Wider Countryside Butterfly Survey Annual Newsletter 2016 Season

Compiled by the WCBS team – Zoë Randle, Tom Brereton (BC), Sarah Harris, David Noble (BTO), Marc Botham and David Roy (CEH).

Peacock (Henk Bosma/Dutch Butterfly Conservation)

Welcome to the WCBS

The Wider Countryside Butterfly Survey (WCBS) forms part of an integrated approach to monitoring butterflies through the UK Butterfly Monitoring Scheme (UKBMS). The WCBS comprises a stratified random sample of 1km square survey locations across the UK and was launched in 2009.

Over the past eight years a total of 1,678 WCBS squares have been surveyed, 921 (55%) by Butterfly Conservation (BC) volunteers and 757 (45%) by British Trust for Ornithology (BTO) volunteers. A total of 13,067 visits have been made by approximately 1,600 recorders who have counted 758,138 butterflies of 51 species. The top six most widespread butterflies over this period have been Meadow Brown (found in 86% of sampled squares), Large White (83% of squares), Small White (83%), Green-veined White (77%), Small Tortoiseshell (76%) and Peacock (73%).

Butterflies are widely regarded as indicators of the health of environment, the WCBS complements conventional transect recording and generates high quality data on the population status of common and widespread butterflies.

Though we present preliminary results here, the full population trend results, which are Official Statistics, will be published on the UKBMS website in late March and summarised in the UKBMS Annual Report to recorders available from the same site early in the summer.

The WCBS runs as a partnership between BC, the BTO, the Centre for Ecology and Hydrology (CEH) the Joint Nature Conservation Committee (JNCC), and supported and steered by Forestry Commission, Natural England, Natural Resources Wales, Department of Agriculture, Environment and Rural Affairs and Scottish Natural Heritage. Participants include recorders from the BTO/JNCC/RSPB Breeding Bird Survey (BBS) and BC's volunteer network.

Coverage in 2016

A total of 771 squares were surveyed in 2016 (61% by BC, 39% BTO BBS squares). This is a net loss of 31 squares (-4%) from 2015. Participation by both BC and BBS recorders dropped by 4% and 3% respectively. This is quite surprising particularly as the summer of 2016 was warmer than average and relatively dry in most regions. However, the greatest losses occurred in Northern Ireland (-8) and South Wales (-7), where anecdotal evidence from our Regional Officers suggest that this could be due to inclement wet weather.

Over 3,000 km of survey line was walked by nearly 700 recorders with 1,646 visits carried out. During the core July and August recording period 84% of squares received the required two visits. An additional 176 spring visits to 136 squares were made from April to June, with Orange-tip seen in 63 squares.

Marbled White (Tony Cox)

2016 SURVEY

Results round-up

Common Blue was less widespread decreasing 16 percentage points on 2015 levels. (Keith Warmington)

As in 2015, 45 butterfly species were seen during the 2016 WCBS surveys; Purple Emperor made a welcome return and substituted the absence of Small Blue. The core recording period produced sightings of 43 species from 1,288 visits to 644 squares. Twenty-three species were present in more than 30 squares, meeting the target for 'adequate' coverage, and 18 species (one fewer than 2015) had 'excellent' coverage being present in over 100 squares.

Meadow Brown was the most widespread species for the seventh successive year being located in 92% of squares. Of the 24 wider countryside species seen during the core recording period, 37% of species became more widespread with 63% less widespread. Three species, Meadow Brown, Marbled White and Brimstone were more widespread than in other year of the WCBS. The highest count for Marbled White was 155 in SY8779 (Dorset) compared to 36 in the same square in 2015.

Large White, Small White and Speckled Wood were also more widespread than in 2015 with occupancy up by 10 and 8 percentage points respectively. Speckled Wood did especially well in Northern Ireland being 38 percentage points more widespread compared with 2015. Wall Brown improved slightly on 2015 levels, being three places higher in the rankings and experiencing a two percentage point increase. The highest count of Wall Brown was near Skinburness, Cumbria where 31 were seen compared to the 2015 peak of 15 near Tyneham, Dorset in 2015. This species did particularly well in Wales increasing by 10 percentage points. This is a welcome recovery as the greatest reduction in range of this species occurred in Wales in 2015 where occupancy was down to 6%.

Peacock, Small Copper and Silver-washed Fritillary on the other hand were less widespread than in any other year of the WCBS. Across the UK, Peacock was down by 11 percentage points but this varied county by county. Despite being less widespread than any other year of the WCBS across the UK, Small Copper occupancy increased by 12 and 11 percentage points in Northern Ireland and Wales respectively.

Small Tortoiseshell occurrence was down seven percentage points across the UK and decreased most in Wales where it was 38 percentage points less widespread than in 2015. Three of the 'golden skippers' also fared poorly with Small Skipper, Large Skipper and Essex Skipper respectively seven, eight and four percentage points less widespread. Large Skipper occupancy decreased by 11 percentage points in England and 14 percentage points in Wales.

Common Blue had a poor year, being the least widespread in the WCBS since the cold wet summer of 2012 and being 16 percentage points down on 2015 occupancy levels. In August 2013, 202 individuals were seen in TF2105 Cambridgeshire, compared to only three in July 2016. This species also exhibited regional / country differences. For example it was less widespread in both England and Scotland but more widespread in Wales.

Of the three regular migrants, the Red Admiral was more widespread than from 2013-2015 and increased by 19 percentage points over 2015. This was a welcome recovery from 2015 when this species suffered the greatest decline in occupancy of all species recorded being seen in 18% fewer squares than in 2014. In TQ1608 (West Sussex), 33 individuals were seen on 19 July 2016. The highest WCBS count of this species here previously was six on 25 July 2011. Red Admiral was more widespread in all countries (on average 21 percentage points up) in 2016 except in Scotland where its occurrence was down by nine percentage points compared to 2015. Occupancy of Painted Lady and Clouded Yellow were down slightly, by one and two percentage points respectively over 2015 levels. The highest count of Clouded Yellow was near Bingham, Nottinghamshire where 20 were seen compared to the 2015 peak of 38 near Walkeringham, Nottinghamshire. The highest count of Painted Lady was near Deighton, York where 15 were seen compared to a maximum of 12 near to Abinger Hammer, Surrey in 2015.

Red Admiral was more widespread increasing by 19 percentage points on 2015 levels. (Iain H Leach)

The best survey day was 18 July 2016 when 6,166 butterflies of 29 species were counted (six more species than the peak day in 2015). Almost one-third of these were Meadow Browns! The highest individual species count also occurred on this day when 331 Meadow Browns were seen in a square near Otford in Kent. On 4 July 2016 331 Meadow Browns were seen in a square near to Elveden, Suffolk. This square also boasted the greatest number of butterflies seen

Table 1: How widespread were butterflies on WCBS squares in 2016 and comparisons with 2015

Species	% squares recorded in	Change in % points from 2015	2016 rank	2015 rank
Meadow Brown	91.6	+2.1	1	1
Large White	85.6	+9.5	2	3
Small White	85.0	+7.8	3	2
Green-veined White	71.9	+6.8	4	6
Gatekeeper	69.8	-3.2	5	4
Ringlet	67.9	+1.5	6	5
Speckled Wood	64.5	+7.8	7	8
Red Admiral	63.3	+18.7	8	10
Small Tortoiseshell	56.2	-7.1	9	7
Peacock	41.7	-11.1	10	9
Comma	38.0	-5.0	11	11
Small Skipper	28.1	-6.8	12	13
Large Skipper	24.7	-8.4	13	14
Holly Blue	23.4	-1.3	14	15
Common Blue	22.9	-16.2	15	12
Brimstone	18.6	+0.5	16	18
Marbled White	18.6	+1.9	16	20
Painted Lady	17.9	-1.0	18	16
Small/Essex Skipper	17.1	-0.8	19	19
Small Heath	14.7	-3.6	20	17
Small Copper	11.1	-0.5	21	22
Essex Skipper	9.5	-4.0	22	21
Silver-washed Fritillary	6.6	-2.6	23	23
Wall Brown	6.1	+2.4	24	27
Brown Argus	3.7	-1.6	25	24
Grayling	2.4	-0.5	26	28
Dark Green Fritillary	2.3	-1.6	27	26
Clouded Yellow	2.1	-1.9	28	25
White Admiral	2.1	0.0	28	30
Purple Hairstreak	1.9	-0.3	30	29
Scotch Argus	1.5	-0.3	31	31
Orange-tip	1.1	-0.3	32	32
White-letter Hairstreak	0.6	0.0	33	35
Brown Hairstreak	0.6	+0.5	33	40
Chalk Hill Blue	0.5	-0.3	35	34
Small Pearl-bordered Fritillary	0.5	-0.6	35	33
Lulworth Skipper	0.5	+0.3	35	40
Wood White	0.3	0.0	38	38
Dingy Skipper	0.3	+0.3	38	-
Large Heath	0.2	-0.5	40	35
Northern Brown Argus	0.2	-0.2	40	38
Adonis Blue	0.2	0.0	40	40
Silver-studded Blue	0.2	0.0	40	40
Purple Emperor	0.2	+0.2	40	-

(914) over two summer visits. The most species-rich squares in the 2016 survey were near Wangford, Suffolk and near Litlington, East Sussex, where 23 species were seen in each over two visits. A square near Litlington, East Sussex was the most diverse square for the second year running and supported four habitat specialists; Chalk Hill Blue; Dark Green Fritillary; White Admiral and Silver Washed Fritillary.

The greatest counts of four habitat specialist in the 2016 survey were as follows; 91 Silver-studded Blue near Boldre, Hampshire; 40 Grayling near Butley, Suffolk; 51 Silver-washed Fritillaries near West Woodlands, Somerset and 44 Lulworth Skipper near Langton Matravers, Dorset. There were 115 Lulworth Skipper counted in three squares in 2016 compared to only 27 in one square in 2015.

Moths were counted in 17% of squares, nine percentage points fewer than in 2015. In total 1,859 individuals of 31 species (11 fewer than last year) were counted. Silver Y maintained its top spot for the eighth successive year being the most widespread species, occupying 25% of squares (24 percentage points fewer than 2015) suggesting that it wasn't a good migration year for this species. For the third consecutive year, Six-spot Burnet was the second most widespread moth occurring in 21% of squares and for the first time since 2011, Yellow Shell made it into the top three being present in 12% of squares.

Dragonflies were counted in 274 squares (36% of the total), three percentage points fewer than 2015. A total of 3,209 individuals of 28 species were counted. Common Darter was the most widespread dragonfly occurring in 36% of WCBS squares (9 percentage points higher than in 2015). Brown Hawker was reported from a quarter of all squares and Southern Hawker 23% of squares.

NEWS

Latest from the WCBS

New discoveries

In 2016, the WCBS generated records for eight 1km squares with no previous butterfly records. One of these squares, which is typical intensive farmland habitat located near to Alderton, Northamptonshire, produced the highest count of Large Skipper (42) and the fourth highest counts of Common Blue (23) and Small Skipper (49) from three visits. These results highlight that interesting new discoveries can still be made in the most unexpected of places.

Of the scarcer Priority Species for conservation, new 1km square records for Small Pearl-bordered Fritillary were generated near Bower, Northumberland. This is an important discovery as the Small Pearl-bordered Fritillary has declined in range by 76% and abundance by 58% since the 1970s.

White-letter Hairstreak was seen in a WCBS square in Cornwall. This is only the second sighting of this species for the county for 25 years following a garden record in 2014. Brown Hairstreak, was spotted on Burton Common, Dorset in August. This is the first record of this butterfly for this WCBS square and is approximately 1km from the nearest previous sighting in this area, which was in 2006. Brown Hairstreaks occur at low densities across wide areas of countryside. It is a butterfly that needs Blackthorn hedgerows and thickets of scrub on open grassland or along woodland edges for its survival. The species has undergone a 15% population decline and 49% decline in distribution, chiefly due to unsympathetic hedgerow management.

There are plenty of opportunities to contribute to new butterfly discoveries by taking part in the WCBS. For example, there are 133 BC WCBS squares for which there are no butterfly records in the Butterflies for the New Millennium (BNM) database. The majority of these (56%) are in England, with 32% in Scotland and 12% in Wales. As reported, these squares have the potential to generate some very interesting records and help inform our knowledge of butterfly distribution. Please spread the word with your friends and colleagues to get involved in the WCBS.

New online data entry system

The online Transect Walker system now has full integration with WCBS which has over 1,700 registered users. Data collation and duplicate checking was rather complicated for the 2016 season with two data entry systems (new and old) running in parallel through the recording season. Forty-two per cent of 2016 survey data came in via the new system and 58% via the old system. The old online system has now been switched off and we hope that recorders who are not yet registered to use the new system will do so in good time for next year's recording season. Comprehensive guidance notes including details on how to register are available to download from the homepage of the website www.ukbms.org/mydata/. These provide details on using all aspects of the system. Screen shots are included to help those who don't like too much text.

There are several key benefits to the new system: recorders can review and edit their own data; County Butterfly Recorders, WCBS Branch Champions and Transect Co-ordinators have access to the data (if they are registered and set up) and can track progress throughout the season; recorders can also get instant feedback of sightings and results across the network of UKBMS sample locations (WCBS squares and traditional transects).

Recorders can also enter data for taxa other than butterflies and the full range of moths and dragonflies that they may encounter in their WCBS squares. In 2016, we have received records for around 70 other species including hoverflies, birds, beetles, grasshoppers, shield-bugs and bumblebees! These data will go into the iRecord database for verification and will eventually be repatriated to the relevant recording schemes.

This intensive farmland square in Northants produced the highest count in the WCBS for Large Skipper.

NEWS

UK Butterfly Recorders' Meeting

Our annual UK Butterfly Recorders' Meeting will be held on Saturday 25 March 2017 at the Birmingham and Midland Institute, central Birmingham. This is a popular event and is open to anyone interested in butterflies, their recording, monitoring and conservation. The full programme is available here. It is an interesting day and is always the first time that butterfly population trends from the previous year's UKBMS are publicly revealed. One key difference from previous years is that to streamline the booking process and reduce queuing at the meeting registration desk, we have moved to an online booking system, via Butterfly Conservation's website. The same process was used for this year's Moth Recorders' Meeting and it proved to be a great improvement. Of course if you do not have access to the internet for booking, alternative arrangements can be made on request, please contact info@butterfly-conservation.org.

UKBMS 40th Anniversary

On 12 November 2016, the 40th anniversary of the UKBMS was celebrated with a symposium at the Centre for Ecology & Hydrology (CEH), Wallingford. Over 100 people attended and heard all about the establishment and history of the scheme. Dr Ernie Pollard presented the first talk of the day describing how he and colleagues developed and implemented the survey methodology back in the early 1970s.

Following on from Ernie the importance and use of the UKBMS dataset in terms of informing environmental policies, climate change research and conservation management were highlighted. Around 150 peer-reviewed articles and research papers using UKBMS data have been cited almost 10,000 times.

Butterfly monitoring schemes using transect methods have been developed in 22 European Countries. The data is being used for research and to produce biodiversity indicators for Europe, including the Grassland Butterfly Indicator.

Future perspectives of the UKBMS were discussed, including the use of drones for more sophisticated data capture and ways of improving coverage to report on trends for all UK butterfly species.

After the talks, awards were presented to some of the many volunteers who have made outstanding contributions to the UKBMS, making the scheme the great success it is.

Research news

The state of urban butterfly populations

In January this year Dr Emily Dennis and colleagues published a paper on how butterflies were faring in urban areas.

The study compared trends for 28 species in urban and countryside environments. Over a 20-year period urban butterfly abundance fell by 69% compared to a 45% decline for butterflies in rural areas.

The Small Copper and Small Heath declined much more dramatically in towns and cities than in the countryside.

Small Copper abundance fell by 75% from 1995 to 2014 in urban areas compared to 17% in rural areas.

From 1995 to 2014 Small Copper abundance fell by 75% in urban areas compared to a 23% decline in rural areas. The Small Heath experienced an abundance decline of 78% for urban areas, compared to a smaller decline of 17% in rural areas.

The causes of these changes require further research but it is likely to be due to the combined effects of habitat loss, intensification of land use and climate change.

The study found that butterflies in urban areas emerged on average two days earlier than their countryside counterparts with urban Brimstones emerging five days earlier than those found in rural locations.

Flight periods for many of the species studied were also found to be slightly longer for urban butterflies than their rural counterparts.

The probable cause behind the earlier emergence and longer flight periods of urban butterflies is the 'urban heat island' effect - conditions in which towns and cities are slightly warmer than the surrounding countryside due to human activities.

For more detailed information you can read the paper, E B Dennis et al., (2016) Urban indicators for UK butterflies. Ecological Indicators http://dx.doi.org/10.1016/j.ecolind.2017.01.009 or you can read the news story on the Butterfly Conservation website.

Butterfly events

Below we give a selection of events that WCBS recorders may find of interest, either by providing feedback on local butterfly trends or training opportunities. To find out what is going on in your local Branch and for details of other training and identification events please visit the 'In your area' page of the Butterfly Conservation website.

Cheshire & Peak

Cheshire & Peak Butterfly Recorder Training event, Sunday 21 May 2017, 10am-1pm, at Tegg's Nose Country Park (SJ947723). Meet at the Visitor Centre, SK11 0AP. To register for this course please contact Tim Ward via 01625 424797 or by e-mail at Henbury@aol.com.

Derbyshire

Monday 6 March 2017 (2pm – 4pm) and Wednesday 8 March 2017 (10am – 12pm). Butterfly monitoring methodology, species identification and Health and Safety. To be held at Derbyshire Wildlife Trust, Sandy Hill, Main Street, Middleton by Wirksworth DE4 4LR. Each session will be limited to 20 people so please book your place on one of the sessions early via Elizabeth Woodward at the DWT Offices on 01773 881188.

Northern Ireland

Two WCBS training days have been organised in Northern Ireland. Details are as follows:

Wednesday 5 April 2017, 10:30am – 2:30pm. National Trust's Divis & Black Mountain, Divis Road, Hannahstown, near Belfast, Co. Antrim BT17 0NG. Please contact Rose Cremin via rcremin@butterfly-conservation.org or 078-81583932. For directions and site information please visit www.nationaltrust.org.uk/divis-and-the-black-mountain

Saturday 27 May 2017, 10:30am – 2:30pm
Location: TBA

Contact: Rose Cremin at rcremin@butterfly-conservation.org or via 078-81583932

Directions/Site information: TBA

VIEWPOINT

Admiral admiration and Silver-washed sensation

***Heather Silk** is a BBS recorder who also does the WCBS on her BBS square near Hinxhill in Kent. She shares her passion for butterflies with us in this article.*

White Admiral (Iain H Leach)

BBS/WCBS square near Hinxhill, Kent (Heather Silk)

I should be writing that I have always been interested in butterflies but that would not be strictly true. As a child, I do remember the Peacocks and Small Tortoiseshells which would come indoors late summer and hang themselves up in the most inaccessible positions in semi darkness above the stairs. Others stayed in the bedrooms clinging on between the wooden boards of the ceilings. I never saw them arrive or depart. The upstairs temperature would have been eminently suitable for keeping them cool during hibernation with amazing intricate icy patterns inside the bedroom windows on frosty and snowy days!

I was aware of the commoner butterflies but it took a holiday in the Forest of Dean to really inspire me years later. I noticed several striking black/brownish butterflies with white markings gliding amongst the trees - my first White Admirals. Then, a bigger orange one with dots and black wavy markings appeared on bramble flowers - a Silver-washed Fritillary. There were lots of both species to be seen during the week and I marveled at their beauty and majesty.

When I got home, a conversation with someone with more local knowledge updated me that both butterflies were in woodland not far away. I found White Admirals in abundance but very few Silver-washed Fritillaries.

So, fast forward a few years with more butterfly watching and guided walks with the local Butterfly Conservation group, until I felt I would like to give something in return for all the pleasure I had watching butterflies. I was interested to read about the Wider Countryside Butterfly Survey (WCBS) especially as I had surveyed birds for the Breeding Bird Survey since 1998 and this new survey used the same square and transects.

The square is very varied, including part of a shooting estate, mixed woodland, intensive farmland, rural roads, hedgerows and ponds. Regularly monitoring butterfly populations on typical farmland seemed an excellent concept because this includes so much of our countryside where there is not any targeted wildlife management. I soon found pockets of butterflies in small areas which had been left because of inaccessibility, as it was too damp or was game cover.

One such area was excellent for butterflies with Common Knapweed, brambles and thistles and it was here in 2010 I was very excited to spot for the first time two Silver-washed Fritillaries and later returned to take photographs. I was unaware of any close colonies but found out that they were having a good year and were spreading. In subsequent years, they were in the same place but in 2015 and 2016, they were also at the other end of the same ride (there is no public access through the middle.) The other butterfly which was my initial catalyst, the White Admiral, remained elusive until this year, 2016, when it appeared after I had finished surveying, just by my car!

I always enjoy doing surveys and have often found that new or unexpected species turning up on a known area make the whole experience even more rewarding, often more so than going to see the predictable. Who knows what will turn up in 2017?

VIEWPOINT

Steve Ryder - a new Champion

I first got involved in the WCBS in 2011 when I took on a square near my home on the northern edge of Lancashire's Forest of Bowland, then last year I wondered about trying to take on a second square, but my opportunities to walk transects are limited, and the local summer weather is so fickle it might have been tricky fitting in extra surveys! So instead, I opted to help more by becoming Lancashire's WCBS Branch Champion, a role that's a lot less weather dependent.

Having gathered all the necessary information from Zoë, my first task was to work out how I could go about increasing the number of squares being covered in this area because, as previous newsletters have shown, Lancashire was a high priority region with only 12 squares being covered recently.

Fortunately my day job is working on nature reserves for Lancashire Wildlife Trust, so our fantastic network of volunteers was my first point of call and they did not disappoint. Within a couple of weeks or so of writing a piece about WCBS (with a request for new surveyors) for the Trust's volunteer newsletter, I'd allocated 9 new squares and had enquiries about others.

I've still one or two parts of the region where finding someone to take on squares is proving more tricky, so next step is to target these by contacting naturalist societies and other conservation volunteer groups in those areas. I don't really use social media, but I'll be calling on the help of friends and colleagues to advertise for volunteers via Facebook and the like.

WCBS is a fantastic scheme to be involved with as it provides such an array of important data for conservation using surveys that are relatively easy for new volunteers to learn and fit in, so I'm hopeful that the team of new surveyors who will begin in Lancashire in 2017 will enjoy participating and stick with it.

So as the new year begins I'll be doing my best to contact existing networks of conservation volunteers and naturalists in our region via various means to let as many people as possible know about opportunities to get involved with WCBS. I'm also aware that local community groups and village newsletters etc may also be good ports of call, plus I'm keen to try and pinch ideas from other Branch Champions with more experience of all this than I. Hopefully by spreading the word amongst this region's legion of volunteers we can get to a position where Lancashire's input into WCBS is considerably improved long term.

Steve Ryder WCBS Branch Champion for Lancashire

GETTING INVOLVED

Situations vacant

Over the past year there have been several changes to WCBS Branch Champions. We have been fortunate to recruit Louisa Maddison for Glasgow and South West Scotland; Stephen Ryder for Lancashire and Scott Martin for the West Midlands. In addition to this Jacky Adams has taken over from Linda Barker for Hampshire and Isle of Wight; Clare Blencowe has replaced Penny Green in Sussex and Alan Dawson has stepped in as temporary cover for Julian Bull in Norfolk. The East Midlands Branch has split their WCBS responsibilities across the three counties. Richard Jeffery is covering Leicestershire and Rutland; Richard Rogers is covering Nottinghamshire and Ken Orpe is covering Derbyshire. We are grateful to the previous Champions for their effort and support of the WCBS and welcome the new recruits who we look forward to working with.

Two BC Branches still require Champions; Lincolnshire which hasn't had a Champion for many years and South Wales which has been co-ordinated by Zoë Randle, the UK WCBS Co-ordinator, for the past two years. South Wales is a large Branch area and it may be appropriate to have a couple of Champions to share the workload.

The role of BC Champions is crucial in finding volunteers to take part in the survey. Champions may be involved in a range of other activities that make the difference in having a well-run scheme including being on hand to offer advice, providing training if needed, giving gentle reminders of data deadlines and providing local feedback.

Zoë Randle (UK WCBS co-ordinator for Butterfly Conservation volunteers) can provide help and support with the undertaking of this role including: providing Branch Champions with a PowerPoint presentation that has a national WCBS perspective and a local Branch perspective which can be used at meetings and training events. Provision of a written syndicate article giving both a national and local perspective could be produced for submission to Branch newsletters, local wildlife trust magazines, parish magazines etc. In addition to this, Zoë is available to answer queries and questions that relate to WCBS routes, access to private land and the like.

Butterfly Conservation Branches can also help by advertising the WCBS on Branch websites and keeping information up-to-date by linking to the latest WCBS newsletter. Incorporation of interactive maps on websites showing the location and availability of WCBS squares, using Google maps or similar, is a great resource for potential recorders. A good example of this can be found on the East Scotland Branch of Butterfly Conservation website. Twitter and Facebook are also great places for raising the profile of the WCBS.

Priorities for improving coverage 2017

Since the full launch of the WCBS in 2009, on average 774 WCBS squares (442 BC and 332 BBS) have been surveyed annually. The best year for participation in the WCBS was 2013 when 857 squares were surveyed. BTO BBS participation (374) was greatest in that year, whereas BC participation peaked in 2015 when 494 squares were covered. Involvement in the WCBS was lowest in 2010 when 690 squares were surveyed. BC participation was lowest in that year (357 squares) whilst the nadir for BTO BBS coverage was 279 squares in 2011. It is encouraging that participation in the WCBS remains relatively stable and the 2016 total was only just below average. We are keen to increase coverage and are aiming for an average of 1,000 squares covered annually.

Gains in 2016

Last year we promoted 17 squares which had not been surveyed since 2013 that had data runs of five years. We were successful in getting five of these reinstated: TL8339 Bulmer, South West of Sudbuy, Essex; SJ6884 High Legh, Warrington; SJ7488 outskirts of Altringham, along Trans Pennine; SO8309 near Edge, Gloucestershire and ST8946 near Warminster, Wiltshire. We are hopeful that these squares will be resurveyed in 2017 and are very grateful to the recorders who carried out the monitoring on them. As a result of the "squares up for grabs" appeal in last year's newsletter, we were successful in getting one previously under-recorded square surveyed (Cremyll, Torpoint Cornwall) and the previously mentioned square on the outskirts of Altringham, Cheshire.

Eight WCBS squares that formerly had no butterfly records associated with them were surveyed in 2016, generating 93 records for 20 butterfly species. The squares were SP6647, SP7447 in the BC Beds & Northants Branch area; NY7539 Cumbria Branch; SS7025 Devon; SP0709 Gloucestershire; NY8583 North East England; SO5419 West Midlands and SD7472 Yorkshire. Many thanks to the recorders who did the surveys in these squares. We hope that the monitoring will continue in future years.

Growth in WCBS coverage occurred in three BC Branch areas in 2016 taking them off the medium priority list. These were: East Scotland, where 33 squares were surveyed (up six on 2015 levels), Surrey and South West London 34 (+5) and Upper Thames Branch 30 (+3). Coverage remains low in Cornwall (9), Lincolnshire (4) and Warwickshire (3). Improving coverage in these areas remains a priority.

Challenges for 2017

There are 133 randomly selected WCBS squares yet to be surveyed for which we have no butterfly records. Getting these squares regularly monitored in the WCBS would bring the added bonus of improving our knowledge of butterfly distributions.

Defunct squares with good data runs

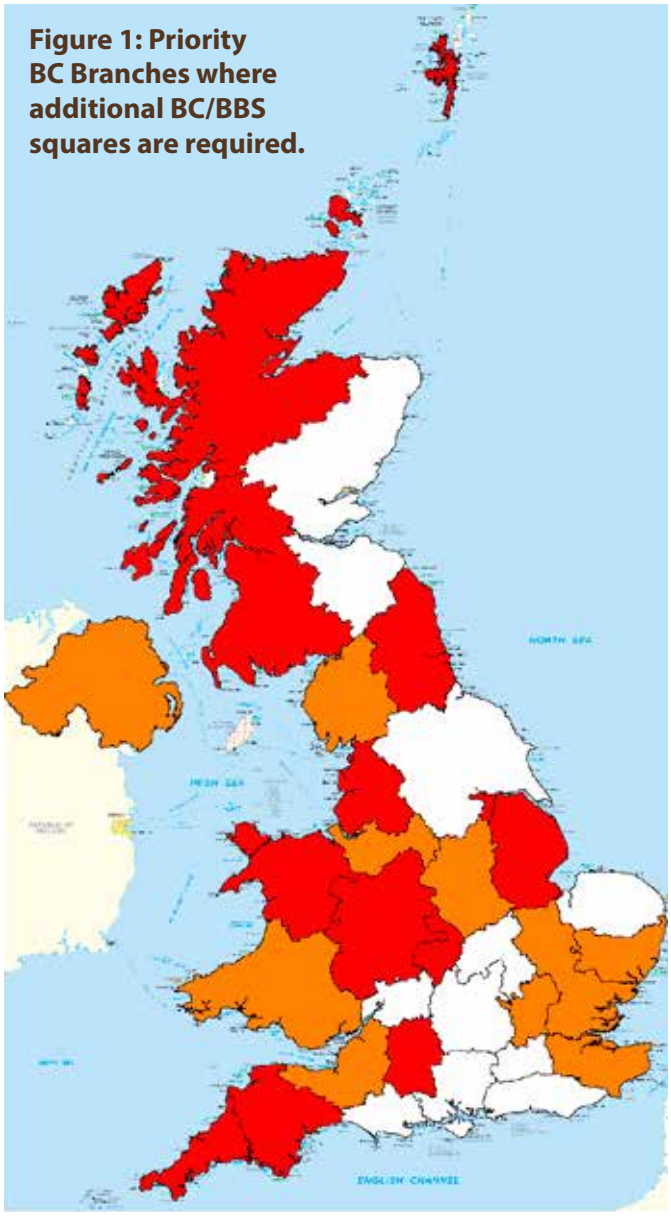
There are ten squares with eight years of data that that were last surveyed in 2015 and we are keen to get these squares resurveyed from 2017. The squares are in the following areas: SU2810 (BBS) Minstead, Hampshire; SU6833 (BBS) Kitwood, Hampshire; SU7835 (BBS) Bordon, Hampshire; TQ9726 (BBS) Brookland, Kent; TR3248 (BBS) Sutton, Kent; SN8002 (BBS) Clyne, Neath Port Talbot; TF5016 (BC) Walpole St Peter, Norfolk; TG3033 (BC) Knapton, Norfolk; ST3215 (BBS) Broadway, Somerset and SO9840 (BBS) Elmley Castle, Worcestershire. In addition there are a further 15 squares with data runs of seven years that have not been surveyed since 2015 and five that have not been surveyed since 2014. If you are interested in surveying any of these squares please contact Sarah Harris about BBS squares or for BC squares the relevant WCBS Branch Champion. Details can be found on p 11 of this newsletter.

Squares in BC Branches with substantial coverage gaps

Due to a reduction in survey effort in 2016, the following Branch areas have been added to the medium priority list (Figure 1) Kent (-5), Suffolk (-5) and East Midlands (-3).

It is reassuring that no Branch areas have been added to the high priority list this year, although some substantial improvements are still needed in Cornwall, Devon, Wiltshire, West Midlands, Warwickshire, North Wales, Lincolnshire, Lancashire, North East England, Glasgow and South West Scotland and Highland where fewer than 20 squares were sampled in 2016. The appointment of new WCBS Branch Champions in the West Midlands, Lancashire and Glasgow and South West Scotland Branch areas will hopefully help get these areas 'out of the red' with the recruitment of new volunteers.

Figure 1: Priority BC Branches where additional BC/BBS squares are required.



= high priority regions where there were <20 squares sampled in 2016.

= medium priority, where there were <30 sampled squares in 2016, and/or where the number of BC allocated squares sampled was <20% of the total.

HURRY! SQUARES UP FOR GRABS

SQUARE VACANT

NH2603
Munerigie
near Invergarry, Highland

Photo by Sarah McGuire

Easy access, last surveyed in 2013. Five-year data run.

Contact **Ewan Munro**
e wcbs@highland-butterflies.org.uk
T 07818 441966

SQUARE VACANT

NN0661
North Ballachulish
Highland

Photo by Zoë Randle

Fantastic views, last surveyed in 2014. Five-year data run.

Contact **Ewan Munro**
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T 07818 441966

SQUARE VACANT

SP1267
Near Ullenhall
Warwickshire

Photo by Dave Thompson

Easy access via footpaths. Six-year data run.

Contact **Keith Warmington**
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T 01827 715873

SQUARE VACANT

SM9737
Fishguard/Abergwaun
Pembrokeshire

Photo by Jeremy Owen

Easy access via footpaths. Previously recorded species include Grayling and Wall.

Contact **Zoë Randle**
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T 01929 406006

SQUARE VACANT

NT9935
Doddington Moor
near to Nesbit, Northumberland

Photo by Richard Webb

No records in BNM.

Contact **Brian Denham**
e brian.denham@ntlworld.com

SQUARE VACANT

SH4179
Near Llynfaes, Bodffordd
Anglesey

No records in BNM.
Easy access via footpaths.

Contact **Amy Green**
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ID FEATURE

Banish the blues

There are nine species of blue butterfly in the UK, but in the wider countryside you are only likely to regularly encounter three of these: Holly Blue, Common Blue and Brown Argus. Small Blue, Adonis Blue, Chalkhill Blue, Large Blue and Northern Brown Argus are habitat specialist that have restricted distributions and are found in high quality calcareous grassland habitats. Silver-studded Blue is also a habitat specialist with localised distribution in heathland and coastal habitats, whilst Long-tailed Blue is a rare migrant.

Holly Blue

Range: Widespread in England and Wales, local in Northern Ireland and southern Scotland.

Habitat: Most frequently encountered in gardens, and along hedgerows and woodland rides.

Wingspan: 26-34mm.

Appearance: On the upperside the wings are bright blue; the females have black edges to their wings. The undersides of the wings are pale blue with small black and silver spots. Unlike Common Blue and Brown Argus, there are no orange spots on the underside.

Brown Argus

Range: Widespread in central, southern and eastern England. Local in Wales.

Habitat: Found in calcareous grasslands, coastal dunes and along field margins and woodland tracks.

Wingspan: 25-31mm.

Appearance: On the upperside the wings of both sexes are dark brown with a dark spot in the middle of the forewing and a border of bold orange spots on both wings. On the underside hind wing two spots form a figure of eight pattern (see pictures). Both sexes look similar to Common Blue in flight but have a more silvery appearance.

Common Blue

Range: Throughout the UK.

Habitat: Found in flowery grasslands, moor and heathland, and in field margins and woodland rides.

Appearance: Males are bright blue on the upperside. Females are similar to Brown Argus on the upperside though the forewing central spot is absent; the wings are tinged blue and the orange spots are less bold. On the underside fore wing Common Blue has a bold spot near the base of the body (see picture).

HOLLY BLUE

BROWN ARGUS

COMMON BLUE

Photos courtesy of WildGuides Britain's Butterflies (3rd Edition)

MEET THE TEAM

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ACKNOWLEDGEMENTS

BC, BTO and CEH would like to thank the following people for their help and support: Anna Robinson and Deborah Procter (JNCC), Ian Middlebrook and Nigel Boum (BC), David Roy and Marc Botham (CEH). We would like to acknowledge the following photographers: Jim Asher, Henk Bosma/ Dutch Butterfly Conservation, Iain H Leach, Heather Silk, and Keith Warmington. The WCBS forms part of the UK Butterfly Monitoring Scheme (UKBMS). The UKBMS is run by Butterfly Conservation, the Centre for Ecology and Hydrology, and the British Trust for Ornithology, in partnership with the Joint Nature Conservation Committee, and supported and steered by Forestry Commission, Natural England, Natural Resources Wales, Department of Agriculture, Environment and Rural Affairs and Scottish Natural Heritage. The UKBMS is indebted to all volunteers who contribute data to the scheme - without your help the project would simply not have happened. We would also like to acknowledge the enthusiasm and support of the BBS partnership (BTO, JNCC & RSPB) in the extension of monitoring from birds to butterflies through the WCBS.

Butterfly Conservation · BTO Looking out for birds · United Kingdom Butterfly Monitoring Scheme · Centre for Ecology & Hydrology Natural Environment Research Council

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