BUTTERFLY CONSERVATION UPPER THAMES BRANCH

Dingy Skipper Report 2015-2024

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Introduction

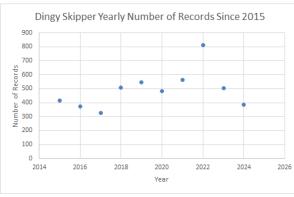
The third of three species champion reports for 2024 that I am currently responsible for. It makes reference in places to both of the other two (Green Hairstreak and Small Blue). Like those reports, this one uses the term 'wonk' as shorthand for 1km square and 1km x 1km square.

Data basis and validation

This report is based on a data set of 7,716 Dingy Skipper records exported from Levana and covering the years 2000-2024. The data set was imported into SCRIPT, and summarised and validated using the various functionalities offered by SCRIPT. SCRIPT retains for potential analysis only adult insect records, to 1km precision or better, with a complete date. This left a total of 7,641 records before duplicates were removed and validation was carried out, with the following results:

- 34 records were identified as false positive (in the data set, for historical reasons, but not from UTB territory, hence they do not appear in the analysis)
- 18 records were identified as being not from a UTB 1km square but in a UTB 2km square (hence they also do not appear in the analysis which is based on UTB 1km squares)
- 26 records were excluded because the grid reference and site name were inconsistent, with no apparent correction possible
- 18 records were flagged as suspicious:
 - \circ $\,$ 17 were one of three or fewer records for the enclosing 10km square
 - One, on the grounds that a suburban garden in Wallingford is an implausible location
- 28 records with no other issue were excluded because they had a duplicate
- Six records with a UTB grid reference were edited to correct the grid reference and make it consistent with the site name. All six had inherited a systematic UKBMS error for the Grangelands transect, now corrected by UKBMS.
- Seven false negative records (in the Levana export but apparently not in UTB territory) were included after correction of the grid reference, based on a UTB site name:
 - Four were instances of the same twisted digit: SP942514 (in Beds) which should have been SP942154 (in Bucks)
 - One was an instance of Eastings/Northings confusion. The raw record was way outside UTB territory, in SP07 when it should have been in SP70.

 Two were instances of SP/SU confusion: SP749921 should have been SU749921, and SP3282 should have been SU3282 (the latter also had a duplicate, which thus had then to be re-excluded!)



Analysis of record count and visit count

Figure 1: Dingy Skipper UTB record count 2015-2024

Figure 2 shows that the flight period visit count for the same period is more volatile, typically approximately 2000 with relatively little variation, but atypically high in all of 2020, 2022 and 2023. The important feature to note is that visit count in 2024 was comparable to that in 2015-2017, which does suggest that 2024 was not an unusually bad year for Dingy Skipper. On the other hand, 2020 and 2023 both appear to have been poor years for the species, Dingy Skipper record count has been reasonably constant over the last 10 years, at an average of 491 per year, as shown in Figure 1. Judged by record count, 2022 was an atypically good year, with approximately 60% more records than typical, and 2024 does not appear to have been a disastrous year; record count was comparably low in all of 2015-2017, although in principle this may have been because visit count was also lower.

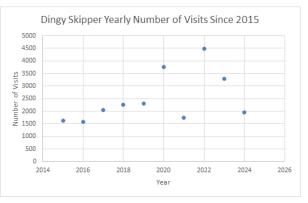


Figure 2: Dingy Skipper UTB visit count 2015-2024

atypically high visit counts yielding only typical record counts in those years.

Clustering the data

SCRIPT was used to identify clusters of wonks, isolated wonks and random wonks, as described in the SCRIPT user guide.

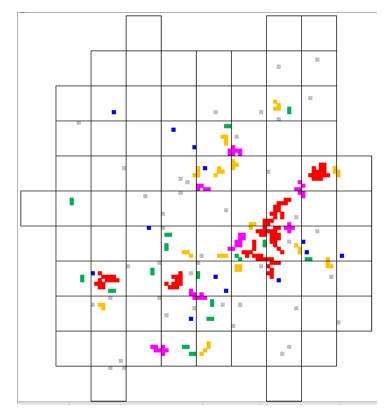


Figure 3: Map of Dingy Skipper distribution in UTB territory 2015-2024

Number	More	5-10	3-4	2	1	1
of wonks	than 10				(isolated)	(random)
Colour						

Table 1: Cluster map colour key

Figure 3 shows the resulting map of Dingy Skipper distribution in UTB territory, divided into 10km squares, according to the key in Table 1. Five primary clusters consisting of more than 10 wonks can be seen in red, along with seven secondary clusters in magenta, consisting of 5-10 wonks.

There are 30 smaller clusters, 14 of 3-4 wonks (in yellow) and 16 of just 2 wonks (in green). 13 isolated wonks and 42 random wonks complete the distribution picture. It's interesting to compare this distribution with that of the Green Hairstreak, a species which is frequently found co-existing with the Dingy Skipper. Specifically, consider the difference between the two species in terms of the number of smaller clusters and isolated wonks versus the number of random wonks. Table 2

summarizes the numbers. The total number of smaller clusters, isolated wonks and random wonks is effectively equal for both species. However, the split between those three types of occupied territory is very different. The data appear to indicate that the two species differ considerably in the way they explore new territory in a bid to establish new colonies. The Dingy Skipper is more conservative, and more successful in converting its exploration into small established patches of new territory, whereas the Green Hairstreak casts its net a lot wider and is much less successful in finding new territory to colonise. Furthermore, the numbers in Table 2 probably under-represent this difference, because more of the random wonks are likely to be misidentifications for Dingy Skipper than for Green Hairstreak.

Species	Smaller clusters (S)	Isolated wonks (I)	Random wonks (R)	S+I	S+I+R	(S+I)/R
Dingy Skipper	30	13	42	43	85	1.02
Green Hairstreak	19	10	58	29	87	0.50

Table 2: Comparison of localised distribution pattern for Dingy Skipper and Green Hairstreak

An overview of UTB Dingy Skipper territory

Appendices 1-3 summarize, in table form, the data for the 42 clusters, 13 isolated wonks, and 42 random wonks identified by the analysis. Appendices 1 and 2 are sorted by record count from highest to lowest. In Appendix 3, the random wonks have instead been sorted by scarcity count from lowest to highest, in an attempt to rank them in some sort of order of decreasing plausibility.

Cluster highlights

As Figure 3 illustrated, one cluster stands head and shoulders above all others, and that is what I have (rather arbitrarily) called Bradenham & environs, which covers a total of 43 wonks, nearly twice as extensive as Moorend Common, Homefield Wood & environs in second place with 23 wonks. Bradenham & environs also has the highest record count, not surprisingly, and the difference from Moorend Common, Homefield Wood & environs is much larger than we might expect based on the difference in terms of wonks. The difference remains clear in terms of scarcity; on average, more than twice as many visits are required for every record at Moorend Common, Homefield Wood & environs, compared to Bradenham & environs. Although Moorend Common, Homefield Wood & environs is an extensive cluster, the average population density of Dingy Skipper is apparently much lower than for Bradenham & environs.

After Bradenham & environs and Moorend Common, Homefield Wood & environs, three more clusters comprise more than 10 wonks: Ivinghoe Beacon & environs, Devils Punchbowl & environs, and Aston Upthorpe & environs. Ivinghoe Beacon & environs is a lot more popular than the other two, considering visit count relative to wonk count. All three are comparable to Bradenham & environs in scarcity terms, all four clusters having a scarcity in the range 2.4 to 3.1.

The Dingy Skipper has been recorded every year from 2015 to 2024 in 33% of all clusters (14 out of 42). Of those, three more deserve mention as being comparable to the big clusters in scarcity terms: Hartslock & environs, Paices Wood, and Oakley Hill & environs, with scarcity values ranging from 2.1 to 2.7.

Isolated wonk highlights

Warren Bank stands out as the isolated wonk of primary interest: with more than three times as many records as its nearest rival, and fewer visits than every other isolated wonk bar one, it is in the unusual position of having a scarcity value below one. Scarcity was defined the way it is because for championed species, almost invariably more than one visit is required for every record. A value below one indicates that on average, every visit generates more than one record. Warren Bank is particularly interesting because Dingy Skipper has not been routinely recorded there, only in three of the eight years between 2015 and 2022.

Only four other isolated wonks have a scarcity value below 10: Dragon Hill & White Horse Hill, Arncott, Harleyford Lane, and Near Bloom Wood, Chalfont St Peter. In every case, the records are not reliable year to year, coming from only half to two-thirds of the years between those in which it was first and last recorded.

Three other isolated wonks have a scarcity value above 90. Ostensibly it seems implausible that so many visits could be made during the Dingy Skipper's flight period and generate so few records.

Random wonk highlights

Of the 42 random wonks in which Dingy Skipper has been recorded, 10 are potentially of most interest because they have more than a single record. Of those, only three have a scarcity of less than 10:

- Pilot Hill (SU3959) has two records from a single visit. This specific site also cropped up in the 2024 Green Hairstreak report. The wonk in question is split between Berks and Hants. The records come from an open access area on the Hants side of the border; unfortunately, the county border is also the border of the open access area.
- Touchen End (SU8876) has the most records of any random wonk, with nine records from 2020, from 12 visits spread across most years from 2015-2024.
- Salden to NE (SP8330) has two records from 2022, from 13 visits starting in 2020, so a scarcity of 6.5.

Flight period



Figure 4: Dingy Skipper flight period 2015-2024

The Dingy Skipper is generally considered to be a single-brooded species, but it can and does produce a limited second brood at some sites in years when conditions are favourable. Confining attention to the main brood first, Figure 4 shows no apparent trend in the flight period duration, which fluctuates around an average of 38 days. The flight period duration was shorter in 2024 than in 2023, which in turn was shorter than in 2022, but it has historically been comparably short in other years (2016 and 2018), so there is no apparent cause to

be alarmed about a change in first brood phenology.

On the other hand, a second brood does appear to be happening more frequently. A second brood was recorded in four of the years from 2015-2024, three of those years from 2020-2024 and only one from 2015-2019. However, the limited extent does need to be emphasised. 2020 was the year with the largest second brood, and even that was represented by only 51 records compared to 423 for the first brood. In 2022, the balance was 11 second brood records compared to 797 records for first brood. The second brood record count for 2017 and 2023 was even smaller¹.

¹ Technically, it should be noted that there were second brood records in 2016, 2018-2019 and 2024 as well, but only three or fewer; too few to provide a reliable basis for defining the second brood flight period.

The overall population size (compared with recent years)

There are currently two ways by which this can be assessed using SCRIPT: abundance and scarcity, largely independent of each other. A third way, with the potential to reconcile those two ways and improve upon both of them, will be introduced in a future version of SCRIPT.

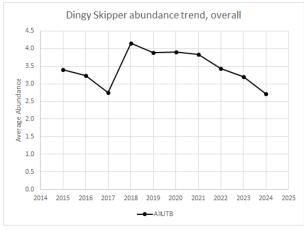


Figure 5: Dingy Skipper abundance trend 2015-2024

Abundance is calculated as the average number of adults per record i.e. total number of adults over all records, divided by the total number of records. Figure 5 shows that it appears to have been dwindling steadily over several years, although 2018 seems to have been an anomalously good year. Average abundance in 2018 increased notably relative to 2017, but since then the trend has been downwards year on year. The difficulty with abundance as a reliable measure of trends in population size is not only that people's

ability to estimate large numbers is typically not good, but also that abundance and record count both depend on how recorders choose to "bucket" their sightings. Technically, the abundance value in a single record should be the largest number seen simultaneously at the specified location. However, some recorders choose to amalgamate several sightings into a single record for a representative grid reference, giving a high value of abundance for one record, whilst others prefer to create separate records for each of several sightings at similar grid references, giving low values of abundance for several records.

The alternative way of assessing population size is to examine the trend in scarcity. Scarcity for a species is calculated as the total number of visits during its flight period, divided by the total number of records. Figure 6 shows no clear pattern from year to year for 2015-2024, with large differences from year to year; the drop from 2020 to 2021 is particularly apparent. On the other hand, there is no big difference between 2017 and 2018 like there is in the abundance graph. The use of scarcity as a measure of population size

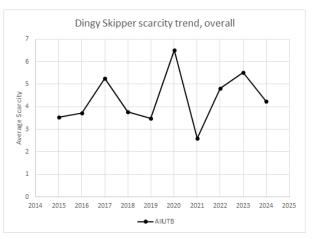


Figure 6: Dingy Skipper scarcity trend 2015-2024

addresses one of the shortcomings of abundance, inasmuch as several records of one specimen on one visit are reckoned equally to a single record of several specimens on the same visit, for the visit half of the calculation, but it suffers from the same issue with counting records.

The third way envisaged for future introduction is another ratio, which uses the more reliable part of each of abundance and scarcity. It would be calculated as total number of visits during the flight period, divided by the total number of adults seen. It can thus be thought of as "specimen scarcity": the typical number of visits required to see one adult, rather than the typical number of visits required to secure one record.

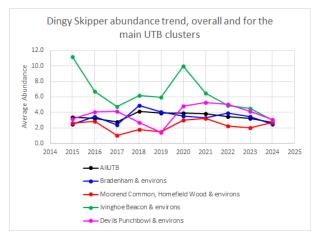


Figure 7: Dingy Skipper abundance trend overall and for the four biggest clusters 2015-2024

Figure 7 compares the overall trend with that for the four biggest clusters. There is a surprising degree of difference from site to site. The trend for Bradenham & environs closely mirrors the overall trend, which is not a surprise because Bradenham & environs is so much bigger than all other clusters that the overall trend is going to be dominated by Bradenham & environs. Moorend Common, Homefield Wood & environs is characteristically lower than the other clusters; the lower population density indicated by the scarcity data has already

been noted in the Cluster highlights section. Ivinghoe Beacon & environs shows the largest variation from year to year, but not apparently random; it seems clear that the population of that cluster waxes periodically and then wanes gradually again. Devils Punchbowl & environs has changed only gradually from year to year, except for a notable increase in 2020 compared to 2019, which appears to have sustained the population at a higher density ever since.

To illustrate the scarcity trends for the same four clusters, I've used two separate graphs because the story is so different for one than it is for the other three. Figure 8 shows the trend graphs for Bradenham & environs, lvinghoe Beacon & environs, and Devils Punchbowl and environs. The first two mirror the overall trend and each other very closely, a bit of a surprise given how different their two abundance trends were. The notable feature of the trend for Devils Punchbowl & environs is a considerable jump in scarcity for 2017-2019 before

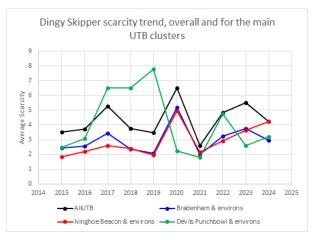


Figure 8: Dingy Skipper scarcity trend overall and for three of the biggest clusters 2015-2024

return to a more typical level. This is evidently a site-specific phenomenon, going against the overall trend in both magnitude and direction. Not entirely site-specific, however, as Figure 9 dramatically emphasizes.

In contrast, the trend graph for Moorend Common, Homefield Wood & environs, shown in Figure 9, is so different from the overall trend that I had to change the scale of the y axis by a factor of four to accommodate it. In the recording period 2020-2024, scarcity has been negligibly different to the overall trend, but in the previous five-year period it was completely different. In fact, it is the same story as for Devils Punchbowl and environs, except that the increased scarcity in 2017-2018 is so much more dramatic.

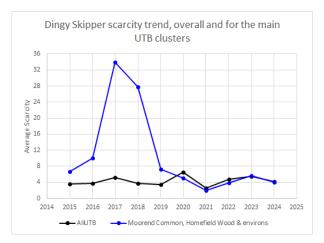


Figure 9: Dingy Skipper scarcity trend overall and for the second biggest cluster 2015-2024

There is surely a lesson to be learned here, if we can only figure out what it is. What happened in 2017-2019 that apparently caused the Dingy Skipper population in two of the biggest clusters to crash so dramatically, when there was nothing untoward happening at the other two?

Any changes in distribution

Appendix 1 appears to show that the Dingy Skipper did not have a terrible year in 2024. It was at least recorded in 28 out of 42 clusters in 2024, exactly two out of every three (although this is a less rosy picture than for the Green Hairstreak, which was recorded in exactly three out of every four clusters).

Appendix 2, on the other hand, paints a gloomy picture indeed. In 2024, Dingy Skipper was recorded in only one of its 13 isolated wonks. In principle, this could be because of lack of footfall, but scrutiny of the data shows that only one of those 13 isolated wonks was not visited at all in 2024, and five of them were visited more than 10 times.

Lost and struggling sites

Appendix 4 presents, for all 42 clusters, overall scarcity for 2015-2024, and for each year from 2020-2024. Here is the detail we need to dig into to look for lost or struggling sites, starting with the clusters where Dingy Skipper was not recorded in 2024. In fact, there are only two we need to consider (all the others only have records from one or two years out of 2020-2023, so absence of records for 2024 is not additional cause for concern):

• Westcott disused railway was similarly identified in my Green Hairstreak species champion report. Like the Green Hairstreak, Dingy Skipper has been recorded there every other year from 2015-2024. I can only repeat what I said in that report: this is a disappointing finding given the conservation effort that goes into those two wonks, but there is no evidence of prior gradual decrease in population size, so this may be no more than local factors playing a role in what was a most unusual year. It is probably premature to suggest that we might need a bit of a rethink of our conservation strategy at Westcott.

• Dingy Skipper has been recorded at Blue Lagoon NR in seven of the years from 2015-2024, including 2023, although scarcity in that year reached a new high of 7.0 and there were no records in 2022. The site has been visited at least once every year during the Dingy Skipper's flight period. Small Blue already appears to have been lost from this site, with no records for 2020-2024. Perhaps intervention is necessary if the Dingy Skipper is not to suffer the same fate.

Of the 28 clusters where Dingy Skipper *was* recorded in 2024, there are 14 where it was recorded every year from 2015-2024, and five more with only either one or two record-free year(s) from that period. These are the ones that give us the most reliable basis upon which to assess potential changes in distribution. None of them are flagged by the 'canary in a coalmine' criterion (identified in the Small Blue species champion report). One cluster comes close: Decoy Heath & environs, with an overall scarcity of 4.6 which does not represent the period 2020-2024, during which scarcity has increased from 4.3 to 14. Decoy Heath & environs, with four wonks, is the only territory where Dingy Skipper has been recorded in SU66, a 10km square with no current champion. This is a precarious situation.

Appendix 5 presents scarcity for all 13 isolated wonks, overall for 2015-2024 and for each year from 2020-2024. All but one of the 13 isolated wonks are potential cause for concern with no records in 2024. That said, only five had records in 2023, and only two of those also from 2022. On that basis, we should look most closely at Owlpit Copse and Gravelly Way. Both have been visited at least three or four times every year from 2020-2024 during the Dingy Skipper's flight period, but both have only yielded three or four records. It seems that the species has only been present there recently in low numbers anyway.

Potential new sites

Appendix 4 indicates no good evidence for any new clusters in the Dingy Skipper's distribution. The few sites at which it was recorded in 2024 and not 2023 all have historical records from at least one previous year.

As noted in the preamble to the section Any changes in distribution, only one isolated wonk out of 13 had any records for Dingy Skipper in 2024. It is Dragon Hill & White Horse Hill, previously noted in the Dingy Skipper species champion report for 2023. Appendix 5 shows that it has now clocked up Dingy Skipper records for every year from 2022-2024, after previous records only from 2017: an instance of good news in an otherwise gloomy picture of the isolated sites occupied by the species over the last 10 years.

Finally, we should consider Appendix 3, which summarizes the data for all 42 random wonks. We can focus our attention by confining it to those random wonks for which the record(s) is/are from 2024, and those with more than one record. There are 10 of them, with one falling into both categories. Three have already been mentioned in the Random wonk highlights section. Only one other deserves a mention: Stonesfield (SP3916), with two records from 2020. Appendix 6 shows that it has only been visited in two of the four years since, from 2021-2024, and so it has to be worth a closer look. The other six all have scarcity values that appear to indicate either misidentification or single year flashes in the pan.

Final food for thought

The worrying finding in this report is that in 2024, Dingy Skipper was only recorded in one of the 13 isolated wonks in which it has been recorded in at least some of the years from 2015-2024. It is true that even the two most reliable of those isolated wonks only have records for three of the five years from 2020-2024, so for records to be missing for a year from a single isolated wonk is not an undue cause for concern. But for records to be missing from so many isolated wonks in the same year is unprecedented. In 2023, six out of 13 had records; in 2022, seven out of 13; in 2021, five out of 13, and in 2020, four out of 13.

This report appears to have identified a curious way in which the distribution of Dingy Skipper differs fundamentally from Green Hairstreak, despite the two species co-existing over much of the territory they each occupy. Both species occupy a similar number of large clusters (clusters that comprise at least five wonks); it is at the fragmented end of the territory distribution where the two species appear to differ considerably in the way they explore new territory in a bid to establish new colonies. The Dingy Skipper is not only relatively conservative in its exploration; it is also more successful in establishing patches of new territory. In contrast, the Green Hairstreak tries a lot harder to find new territory, and is much less successful in doing so. Understanding why this should be would be very helpful in formulating conservation strategy to benefit both species.

Detailed scrutiny of scarcity trends for the four biggest clusters appears to have identified important differences between them, as it did for Small Blue. The data appear to indicate that, in 2017-2019, Dingy Skipper populations crashed dramatically in two of the biggest clusters, although it was 'business as usual' at the other two.

I am minded to observe that if we can begin to study the joint fortunes of several species that co-exist, rather than treating each species in isolation, we will be in a much stronger position to formulate robust and effective conservation strategy.

In closing, I want to reiterate, verbatim, the closing message of my Green Hairstreak species champion report. This year, preliminary data sets were issued in mid-March, for species champions to inspect and correct, prior to an anticipated final version being issued in April. For the early-emerging spring species, this is much too late for a considered species champion report to be produced in time for anyone to do anything with any recommendations about sites to visit! Going forward, perhaps we should consider a phased approach to validation of the data issued to species champions, so that data for all species can be issued sufficiently far in advance of their flight period for production of a timely report, based on finalised data, to be feasible.

Name	1km	Visits	Records	Scarcity	First	Last	Consistency
	Squares				In	In	
Bradenham & environs	41	3730	1277	2.9	2015	2024	100%
Ivinghoe beacon & environs	18	1878	668	2.8	2015	2024	100%
Hartslock & environs	8	1383	515	2.7	2015	2024	100%
Aston Rowant & environs	10	1178	397	3.0	2015	2024	100%
Aston Upthorpe & Environs	13	752	310	2.4	2015	2024	100%
Aston Clinton Ragpits &	7	979	236	4.1	2015	2024	100%
Devils Punchbowl & environs	15	580	187	3.1	2015	2024	100%
Bernwood M40	5	938	158	5.9	2015	2024	100%
Moorend Common,	23	1067	156	6.8	2015	2024	100%
Warburg	4	449	96	4.7	2015	2024	100%
Paices Wood	2	181	88	2.1	2015	2024	100%
Oakley Hill & environs	3	229	86	2.7	2015	2024	100%
Calvert Jubilee NR & environs	4	187	75	2.5	2015	2022	88%
Decoy Heath & environs	4	251	54	4.6	2015	2024	100%
Prestwood LNR	5	529	50	10.6	2015	2024	90%
Westcott disused railway	4	570	45	12.7	2015	2023	100%
Finemere Wood & environs	8	1084	43	25.2	2015	2023	78%
Greenham Common	8	655	41	16.0	2015	2024	100%
Rushbeds Wood & environs	4	568	38	14.9	2015	2024	80%
Watts Bank	3	181	30	6.0	2015	2024	90%
Little Wittenham	3	190	28	6.8	2017	2024	88%
Swyncombe Downs	3	151	27	5.6	2015	2024	80%
Holtspur Bottom NR	2	354	26	13.6	2015	2024	70%
Arncott & Whitecross Green	4	609	18	33.8	2016	2024	89%
Blue Lagoon NR	2	43	14	3.1	2015	2023	78%
Wasing	2	33	11	3.0	2018	2024	86%
Broadwell disused airfield	2	14	9	1.6	2019	2024	67%
Bulstrode & environs	4	108	8	13.5	2015	2021	71%
Hall Farm	4	118	7	16.9	2021	2024	100%
Gomm Valley	3	197	7	28.1	2018	2024	86%
Radley Lakes	2	373	7	53.3	2017	2022	67%
Howe Park Wood	4	320	6	53.3	2015	2024	40%
Ashbury to east	2	20	5	4.0	2020	2024	60%
Seven Barrows & environs	2	61	4	15.3	2015	2016	100%
Millenium Common	2	9	3	3.0	2020	2022	67%
Greenfield	2	18	3	6.0	2017	2022	33%
Hillesden	2	5	2	2.5	2015	2018	50%
Cholsey Cluster#1	2	73	2	36.5	2020	2020	100%
Bottom Wood	2	33	2	16.5	2021	2021	100%
Harwell campus & village	2	26	2	13.0	2020	2021	100%
Boze Down	2	19	2	9.5	2019	2022	50%
Moor Copse	2	333	2	166.5	2020	2024	40%

Appendix 1: Dingy Skipper clusters

Name	1km	Visits	Records	Scarcity	First	Last	Consistency
	Square				In	In	
Warren Bank	SU6585	14	28	0.5	2015	2022	38%
Dragon Hill & White	SU3086	35	8	4.4	2017	2024	50%
Horse Hill							
Hook Norton	SP3632	113	5	22.6	2015	2023	44%
Arncott	SP6216	35	5	7.0	2017	2023	57%
Harleyford Lane	SU8384	17	5	3.4	2015	2021	57%
Wyfold	SU6881	560	4	140.0	2021	2023	67%
Owlpit Copse	SU5873	72	4	18.0	2022	2023	100%
Gravelly Way	SU9095	69	3	23.0	2019	2023	60%
Penn Jubilee Wood	SU9192	42	3	14.0	2020	2022	100%
Gavray meadows	SP5922	272	3	90.7	2021	2022	100%
Ardley Quarry	SP5327	184	2	92.0	2015	2022	25%
Near Bloom Wood,	TQ0191	10	2	5.0	2017	2019	67%
Chalfont St Peter							
Dry Sandford Pit	SU4699	126	2	63.0	2020	2021	100%

Appendix 2: Dingy Skipper isolated wonks

Appendix 3: Dingy Skipper random wonks

Name	1km	Visits	Records	Scarcity	From
	Square				
Pilot Hill	SU3959	1	2	0.5	2024
Cross Hands Quarry	SP2629	1	1	1.0	2023
Compton	SU4979	1	1	1.0	2018
Touchen End	SU8876	12	9	1.3	2020
Claydon House	SP7125	2	1	2.0	2021
Eastbury Down	SU3579	3	1	3.0	2023
Linkenholt	SU3559	4	1	4.0	2020
Lodge Down & Coppington Down	SU3077	5	1	5.0	2023
West Woodhay chalk pit	SU3861	5	1	5.0	2020
Furze Hill, Meadow	SU5174	6	1	6.0	2020
Bottom Farm, Mapledurham	SU6777	6	1	6.0	2017
Salden to NE	SP8330	13	2	6.5	2022
Fayland (Danger Grove on map!)	SU7888	7	1	7.0	2020
Stonesfield	SP3916	22	2	11.0	2020
College Wood	SP7832	12	1	12.0	2021
Weedonhill Wood to S	SU9498	14	1	14.0	2015
Swinley Forest	SU8665	15	1	15.0	2022
Tingewick Meadows	SP6532	16	1	16.0	2020
St Peters greenway	SP8015	18	1	18.0	2023
Lake near Woburn Sands	SP9236	21	1	21.0	2023
Road Farm - S2	SP8802	24	1	24.0	2022
Hartslock	SU5099	28	1	28.0	2022
RSPB Otmoor	SP5513	31	1	31.0	2020
Otmoor MOD	SP5712	103	3	34.3	2023
Emmer Green to NE	SU7277	77	2	38.5	2020
Upper Basildon	SU5976	142	3	47.3	2018

Oxfordshire golf club	SP6804	51	1	51.0	2020
Cholsey Random#1	SU5886	52	1	52.0	2020
Hughenden Park	SU8695	60	1	60.0	2019
Fobney Island	SU7071	133	2	66.5	2021
Runnymede	TQ0072	71	1	71.0	2023
Chilswell Valley, Oxon	SP5003	148	2	74.0	2022
Wytham Woods	SP4508	81	1	81.0	2022
Stoke Common	SU9885	102	1	102.0	2022
Wildmoor Heath	SU8463	122	1	122.0	2023
Devils Punchbowl	SU4088	143	1	143.0	2023
Astwood	SP9447	439	3	146.3	2022
Little Linford Wood	SP8345	164	1	164.0	2019
Sydlings Copse	SP5509	181	1	181.0	2017
Harwell (village)	SU4989	213	1	213.0	2015
Wallingford garden	SU6089	238	1	238.0	2018
Benson	SU6191	258	1	258.0	2016

Appendix 4: Dingy Skipper cluster scarcity detail 2020-2024

Name	Scarcity	2024	2023	2022	2021	2020
Bradenham & environs	2.9	3.0	3.8	3.2	2.0	5.2
Ivinghoe beacon & environs	2.8	4.2	3.7	2.9	2.1	5.0
Hartslock & environs	2.7	1.7	2.7	2.3	2.1	4.6
Aston Rowant & environs	3.0	2.7	3.9	3.9	1.6	4.7
Aston Upthorpe & Environs	2.4	2.2	2.4	2.1	1.4	3.1
Aston Clinton Ragpits & environs	4.1	4.1	5.6	8.2	2.2	5.8
Devils Punchbowl & environs	3.1	3.2	2.6	4.8	1.8	2.3
Bernwood M40 compensation area	5.9	5.9	8.3	6.3	2.0	17.6
Moorend Common, Homefield Wood	6.8	4.1	5.7	3.9	2.0	5.1
& environs						
Warburg	4.7	4.7	7.0	9.8	2.5	9.0
Paices Wood	2.1	2.1	4.6	3.2	1.3	1.8
Oakley Hill & environs	2.7	2.3	5.0	3.3	0.7	7.6
Calvert Jubilee NR & environs	2.5			3.0		5.4
Decoy Heath & environs	4.6	14.0	7.0	7.9	7.0	4.3
Prestwood LNR	10.6	6.9	11.7	13.3	6.8	
Westcott disused railway	12.7		14.0	20.6	5.4	21.6
Finemere Wood & environs	25.2		69.5			118.0
Greenham Common	16.0	26.5	35.7	14.5	7.0	58.0
Rushbeds Wood & environs	14.9	15.7		29.0	6.1	
Watts Bank	6.0	4.0	5.7	40.0	12.0	23.0
Little Wittenham	6.8	8.0	13.0	7.8	3.2	
Swyncombe Downs	5.6	5.0	5.0	8.0	3.0	4.5
Holtspur Bottom NR	13.6	6.0	8.0	6.3	21.0	
Arncott & Whitecross Green Wood	33.8	56.0	25.3	29.4		74.0
Blue Lagoon NR	3.1		7.0		2.0	6.0
Wasing	3.0	1.5	1.0	6.0		1.3
Broadwell disused airfield	1.6	1.0		0.4		1.0
Bulstrode & environs	13.5				22.0	4.0

Hall Farm	16.9	9.5	8.7	28.0	20.0	
Gomm Valley	28.1	17.0	28.0	24.0		20.0
Radley Lakes	53.3			77.0		44.0
Howe Park Wood	53.3	35.0	87.0			
Ashbury to east	4.0	1.0		3.0		3.5
Seven Barrows & environs	15.3					
Millenium Common	3.0			4.0		2.0
Greenfield	6.0			3.0		
Hillesden	2.5					
Cholsey Cluster#1	36.5					9.5
Bottom Wood	16.5				3.0	
Harwell campus & village	13.0				1.0	4.0
Boze Down	9.5			5.0		
Moor Copse	166.5	27.0				80.0

Appendix 5: Dingy Skipper isolated wonk scarcity detail 2020-2024

Name	Scarcity	2024	2023	2022	2021	2020
Warren Bank	0.5			0.2		
Dragon Hill & White Horse Hill	4.4	5.0	3.8	4.0		
Hook Norton	22.6		15.0			
Arncott	7.0		2.0			6.0
Harleyford Lane	3.4				1.0	1.5
Wyfold	140.0		72.0		14.0	
Owlpit Copse	18.0		9.0	12.0		
Gravelly Way	23.0		5.0	29.0		
Penn Jubilee Wood	14.0			8.0	5.0	14.0
Gavray meadows	90.7			30.0	16.0	
Ardley Quarry	92.0			41.0		
Near Bloom Wood, Chalfont St Peter	5.0					
Dry Sandford Pit	63.0				12.0	32.0

Appendix 6: Dingy Skipper random wonk visit detail 2020-2024

Name	Visits	2024	2023	2022	2021	2020
Pilot Hill	1	1	0	0	0	0
Cross Hands Quarry	1	0	1	0	0	0
Compton	1	0	0	0	0	0
Claydon House	2	0	0	0	1	0
Eastbury Down	3	0	1	0	0	2
Linkenholt	4	1	1	0	0	1
Lodge Down & Coppington Down	5	0	1	0	1	2
West Woodhay chalk pit	5	0	0	3	0	2
Furze Hill, Meadow	6	1	0	0	0	3
Bottom Farm, Mapledurham	6	0	0	0	0	3
Fayland (Danger Grove on map!)	7	0	0	2	0	2
Touchen End	12	0	2	1	0	5
College Wood	12	1	2	0	2	4
Salden to NE	13	2	5	4	1	1
Weedonhill Wood to S	14	1	3	3	0	1

Swinley Forest	15	1	2	6	0	2
Tingewick Meadows	16	1	1	6	0	5
St Peters greenway	18	0	12	3	1	1
Lake near Woburn Sands	21	2	6	2	0	6
Stonesfield	22	0	5	2	0	6
Road Farm - S2	24	4	8	8	0	0
Hartslock	28	2	7	5	0	12
RSPB Otmoor	31	1	5	5	1	4
Oxfordshire golf club	51	8	11	17	9	4
Cholsey Random#1	52	0	4	11	8	15
Hughenden Park	60	2	11	21	1	12
Runnymede	71	17	39	12	1	0
Emmer Green to NE	77	3	15	13	0	18
Wytham Woods	81	3	6	14	3	26
Stoke Common	102	8	15	20	11	24
Otmoor MOD	103	7	25	17	3	12
Wildmoor Heath	122	5	16	23	7	25
Fobney Island	133	10	18	24	13	15
Upper Basildon	142	0	2	1	12	19
Devils Punchbowl	143	6	31	16	4	34
Chilswell Valley, Oxon	148	13	17	25	14	23
Little Linford Wood	164	11	20	29	12	29
Sydlings Copse	181	12	22	42	10	29
Harwell (village)	213	1	5	2	17	62
Wallingford garden	238	24	41	19	14	50
Benson	258	20	30	36	12	62
Astwood	439	39	45	89	45	73