian Read.

**T**o help us ensure that we do not end up with all butterflies becoming losers, please think about donating to us or remembering us in your will. Government grants are reducing and prices are going up. We spend money on the upkeep of our Butterfly Reserves and in producing newsletters and reports.

Details of how to give are given on our website's "Get involved" page or contact our Treasurer (see page 39).

# Species up or down from zero

**S**till using transect walk results, another thing we do to judge how the various species of butterfly are doing is to look at “species up from zero” i.e. recorded in 2021 when they were not recorded on any transect in 2020, or “species down to zero”, which were recorded the previous year, but not this year.

Four species did well on the up from zero measure:

- Not surprisingly, Orange-Tips were recorded on many more walks (24 more) in 2021 than in 2020 when most walks missed the first six weeks due to Covid lockdown.
- Whilst not the much hoped-for Painted Lady year, this butterfly was recorded on 32 more transects than in 2020.
- Small Tortoiseshell was recorded on 15 more transects than in 2020.
- Green Hairstreaks appeared on 12 more walks than in 2020.



Painted Lady. Photo: Mel Bray

Three species were down:

- As mentioned before, the Holly Blue didn't have a good year, and was recorded on 12 fewer transects than in 2020.
- Brown Argus was not seen on 11 transects where it had been seen in 2020.
- Numbers of Clouded Yellows are very variable from year to year, and in 2021 were seen on 11 fewer walks than in 2020.



# Rare and migrant species

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**T**he **Purple Emperor** is only recorded on the far north-east edge of Dorset. A small number of reports came in during July 2021, both in Garston Wood and Dave Law got photos of both an egg and a caterpillar.



Purple Emperor caterpillar in Garston Wood on 24 Aug. Photo: Dave Law.



Purple Emperor in Garston Wood on 23 July. Photo: James LeRouge.

The **Small Pearl-bordered Fritillary** just survives at very low numbers in the county. It is only known on one site: Godlingston Heath, which is being very well looked after by the National Trust. Since 2016, the maximum seen on a day is 14 (in 2019) but this was down to one in 2021. We do not advertise the exact location, as there are concerns about photographers trampling the site, which is more difficult to access now the National Trust has put up a fence.

The **Large Tortoiseshell** continues to show up in small numbers on Portland, probably surviving from a release back in 2018, though inward migration is not impossible. There is an article on the finding of eggshells and larvae during 2021 in Newsletter 97 (available on our website). The first adult butterfly was reported on 26 February,

# Rare and migrant species

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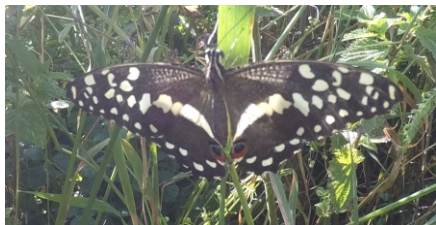
and then the species was reported on various dates until 8 April. It was seen again on 15 July and in early August. It is impossible to tell how many individual butterflies were on the wing, though we are sure of two individuals in the later sightings. An odd one seen in Canford Heath has not been explained.

One or possibly two **Swallowtails** were seen in Swanage and another was reported in Poole. It is difficult to comment on them, especially as we pick up some of this information via social media rather than it being reported directly to us.



Citrus Swallowtail? Photographer unknown.

One or two very unusual butterflies were reported in Worth Matravers in August. The first, see the top photo, was seen in a garden and reported on 12 August, though we do not know the date it was taken. It was thought to be a **Citrus Swallowtail**. Also known as the Christmas Butterfly (no-one seems to know why), it is native to sub-Saharan Africa and can severely damage citrus crops.



Common Lime butterfly? Photo: Mike Wenham.

The second, bottom photo on the left, was reported on 21 July by Mike Wenham who suggests it is a **Common Lime** butterfly.

It is difficult to tell whether this is the same butterfly, though it would seem quite likely.

# Targeted transects

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**A**s well as the 26-week transects, we have some of more limited duration, designed to cover specific species and/or sites.

One of these is at Bind Barrow, near Burton Bradstock, to monitor the Lulworth Skipper. The walk starts at the time of year when the Lulworths are first around and the idea is to walk it every week until there are none to be seen, so the walk usually takes place in June, July and August. This walk did not take place in 2021, but earlier years show 2014 was particularly good with an estimated 185 seen. Since then, numbers have varied from about 30 to 60 each year.

There are also several walks aimed at the Silver-studded Blue in the east of the county. This butterfly is doing very well at Avon Heath North, with an increase in numbers every year, from 161 in 2015, to 485 in 2018, 915 in 2020 and an impressive 1,111 in 2021.

The Purbeck Ridge is an area where a lot of effort is put in over a more limited period of time. The idea here is to monitor connectivity, with the walks being spread from Bindon Hill in west Purbeck to Ballard Down in the east. There are four full transects plus five more limited ones: see the map overleaf.

Connectivity is important for species which aren't very mobile. If a butterfly which does not usually stray far from its home territory can find suitable habitat nearby, it is more likely to spread or to find refuge if its home territory is degraded, such as by the loss of suitable grassland due to the use of fertilisers. It also allows for more cross-breeding between different colonies of the same species, meaning less chance of inbreeding, which threatens the colony's long-term survival. Barriers can be physical, such as patches of scrub and woodland, or just sheer distance.

# Targeted transects



**Key.** 1: Bindon Hill. 2: Grange Arch. 3: Ridgeway Hill.  
4: Knowle Hill Two. 5: Knowle Hill One. 6: Corfe West Hill.  
7: Ailwood Down. 8: Ballard Down.

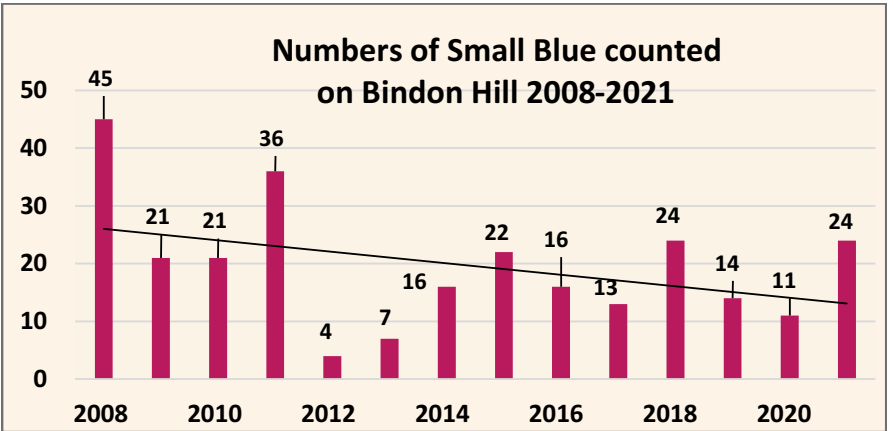
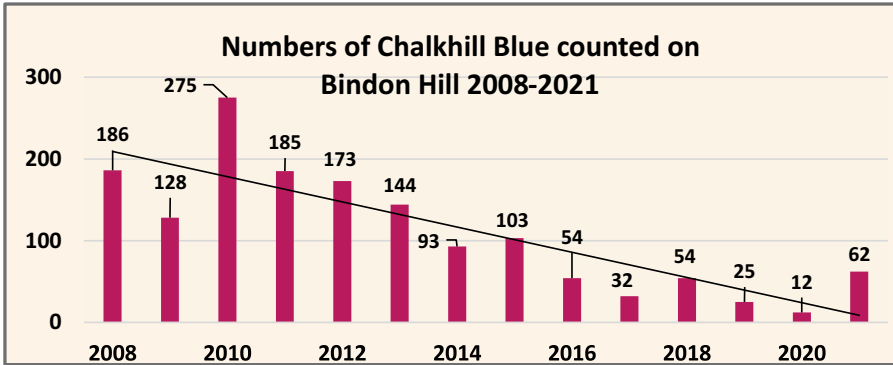
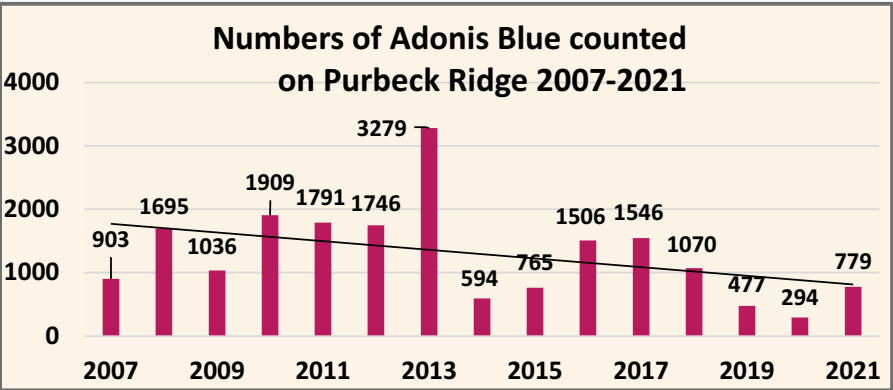
The rest of this section applies to the Purbeck Ridge.

The **Adonis Blue** needs warmth, so south-facing slopes on unimproved chalk or limestone grasslands are ideal. Counts on the transects at either end of the Ridge have by far the highest numbers: 190 were counted on Bindon Hill and 452 on Ballard Down, while the walks inbetween vary between two and 46, but all walks did show at least two, which is good news for connectivity. The numbers being counted on the Ridge have gone up and down over the years, but are showing a downward trend.

The **Chalkhill Blue** (see also page 31) was only counted in 2021 on the Bindon Hill walk. Numbers over the years have plummeted and connectivity is very poor, despite the presence of its caterpillar foodplant, Horseshoe Vetch.

The **Small Blue** was also only counted on Bindon Hill, which is a Dorset stronghold for this species. It is confined to small patches of very sheltered grassland where Kidney Vetch is plentiful for its caterpillars to feed on.

# Targeted transects



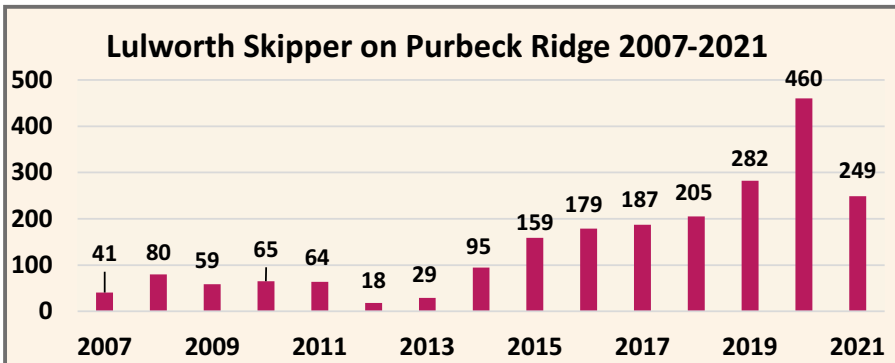
# Targeted transects

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Other species of interest on the Purbeck Ridge:

**Dingy Skipper.** Most numerous on Bindon and Ballard, but only one interim site recorded none in 2021. Numbers overall on the ridge were high: 259, which is the third-highest since 2007.

**Lulworth Skipper.** A Dorset speciality. Only really numerous (180) on Bindon. None on three sites but 30 on Ballard. Numbers overall



on the ridge have gone up, which reflects a general trend of increased numbers, though never back to the highs of the 1980s. Numbers of this species are linked to the availability of Tor Grass, which tends to depend on how much an area is grazed and rabbit numbers. Climate change may be having some effect, but we need a systematic study of the rainfall and temperature statistics against the numbers counted.

**Grizzled Skipper.** Only one seen: on Ailwood Down. Numbers have never been high on the ridge.

**Grayling.** Small numbers seen: most on Ballard Down, with a score of seven. It is not a common species on southern chalk downland, so it is good to see its numbers, albeit small, holding up.



# Targeted transects

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**Wall.** Best count on Bindon, with 49. Corfe West Hill and Ailwood Down were 23 and 21, while the rest were between one and seven. The total number counted on the Ridge transects was 110, the third lowest since 2007. It has been declining in many areas over the last decade: maybe caused by climate change encouraging it to have a third brood, which is a risky strategy, as the coming of poorer weather will reduce the number of offspring which it relies on to go through to the following year.

Trying to provide for all the diverse needs of these species is a conservation balancing act, as can be seen from the table below.

Species	Habitat Requirements	Conservation management
Adonis Blue	Short turf (1-4cm), Horseshoe Vetch, warm, south-facing slopes, abundance of ants	Benefits from livestock grazing – sheep/cattle & rabbits
Chalkhill Blue	Short sward (2-6cm), Horseshoe Vetch, taller sward roosting, ants	Grazing cattle/sheep create open sward with varied height structure
Small Blue	Sheltered sites, sparse vegetation, abundant Kidney Vetch, ants	Grazing to allow mosaic of tall & short sward with bare patches
Dingy Skipper	Open sunny habitats, Common Bird's Foot Trefoil & Horseshoe Vetch, some taller vegetation	Scrub clearance, rotational grazing to allow varied vegetation heights
Lulworth Skipper	Breeds on tall Tor grass	Benefits from decline in grazing pressure
Wall	Sparsely vegetated habitats with short, open grassland where turf is stony or broken for breeding	Grazing to break up sward, rabbit grazing to create bare patches for egg-laying

# Targeted transects

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Bringing all those diverse needs together, the conservation management of the area requirements include:

- Grazing regimes using cattle and/or sheep to give a range of sward heights.
- Creation of mosaic of habitats – structural diversity in vegetation, very short grass breeding, bare ground (warmth, basking, germination, ants).
- Scrub clearance/control of dominating vegetation to provide light, and space, but also shelter.
- Creating corridors/linking sites/improving habitats.
- Removal of barriers – coniferous woodland blocks/gorse scrub.
- Control/stop use of pesticides/fertilisers.

This obviously needs the cooperation of landowners. Fortunately, a lot of the area is owned by the National Trust, who are working with their tenant farmers to achieve more environmentally



friendly practices. It is also pleasing to see that the Conservation Strategy being followed by Butterfly Conservation at national level treats the area as being either a priority landscape (darker green) or a high priority landscape (brighter green).

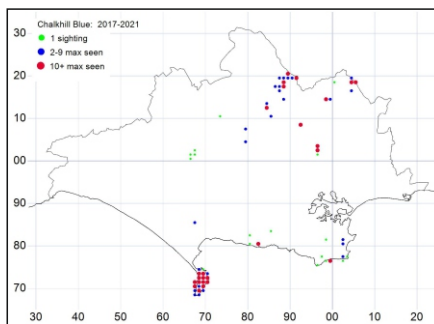
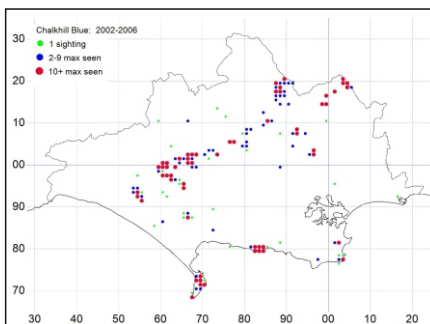
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Many thanks to Lorraine Munns for a lot of the Purbeck Ridge information.

# Chalkhill Blue search

**T**he Chalkhill Blue has been causing us concern in Dorset for some time, and since 2018 we have been making extra efforts to find out where they still exist. In 2021, 42 surveys were carried out for sites where Chalkhills have been seen in the past. Sadly, except for Portland, where they are doing very well, it is not good news. The 2021 survey results will be analysed to see if there are any clues as to why their range has shrunk so alarmingly.

The two maps below show what has happened in just the last twenty years.



Male and female Chalkhill Bue. Photo: Shona Refoy.

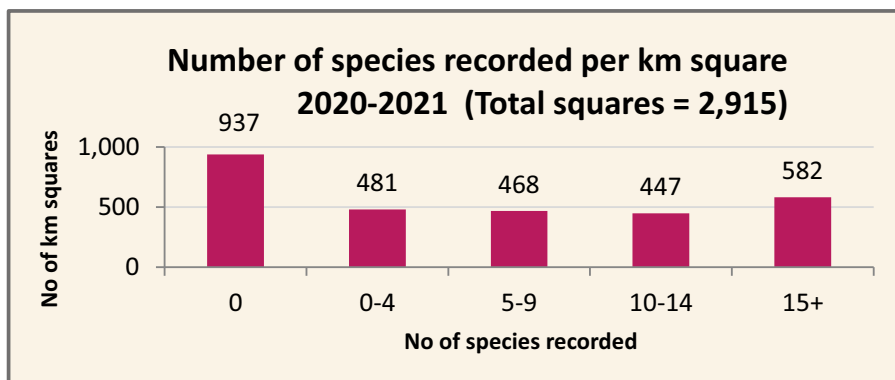
# White Holes progress

**W**hite Holes is a phrase coined by Dorset Branch to indicate kilometre squares where no butterflies have been recorded in the current 5-year cycle, 2020-2024.

Our website shows a white holes map, with a fairly up-to-date version of how our recording effort is doing. Records sent into the website are initially shown as pins on the map: clicking on a pin will tell you what species have been reported. Once a month, these records are incorporated into the map so the kilometre squares where butterflies have been reported show as light or dark red, depending on the number of species. The species recorded on transect walks and all the other ways we have of recording butterflies are added in at the end of each year. The methods of recording are listed on our website:

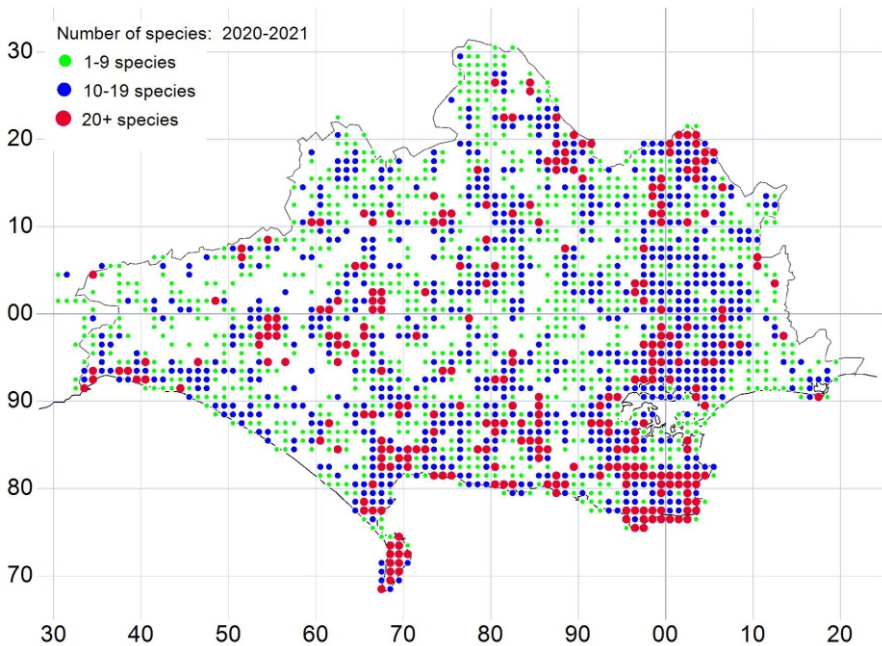
[www.dorsetbutterflies.com/recording/become-a-recorder/](http://www.dorsetbutterflies.com/recording/become-a-recorder/)  
and include national schemes such as Living Record, iRecord and the iRecord butterflies app.

Over the first two years of the recording cycle, we (you!) have done very well, recording at least one species in 1,978 squares out of 2,915, or 67.8%. This was achieved from 27,942 “visits” to squares. We have a current average of 10.8 species per square.



# White Holes progress

As the graph on the previous page shows, we have done very well in finding over ten species in 1,029 squares. We need to concentrate now on not just the squares with no records, but those with few records: 1,418 squares have none or less than five species recorded. Of course, some squares will not have many species to be counted, especially those with large monoculture fields, but don't ignore sightings in "filled" squares: there may still be other species waiting to be recorded there.



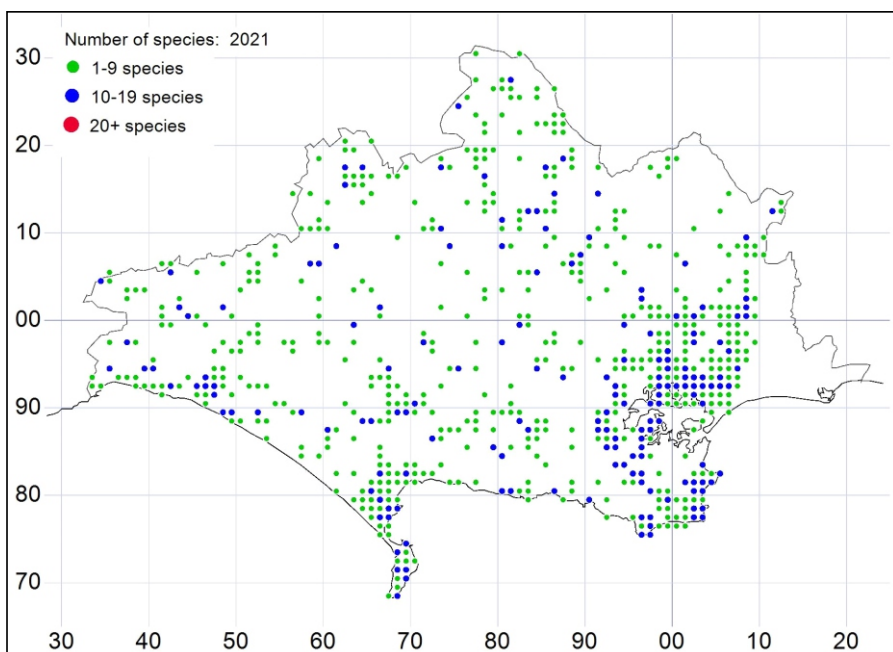
If you think you are seeing dots off the left-hand edge of the map, you are right. As boundaries between council areas change from time to time, it was agreed to fix boundaries in wildlife-reporting terms to what are called vice-county boundaries, defined by HC Watson in 1852. Although the dots are now in Devon, they were counted as Dorset for vice-county purposes.

# Big Butterfly Count

**T**his national survey is organised annually by Butterfly Conservation, and helps to bring butterflies and Butterfly Conservation to the attention of the wider public.

In 2021 over 1,000 people in Dorset took part. The total number of butterflies recorded was 32,300, (n.b. only 17 species of butterfly and three moths were listed on the survey sheet).

Nationally, over 150,000 counts took place, but showed the lowest number of butterflies per count since the Count started 12 years ago: down to 9 from 11 in 2020 and 16 in 2019.



The top butterflies in Dorset were Meadow Brown at 5,903, Small White at 5,276, Gatekeeper at 4,894 and Large White 4,582. The top species nationally were the same, but in a different order: Small White, Large White, Meadow Brown and Gatekeeper.

# Garden Butterflies

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**Y**ou can report butterflies you see in your garden to be added to our annual statistics of garden butterflies either via the national website <https://gardenbutterflysurvey.org/> or using paper forms available via our website ("Become a recorder" page) or from Adrian Neil (see inside back cover for contact information). Butterflies reported via the website, iRecord Butterflies or whatever, will not be identified as garden butterflies, but added into the grand total.

Judging from the number of butterflies reported by the regular surveys and other recording methods, it was a rather below average year. As one example, the number of records submitted to the branch website was 24% down on 2020. Garden records are somewhat different, giving a better indication of the distribution of species: where they are seen in Dorset, rather than of their abundance. For instance, it would be possible to count the same insect over a number of days in a garden, thus giving a misleading impression of how many there are.

A total of 80 records were received for the garden survey, 39 of them online. This was a good deal below the figure of 104 in 2020 which is a little surprising as the continuing Covid restrictions meant that people were probably still spending quite a lot of time at home. Of course, this is not a complete figure of all records from gardens as some may be submitted through other routes, e.g. the website, and these are not separated out. However, the garden records are well spread across the county and a good many probably come from one-km squares that do not have any other records for the year, so helping to improve the overall coverage of recording.

In all, 35 species were seen in gardens, again somewhat down on recent years and a drop from the record total in 2020:



# Garden Butterflies

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2021 - 35

2020 - 41

2019 - 39

None of the species missing in 2021 compared to the previous year are particularly common in gardens, Adonis, Chalkhill Blue and Small Blue only being recorded very occasionally. Three of the others that were not seen were something of a fluke in 2020: Small Pearl-bordered Fritillary, Long-tailed Blue and Large Tortoiseshell. White Admirals are regularly seen, again in small numbers, but not this year.



Marbled White. Photo: Rob Morrison

There was one 'exotic' species that was an addition to the 2020 list, a Swallowtail reported from a garden in Swanage.

A rather subjective analysis of the results suggests that Marbled Whites and Ringlets had a good year, while Common Blues and Small Tortoiseshells are still somewhat in the doldrums. This impression is based on a small and unrepresentative sample of all the butterfly records collected in Dorset and hence is not necessarily a good indication of how butterflies fared in the county generally. It has been announced that a new national system for recording butterflies in gardens will be introduced in 2022. There is no information available about this yet, but it will perhaps encourage more people to observe the butterflies that appear in their gardens and to supply records of them.

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Our thanks to Adrian Neil for masterminding the Garden records and the Wider Countryside Survey, and writing them up for this publication.



# Wider Countryside Scheme

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**D**espite it not having been a particularly good year for butterflies, it

was a successful one for the survey and in fact our best ever. For the seventh year running, we recorded more squares than any other branch and it was the first time that the total surpassed 70. In 2019 we did 66, in 2020 we were down to 63, but 2021 hit a record 75.

Credit for this achievement is due to the volunteer recorders, the great majority of whom were from Butterfly Conservation, but also nine from the British Trust for Ornithology (BTO).

Even though more squares were visited, the number of butterflies seen was lower than in recent years. This is in line with other surveys carried out in 2021.

The average number of butterflies counted per square was 117 compared to 166 in 2020: quite a considerable decrease.

The numbers of butterflies counted were:

2021 - 8,777  
2020 - 10,498  
2019 - 9,123

The number of species counted were 34 in 2021 and 2019 compared to a record 37 in 2020.

These figures seem rather surprising in view of the fact that WCS squares are selected at random and so are unlikely to include sites that are particularly favourable for butterflies or the location of habitat specialists. We do, however, gain from the fact that a couple of our squares are on the coast and the presence of Lulworth Skippers not only adds one to our list of species in Dorset but also to the national total.

The five most abundant species were exactly the same as in 2020. From the highest number down:

Meadow Brown  
Small White  
Gatekeeper  
Marbled White  
Large White

# Wider Countryside Scheme

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The species in the sixth to tenth positions did change:

2021:

Red Admiral  
Chalkhill Blue  
Speckled Wood  
Ringlet  
Small Tortoiseshell

2020:

Ringlet  
Speckled Wood  
Red Admiral  
Green-veined White  
Peacock.

Peacock has continued its decline, falling back to 11th position. Very odd is the appearance of Chalkhill Blue in 7th place that edged it out. Two squares on Portland produced 318 records, this freak result seems to be due to the fact that one of them (recorded by a BTO volunteer) had a very high count. It seems that his visit must have coincided with a large emergence of the butterflies.

Ringlet has dropped back a little, but is still fairly common. Small Tortoiseshell showed a marked

improvement, rising to 10th from a lowly 15th place the year before..

At the other end of the ranking, only 5 Silver-studded Blues, 2 Orange Tips and 1 Dingy Skipper were seen.

Of the migrants, Painted Lady was up from two in 2020 to 31, but Clouded Yellows were down to four from nine.

Species not seen that were recorded in 2020 were Small Blue, Green Hairstreak and Purple Hairstreak. There were no additional ones.

The main part of the WCS is carried out in July and August, so spring species such as Orange Tip are less likely to be seen. Together with the way the squares are selected, it is therefore encouraging that 34 out of the total of 49 species recorded in Dorset in 2021 were observed. Over the years, the cumulative total of WCS species is 42, which is a very significant proportion of the Dorset total.

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Brown Hairstreak. Photo: Mark Pike