

Upper Thames Branch Silver-studded Blue Report 2020



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Conservation**

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Butterfly Conservation Upper Thames Branch

https://www.upperthames-butterflies.org.uk/main_index.pl

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Summary

- The Silver-studded Blue butterfly is one of the rarest, and most threatened species in the Upper Thames area, where it is now restricted to just a few lowland heathland sites in south-east Berkshire. The species is now extinct at many former and apparently/potentially suitable sites. Larger and more sustainable populations occur just over the border in NW Surrey and NE Hampshire.
- The species stronghold in the area is on the MoD training area at 'Barossa', both on the Dry Training Area, and within the Range Danger Area. There is a viable colony at Silchester Common/Pamber Heath just over the border in North Hants.
- At all other Berkshire sites the species is only currently found in very small numbers and its status is precarious at all of these sites.
- It is recognised that 'general heathland management' has not been adequate to maintain the species. It requires bespoke management providing a regular supply of pioneer stage habitat with plenty of Bell Heather and/or Cross-leaved Heather. Encouragingly, a number of landowners and land managers are now including such management in their operations. Such management benefits many heathland species of conservation interest.
- In the last few years, and thanks in large part to Upper Thames Branch activity, there has been an increase in the number of naturalists actively surveying for the Silver-studded Blue. This has resulted in the development of the 'Berkshire Silver-studded Blue Crew'.
- This increase in interest has resulted in improved recording, and the species has been found / re-found at a number of locations with suitable or restorable habitat. This gives glimmers of hope that, with

appropriate habitat management, the prospects for the species in the short term are more promising.

Introduction

The Silver-Studded Blue butterfly *Plebejus argus* is one of our rarest and most threatened species and is listed under Section 41 (S41) of the 2006 Natural Environment and Rural Communities (NERC) Act as a 'priority for conservation action'. The species has previously declined significantly in the Upper Thames area, due to loss of habitat as a result of development, changes in land use, and lack of appropriate management on its favoured heathland sites.



A pair of Silver-studded Blues mating on Cross-leaved Heath, July 2020
– photo © Steve Harley

The **habitat requirements** of the species are pretty well documented (<https://butterfly-conservation.org/butterflies/silver-studded-blue>). In the last 20 years it has proved challenging to maintain and restore its populations and distribution in Berkshire. It has even been struggling to survive within 'protected sites' & BBOWT nature reserves. It is dependent on a regular provision of suitable young/short dry or damp heathland habitat, preferably with plenty of bell heather and/or cross-leaved heath as well as common heather/ling. At most sites this is achieved as a consequence of mowing, grazing, or scraping and/or wildfires. In addition to this pioneer heather growth, a mix of taller heather for roosting and blocks of low gorse etc. for shelter appears to be beneficial. In the absence of management natural succession tends to make heathland areas too overgrown for the Silver-studded Blue to complete its lifecycle. Although there is a significant amount of active heathland management at many sites, the Silver-studded Blue is reported to be reluctant to travel distances, making (re-) colonisation of habitats unlikely by natural dispersal unless there is a good meta-population in the near vicinity.

Our UTB populations are mostly on the northern edge of the extensive 'Surrey/Hants/Berks' heathlands. Many of the north-west Surrey and north-east Hampshire populations are much stronger than those on our Berkshire sites.

Recent history

The most recent UTB atlas (Atlas of Butterflies in BB&O, Asher et al, 2016) reported that during the 5-year period 2010-2014 the species was recorded in just 4 tetrads in Berkshire. Since that atlas the only Berkshire site which has maintained anything like a viable population has been the MoD **Barossa** training area at **Wishmoor Bottom**.

The species is also found in suitable habitat patches within quite a large part of the adjacent MoD Range Danger Area (**Broadmoor Bottom to Poppy Hills**).

At **Broadmoor Bottom** Nature Reserve (BBOWT) the species has hung on in very low numbers for many years, but none were found in 2020. Part of this nature reserve lies adjacent to the MoD danger area mentioned above. At **Wildmoor Heath** Nature Reserve (BBOWT & Bracknell Forest Council) the species was previously considered to be lost – it was seen up to 2003 but then there was a period with no records until it was re-discovered in 2010. The regular butterfly transect counts at this site are not suited to monitoring SSB, so BBOWT have been doing targeted counts since 2015. Recently it has been seen annually in low numbers in a few locations at the site.

The 2016 atlas reported the loss of the species from a number of sites. There used to be small colonies on mown heathland at King's Ride in **Buttersteep** Forest, and also along the heathland under the pylons at **Wellington College**. Both colonies dwindled many years ago, and there had been no confirmed sighting since 1999 at Kings Ride and 2006 at Wellington College. It is thus exciting to be able to report that the species was re-discovered in various parts of Buttersteep in 2019 and 2020, and a single female was found at Wellington College in 2020.

Further west in mid Berkshire, the species was present at BBOWT's **Decoy Heath** NR, but has not been seen since 2002. No routine targeted searching is done, but there has been an annual butterfly transect walked since 2002 with no SSB sightings. The site is regularly visited by good naturalists who would be likely to spot any Silver-studs if they were still present. It was also reported in that UTB atlas to have been lost from **Greenham** area, **Padworth** Common and **Wokefield** Common. A single record from Snelsmore Common (date unknown) is thought likely to be a misidentification.

There is still a good population at **Silchester Common/Pamber Heath** just over the county boundary in north Hampshire. Due to its proximity this site is monitored by

some Upper Thames Branch members.



A male Silver-studded Blue basking,
July 2020 – photo ©
Steve Harley

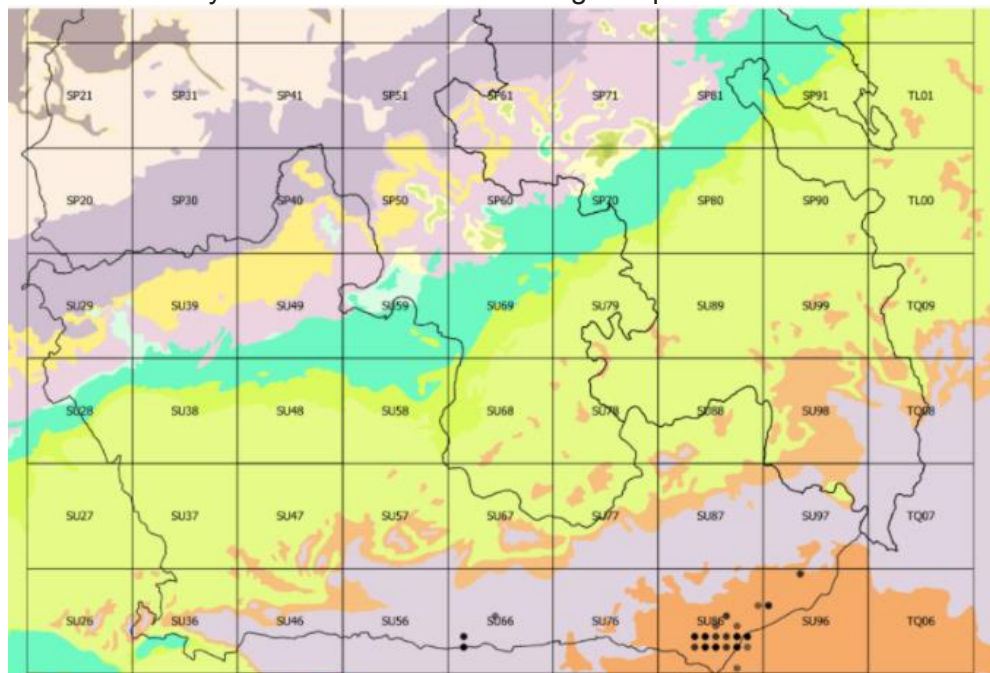
Soils and geology.

Analysis of the recent distribution against the underlying bedrock type confirms that the species is restricted to sands and gravels. In the 20 years from 1999 to 2019 the majority of localities (86.4%) are south-east Berks sites on the Bracklesham and Barton Beds (Sand, silt and clay), whilst the remainder (13.6 %) were from sites on the Thames Group (Clay, silt, sand and gravel). The latter sites were the mid-Berks sites in the Aldermaston – Silchester area.

SSB records from 1999 to 2019 with underlying geology / bedrock.

Grey dots = a single record, black dots = 2 or more records.

With vice county boundaries and OS 10km grid squares:



Buff = Bracklesham Group and Barton Group
Purple = Thames Group

A lack of survey effort.

The slump in populations meant that the species became harder and harder to find in Berkshire - apart from at Wishmoor Bottom. As a consequence, we have 'suffered' from a lack of targeted recording effort: enthusiasts wanting to see the species were more likely to visit stronger populations at nearby Surrey/Hants sites than struggle for hours hoping to find one in Berkshire. Coupled with the fact that some of the potential sites are very large - but with very small areas of suitable habitat, or have limited access, this meant that for many years we have had limited amounts of targeted survey effort.

The emergence of the 'Berkshire Silver-studded Blue Crew'

Spring and early summer 2020 were remarkable in many ways. Covid-19 measures affected us all, including our ability to get out into the countryside, but by the time the SSB's were flying many of the restrictions had been eased allowing some surveys. The summer featured some prolonged periods of hot, sunny weather – encouraging both butterflies and butterfly recorders to increase their activity. And after many years of having very few 'volunteers' showing much interest in surveying for the SSB, there was a welcome increase in activity. Grahame's efforts in encouraging others to join the cause started to show promising results with the evolution of the 'Berkshire Silver-studded Blue Crew'. With plenty of networking, mailing and general rallying,

expertly co-ordinated by Grahame, the Crew managed a few team surveys, as well as liaising over sites and locations to target individual effort. This proved very successful and it is hoped that the 'Crew' can develop further in coming years. In recent years the bulk of records have been received from just 5 regular recorders. In 2020 at least 14 people contributed to targeted surveys and provided records, and most of them have indicated willingness to continue.

Records and update on general distribution and status

In 2020 there were 39* 'records' of Silver-studded Blue butterflies in the UTB area. (* the actual number of records was a little higher but some were duplicates). All were from south-east Berkshire. See maps below.

The recorded flight season in Berkshire during 2020 was from 7th June to 30th July (53 days). It is likely that the actual flight season was a little longer than this, as earlier (end of May) and later (into August) records were reported from nearby sites in Hants and Surrey.

The 2020 records came from 7 tetrads (2x2 km grid squares). This was an increase from just 5 tetrads in 2019. Within those 7 tetrads the species was seen in twelve 1km squares.

Table 2 below shows that in the recording period 1987-1992 it was reported from 12 tetrads.

There was then a slump in recorded distribution, to a low of just 2 occupied tetrads in the period 2010-2014.

So, it is very encouraging that in recent years from 2015 - 2020 it has been reported from 11 tetrads. However as can be seen from the site reports below, at most sites the populations are very small and at significant risk of localised extinction. As such it is vital that continued and increased effort is made to manage the sites to provide suitable pioneer heathland habitat - which is also valuable for many other priority species of heathland.



A pair of Silver-studded Blues on low gorse at Silchester, June 2020 – photo © Duncan Fisher

Site reports and notes

1. Barossa - Wishmoor Bottom and Range Danger Area*: At Wishmoor Bottom the species has benefited from the regular mowing of firebreaks on the dry and damp heathland. Since about 2010 there has also been some cattle grazing, and additional mowing for habitat diversity. Since about 2015 there has been increased conservation management within the Range Danger Area (**Broadmoor Bottom to Poppy Hills**) by the MoD and Surrey Wildlife Trust. This effort has restored and created much improved habitat conditions for SSB. With the positive progress of heathland restoration, we have been kindly granted access permission to survey the RDA in some recent years, with pleasing results. Group surveys have confirmed that the Silver-studded Blue is present and quite widely distributed across large parts of the Barossa training area, with some connectivity into the adjacent areas of Swinley Forest (see next). Population numbers are difficult to estimate with the limited amount of data, but most years there seem to be in the order of 50-100 in Wishmoor Bottom, and there was a count of at least 110 from various parts of the danger area in late June 2018. This large MoD complex (which also extends across into Surrey) is clearly the stronghold of the Silver-studded Blue in Berkshire.

2. Swinley Forest*: The forest is mostly managed for commercial forestry growing conifers which are harvested by a programme of rotational clear felling. Within the forest there is an area of dry heath at Caesar's Camp, and many of the wide tracks and rides have heathers and acid grassland type vegetation. A major new water main was installed through parts of the forest and this has created a wide 'heathy' corridor connecting from Upper Star Post to Lower Star Post and the northern part of the MoD Ranges. There have been occasional records of Silver-studded Blue from the forest, including from Caesars Camp, but no evidence of a viable population. There has generally been limited survey effort for such a large area, in which most of the habitat is unsuitable. In 2020 some of the 'Silver-studded Blue Crew' managed a few targeted visits to areas where recent habitat creation and enhancement has produced suitable looking habitat. The results were very positive, with small numbers of SSB found along a habitat corridor extending north and south from the Lower Star Post. It is not known if these butterflies had moved in 2020 from the MoD area, or had originated from successful breeding in 2019 within the created habitat corridor. Further surveys in the next few years are needed to see if a viable population is establishing, and to see if the colony can move further north and also become established at Caesar's Camp. This was a very positive sign for the species.

*N.B. Barossa Ranges and Swinley Forest, together with Crowthorne Woods are parts of the extensive area of forest and heathland that extends from Bracknell and Crowthorne across into Surrey at Old Dean Common, and Poors Allotments north of Camberley and Bagshot. Much of the area has public access such as from The Look Out.



Habitat creation in Swinley Forest. A wide heathland corridor, with plentiful Ling *Calluna* and some Bell Heather *Erica cinerea*, has been created as a consequence of the construction of a new water pipe laid by South-east Water. Ongoing management will be done by the landowner – Crown Estate. A view looking north towards Lower Star Post. © *Des Sussex*

3. Wildmoor Heath NR: This reserve is one of the larger areas of publicly accessible heathland in Berkshire, but it has not been a stronghold for the Silver-studded Blue in recent decades. It now has a very weak colony on two areas of the reserve.

The most likely reason that the colony has never been strong is the lack of a continuous supply of sufficiently large areas of pioneer heathland. In the past most of the larger areas of young heather regrowth have been as a result of unplanned wildfires.

Small areas of heather cutting have been carried out, but this is a recent part of the routine management and is probably not on a large enough scale. Much of the site has a corrugated 'ridge and furrow' topography as a result of historic use of the site for commercial forestry. This uneven ground makes mechanical cutting or scraping very difficult.

Cattle grazing has been important and effective in helping to maintain short open habitat conditions on the damp heath, but grazing has not been possible for the last few years due to persistent vandalism of the fences. The problems with grazing on the site have not helped the task of maintaining the site in a favourable condition for pioneer heathland species such as the Silver-studded Blue.

If grazing is not maintaining the heathland structure, then it is suggested that the management plan might instigate (for example) a 20-year rotational cutting/scraping cycle to ensure the provision of the whole range of heather heights and ages, from bare soil to tall scrub, is constantly available for all of the reserves inhabitants, including the Silver-studded Blue. If about 20% of the site was put aside as non-intervention, then just 4% of the heathland at the site would need to be scraped/cut each year as a mosaic of patches across the site.

The species has been routinely monitored by BBOWT since 2015, with additional ad hoc visits by UTB volunteers. There had been a promising trend with results showing an increase from none in 2010 to a high count of 33 in 2018. This dropped back to 15 in 2019 and just 10 in 2020.

4. Broadmoor Bottom NR: The SSB colony on this site was originally confined to a small area of land in the grazing paddock (to the right of the footpath / fence) that visually has been very different from the textbook perception of “ideal” SSB habitat. Despite the heather in this area having to compete with vigorous grass growth and a fair bit of scrub the butterfly continued to survive here for many years, but vigorous gorse scrub has overgrown this area with the loss of the butterfly. A lot of work has been undertaken to produce more ‘text-book’ like habitat going uphill from the path but the butterfly has been reluctant to move onto this newly created habitat. It is recommended that restoration of the historical core area of this colony should be carried out by significant scrub management and mowing, followed by the routine cattle grazing.

The small colony at this site has been actively monitored by BBOWT volunteers, but numbers have been precariously low in recent years. There was a high count of 23 in 2011, but since then the highest count has been just one other double figure count of 10 in 2013. 8 were seen in 2018 but most counts since 2014 have been of 5 or less. In 2019 the high count was 1, and none were seen during 2 survey visits in 2020.

5. Buttersteep Forest and Swinley Brick Pits: The habitat conditions in this area have changed considerably over the last few decades, partly due to the cycle of rotational forestry, and notably also due to positive conservation work. In the 1990’s the focus of a SSB colony seemed to be along the wide corridor at Kings Ride, but this colony declined and seemed to disappear at some time in the 2000’s. There was probably a decline in habitat suitability perhaps due to too frequent mowing, and forestry activity. Many of the other tracks and rides within the area now have good dry and/or damp heathland vegetation along their verges. At present many of these verges are in open sunny conditions, and combined with a sympathetic mowing regime they will provide useful habitat for many heathland species, including the Silver-studded Blue. Small numbers of the species were seen on such rides at a few locations in the last couple of years, and it is possible that the species had persisted undetected in very small numbers. The Crown Estate have recently dedicated a former forestry compartment for heathland conservation. The forestry team and a volunteer have undertaken work to remove scrub and do some mowing of heather to benefit wildlife, and this area has high potential to provide habitat for the butterfly. The primary objectives of conservation management at Swinley Bricks Pits are to maintain the nationally important wetland habitats and dragonfly assemblage, but the area also has areas of wet and dry heathland habitat. Although SSB have been seen at a couple of locations in the Brick Pits in the last couple of years, suitable habitat was in short supply due to the growth of dense birch scrub, tall bracken and a lack of short open heather. Following a site meeting the Crown Estate started a new conservation management programme in winter 2020/21, to restore and enhance the site for important wildlife.

With the positive attitude and management from the landowner it is hoped that the remaining SSB in this large complex can benefit from the habitat management to form larger and more sustainable populations.

It is also noted that a large private golf course is next to this site. It appears that many of the ‘roughs’ have potentially useful heathland habitat with Ling and Bell Heather, and such areas may be worth survey work if permission for safe access can be granted.

6. Wellington College: the species used to occur in small numbers under the heathy National Grid pylon line that crosses the site. It was seen regularly during the 1990's until 1999. At that time the vegetation was occasionally mown which maintained some suitable habitat. When mowing ceased the vegetation became rather overgrown and scrubby. There was a single record in 2006, but the 'pylon line' and heathland SSSI lacked much suitable habitat as the heather was mostly mature or over mature. In the last few years, the site manager has been undertaking a range of different habitat management works, including scrub removal, control of invasive gorse, mowing patches of heather, and creation of patches of bare sand. Habitat condition has improved but it was still a surprise that a single female Silver-studded Blue was seen in summer 2020. It is uncertain where it came from. UTB have met with staff at the college and they are enthusiastic to continue with habitat improvements and survey to help this and other locally important butterfly species. Indeed they have set up their own college wildlife activities, such as their Wellington Wildlife facebook page and website <https://wellywildlife.org/> .

7. Other recent 'ad hoc' sites & records.

One was seen on the edge of a golf course in 2017 (it was observed from an adjacent area of forest with public access). A follow up survey of part of the course was done in 2019 with permission of the course management, but none were seen. However, it was noted that there is a lot of excellent heathland and acid grassland habitat on the course along the fairways – some of the habitat appears to have high potential to support the species. No follow up surveys were possible in 2020, but this is an area that merits further survey work. The course is private, and volunteers must not enter unless access permission has been granted.

2 different individuals were seen & photographed 2 weeks apart on habitat at **Silwood Park** near Ascot in 2018. Little more is currently known about this site, and if possible it needs further investigation in 2021.



A golf course in east Berkshire with superb heathland 'roughs' with abundant Bell Heather. Some patches of taller growth and tall grass for roosting butterflies would further enhance this sort of habitat.
© Des Sussex

Acknowledgements

Firstly, we would like to thank the landowners and land managers who are putting so much effort into positively managing sites to maintain and enhance the precious

heathland habitat and special species that it supports. Grateful thanks also to the land managers for granting permission to survey at private and restricted sites.

In alphabetical order

- BBOWT
- The Berkshire Golf Course
- Bracknell Forest Council
- Crown Estates forestry department
- Defence Estates, and their land management contractors and partners - Landmarc and Surrey Wildlife Trust
- Wellington College

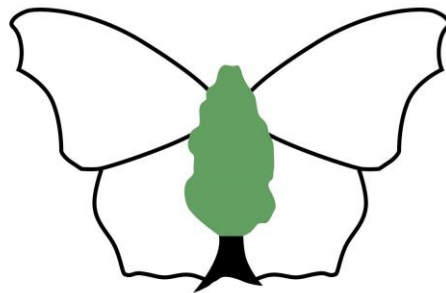
Very many thanks to all who look out for this species and submit records. In particular Derek Barker, Andy Coulson-Phillips, Kat Dahl, Mark Dodd, Ian Esland, Duncan Fisher, Robert Godden, Ben Habgood, Steve Harley, Gerry Kendall, Penny Kendall, Peter Kendall, John Lerpiniere, Geoff Pierce, Emma Turnbull, John Ward-Smith, Colin Williams and the BBOWT volunteers.

Thanks to those credited for use of their photos shown above. Thanks to Peter Ogden, Peter Sage and Andy Spragg for help with UTB records and maps, including the geological maps. Thanks to Steve Wheatley for advice and help with some of the data analysis.

If you are interested in joining the 'SSB' Crew in 2021 do get in touch with Grahame - grahamehawker@hotmail.com

Grahame & Des April 2021

note: We have done our best to analyse the data fully and accurately but accept that there may be some minor errors. Some records are from where sites overlap with Surrey and Hampshire and it is sometimes hard to separate which county the record was from. Please notify us if you spot any obvious errors or omissions.



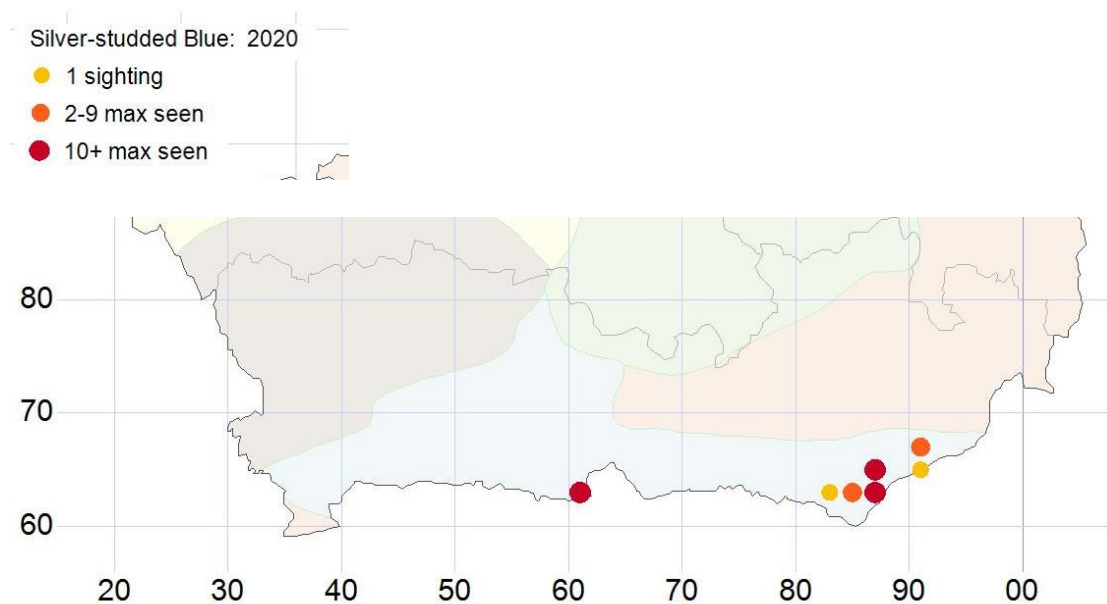
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Maps and Tables

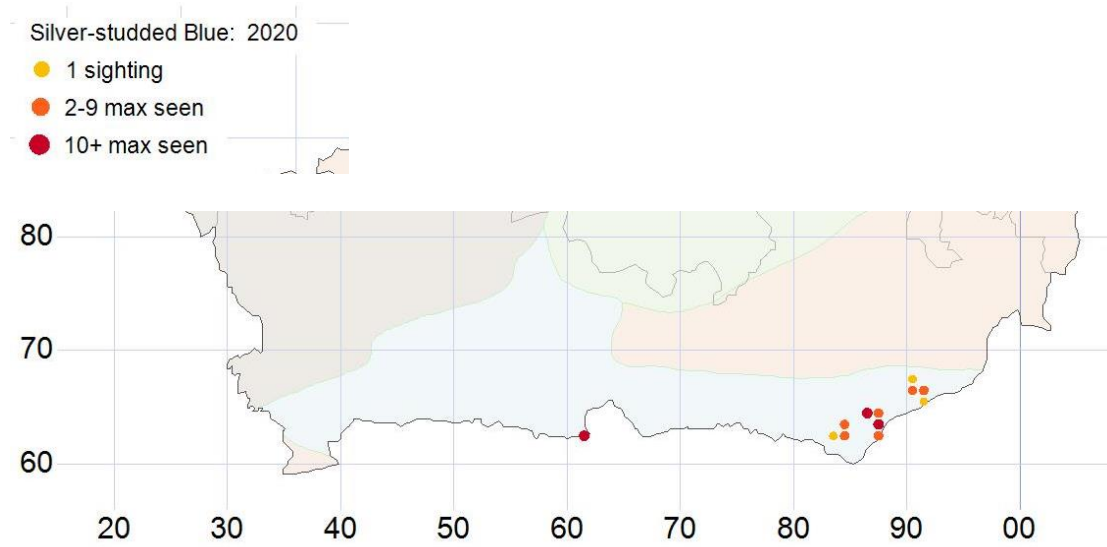
- Map 1.** SSB in Berkshire: 2020 data at tetrad (2x2 km) resolution
Map 2. SSB in Berkshire: 2020 data at 1km resolution
Map 3. SSB in Berkshire: 2015-20 data
Map 4. S.E. Berks 2020 records (map source iRecord)
Map 5. SE Berks 2015 - 2020 records (map source- iRecord)
Map 6. Silchester / Pamber 2015 - 2020 records (map source- iRecord)

- Table 1.** Recent trends in Silver-studded Blue recording in the UTB area by year.
Table 2. Recent trends in Silver-studded Blue recording in the UTB area in 5 year recording periods
Table 3. Tetrads from which Silver-studded Blue have been recorded (2015-2020)

Map 1 SSB in Berkshire: 2020 data at tetrad (2x2 km) resolution

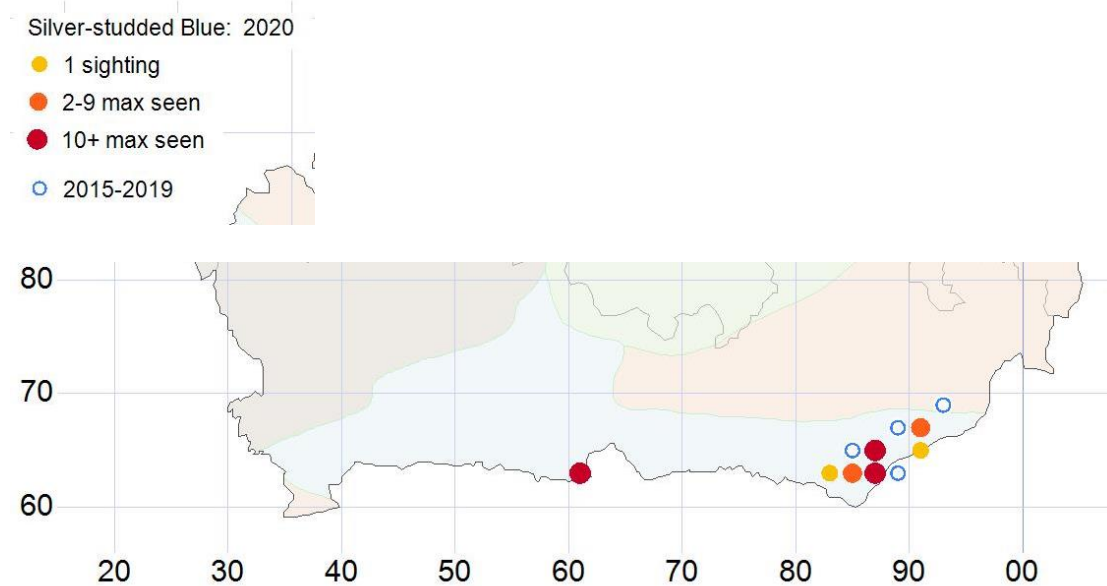


Map 2 SSB in Berkshire: 2020 data at 1km resolution

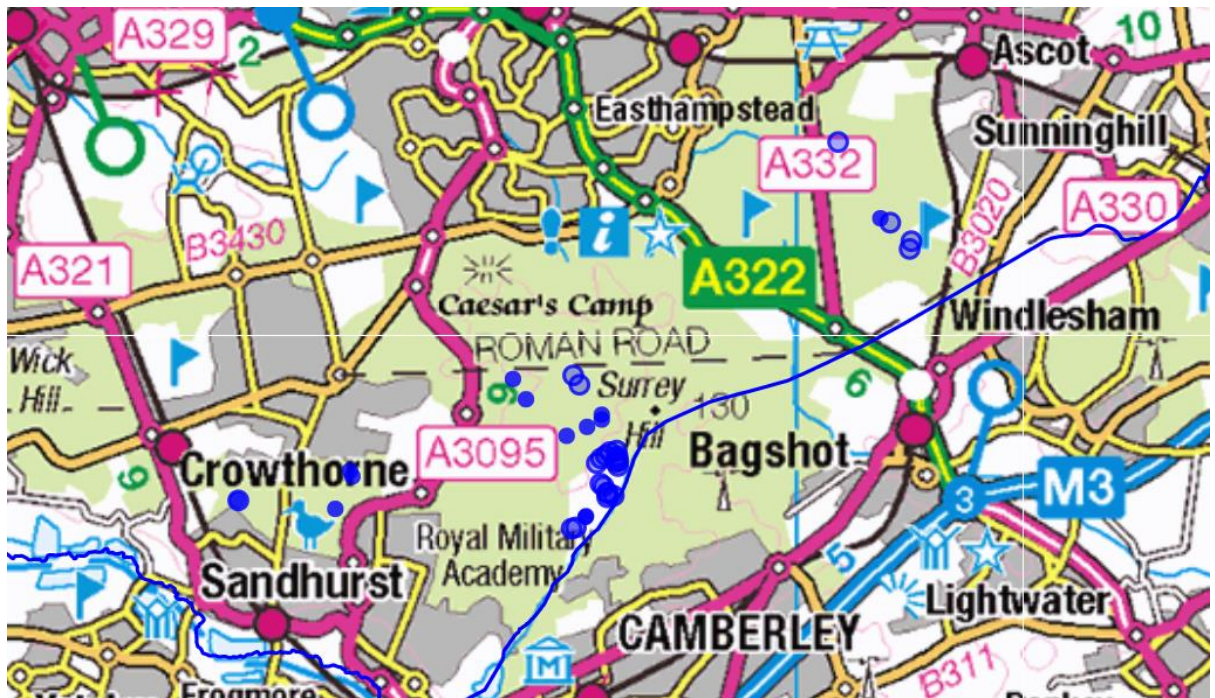


Map 3 SSB in Berkshire: 2015-20 data

Blue circles show the tetrads where the species was seen in 2015-2019 but NOT in 2020



Map 4. SE Berks 2020 records (map source iRecord)



Map 5. SE Berks 2015 - 2020 records (map source- iRecord)



Map 6. Silchester/Pamber 2015 - 2020 records (map source- iRecord)

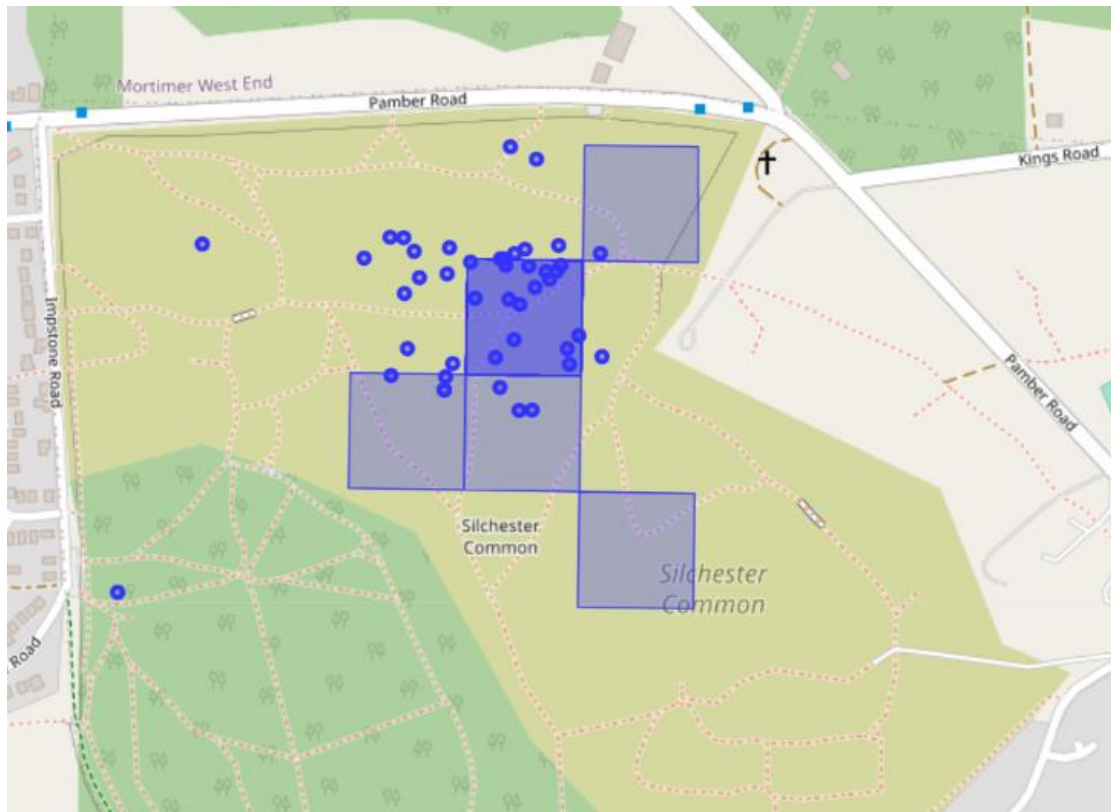


Table 1. Recent trends in Silver-studded Blue recording in the UTB area by year.

Year	Number of records	Number of recorders	Total SSB counted	Highest count	Number of occupied tetrads	First date	Last date
2015	12	4	36		4	17/06	
2016	23	4	130	50	3	19/06	10/08
2017	33	10	43	3	5	14/06	14/08
2018	41	11	334	110*	6	17/06	17/07
2019	31	8	87	17	5	22/06	04/08
2020	39	11	155	20	7	07/06	30/07

*this was result of a 'team effort' across the large Danger Area at Barossa

Table 2. Recent trends in Silver-studded Blue recording in the UTB area in 5 year recording periods

Year	Number of records	Number of recorders	Total SSB counted	Highest count	Number of occupied tetrads	First date	Last date
1987-1992					12		
1990-1994	44	15	528		9		
1995-1999	29	11	270		10		
2000-2004	13	3	12		4		
2005-2009	28	9	147		11		
2010-2014	52	10	324		2		
2015-2019					9		
2020-2024					7*		

*2015-2020 – 11 tetrads

Table 3. Tetrads from which Silver-studded Blue have been recorded (2015-2020)

Tetrad	Site/sub site	Notes	Present 2015-2020
SU46	Woodhay	Records from 1908, 1950	No
SU5662	Wasing	Record from 1972	No
SU6062	Silchester Common & Pamber Heath. Decoy Heath NR	Decoy Heath most recent record 2002	Yes
SU6064	Aldermaston	Records from 1977,78	No
SU6262	Silchester Common		Yes
SU6464	East of Cowpiece Pond	Single record from TVERC 2006	No
SU8262	Wellington College, Wildmoor NR (W)	Wildmoor W is mainly woodland	Yes
SU8462	Wildmoor NR (E), Broadmoor Bottom NR (BBOWT)		Yes
SU8464	Crowthorne Woods, Buckler's Forest, Hut Hill		No
SU8660	RMAS		No
SU8662	Wishmoor Bottom and Poppy Hills		Yes
SU8664	Swinley Forest- Lower Star to Caesar's Camp		Yes
SU8862	Wishmoor Bottom to Surrey (Old Dean/Poors)		Yes
SU8864	Swinley Forest - Rapley	Last record 1990	No
SU8866	Swinley Park, Tetrad also includes Berkshire Golf Club (Private)	1990, then 2017	Yes
SU9064	Buttersteep South and Dukes Hill, Tetrad also includes Swinley Forest Golf Club (Private).		Yes
SU9066	Buttersteep North – includes Kings Ride and Swinley Brick Pits	Regularly recorded with some high counts in 1990's. then very few records last 20 years	Yes
SU9266	South Ascot	A few records in 1991	No
SU9268	Silwood Park		Yes