Holes Bay Nature Park Birds & Wildlife Report 2024

The Birds, Wildlife & Ecology of
Holes Bay & Upton Country Park

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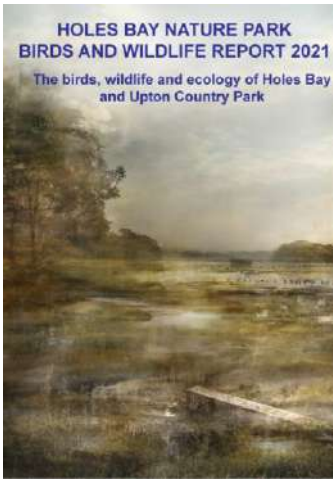
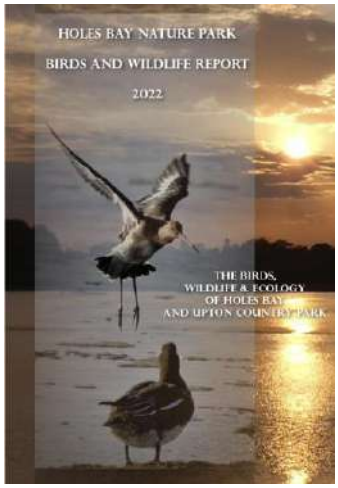
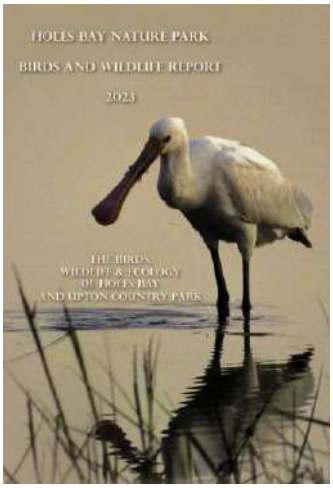
Cover photography and Design by:
Tony Grant

INTRODUCTION

Welcome to the fifth annual report on the wildlife of the Holes Bay Nature Park. Our previous reports are all available via the websites of the Birds of Poole Harbour and Upton Country Park:





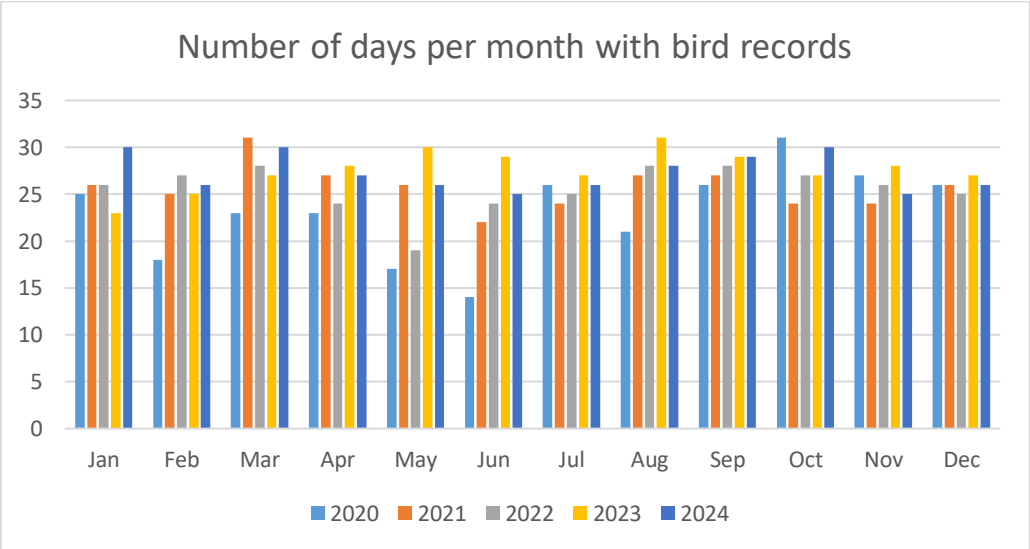


Each report has attempted to summarise the wildlife seen over the year and set it in a wider context. After five years, it seems appropriate to look back and review on what has been achieved in this time.

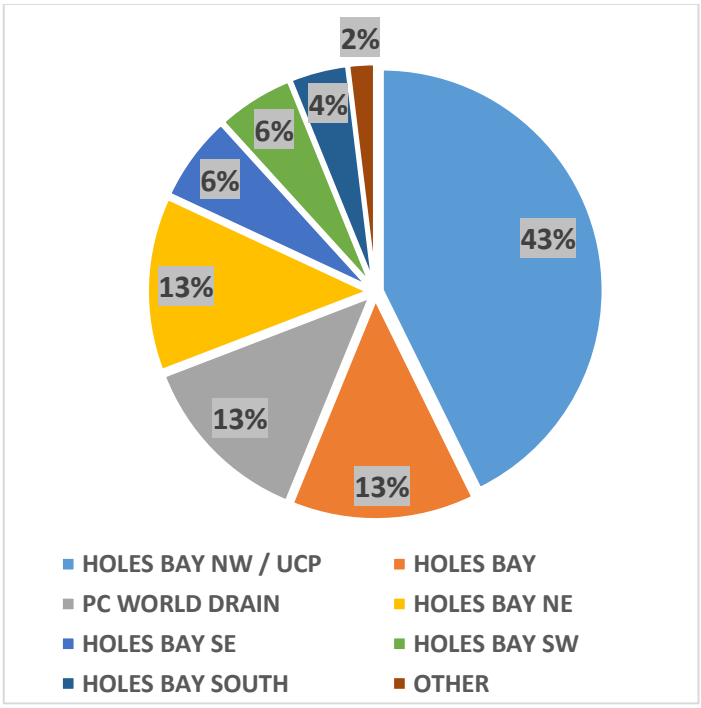
Birds, Birds And More Birds…

Central to our reports has been an annual 'bird list' – a record of all the birds known to have been seen in a particular year. This is based on records we can access via online recording systems, notably *Ebird* (maintained by Cornell University) and *Birdtrack* (maintained by the British Trust for Ornithology) as well as reports on the websites of the Dorset Bird Club, the Birds of Poole Harbour (BoPH), the Holes Bay twitter account and data collected as part of the national Wetland Birds Survey (WeBs). Without those individual observers and organisations, our report would be far less complete and we are grateful to all who record their sightings through these systems. Selected records from these sources are transcribed onto a spreadsheet during the year and it is these that form the basis of our report. Although we do not transcribe every record, all are valuable and form a long-term archive held by *Ebird* and *Birdtrack*, with a copy also held by the Dorset Bird Club.

As the graph below shows, there is usually good coverage all year – though with slightly reduced recording during the summer.



Our recording area, loosely based on the area identified as the ‘Holes Bay Nature Park’ (HBNP), covers around 375 ha (926 acres) or just under one-and-a-half square-miles as shown on the aerial photo below. Observers use various terms to describe where birds are seen but, very roughly, the proportion of records we used for the 2024 report relating to the various parts of our recording area is shown in the chart below. Whilst some records are simply allocated to ‘Holes Bay,’ the north-west part of the Bay and Upton Country Park contributed the greatest volume. The ‘PCW channel’ (or the Fleets Channel to give it a more historic name) also contributes a lot of records – reflecting the number and variety of migrant birds this small area attracts.



As the table below shows, since 2020 there have been between 129 and 144 bird species reported each year, by an increasing number of observers. Between 2020 and 2023, the proportion of days we received records from has also gradually increased, though this may partially reflect better monitoring of the available online data. For the last two years we have at least one record from around 90% of the days of the year and the figures suggest an increasing number of people are recording birds from the area.

	2020	2021	2022	2023	2024
Approx. number of observers	43	50	51	60	111
Approx. Number of species recorded	135	138	129	138	144
% of days records received from	76%	85%	84%	91%	90%

The pattern of coverage may well have been affected by the restrictions imposed early in this period because of the Covid pandemic and have been boosted when unusual birds attract more birders to the area e.g. the visit by a small group of Tundra Bean Geese in 2021/22. Of course, we need to recognise that however often the site is visited not all the birds present will be recorded. We are still adding new species to the known site list. In 2024, eight species have been added: Wood Sandpiper, Kittiwake, Arctic Tern, Forster’s Tern, Arctic Skua, Razorbill, Black-throated

Diver and Fulmar, and an updated species list is included in this report – the site total now standing at 208 species.

Not Just Birds…

It is not only birds we have recorded, as a group of volunteers we have tried to record a much wider range of wildlife, generally using *Living Record*, the on-line recording system run by the Dorset Environmental Records Centre. At the time of writing (11th December 2024) this contains over 5,000 individual records of over 1,000 species (not including birds) – all found in the Holes Bay Nature Park area since 2000. A more detailed breakdown of some of the species' groups recorded is given in the table below, with some indication of the total number of species of each group found in the UK:

Species group	Number of records 2020-2024	Number of species recorded 2020-2024	Approx. UK number of species	Approx % of UK species recorded in HBNP 2020-2024
Fungi	127	89	2487*	4%
Vascular plants	424	245	1554**	16%
Reptiles	33	3	6***	50%
Moths	3570	472	>2,500***	19%
Butterflies	425	29	59****	49%
Bees, wasps, ants etc	48	24	Approx. 6700*****	0.3%
Flies	77	50	Approx7000****	0.7%
Beetles	61	31	Approx 4000****	0.8%
Dragonflies	261	23	56*****	41%
Spiders	21	9	670*****	1.3%

Sources:

* FUNGI Recommended English names for fungi, British Mycological Society website (https://www.britmycolsoc.org.uk/field_mycology/english-names#uk%20species) accessed 8th December 2024

** VASCULAR PLANTS
Number of 'native taxa' with 1693 taxa of unclear status (mainly non-native) also mapped on the web version of the BSBI Plant Atlas 2020, source: https://plantatlas2020.org/sites/default/files/bsbi_data/home/BSBIatlas%20Intro%20WEB.pdf

*** REPTILES AND AMPHIBIANS
Native species as per Britain's Reptiles and Amphibians, 2009 Howard Inns, Wild Guides

**** BUTTERFILES AND MOTHS - https://butterfly-conservation.org/moths

***** BEES WASPS AND ANTS
https://www.amentsoc.org/insects/fact-files/orders/hymenoptera.html#:~:text=In%20the%20British%20Isles%2C%20there%20are%20at%20least,and%20deals%20mainly%20with%20the%20main%20British%20groups.

******FLIES https://cdn.buglife.org.uk/2020/01/Managing-brownfields-for-flies.pdf https://cdn.buglife.org.uk/2020/01

*******BEETLES
Natural History Museum website https://www.nhm.ac.uk/discover/british-wildlife.html

******** DRAGONFLIES
Britain's Dragonflies – a Field Guide,2010 D. Smallshire and A. Swash, Wild Guides

*********SPIDERS
Britain's Spiders – a Field Guide,2017 L. Bee, G. Oxford and H. Smith, Wild Guides

How Many Species Do We Have?

The figures above reflect, that we are much better at identifying some types of wildlife than others (with birds probably being top of the list). However, the estimates for the total number of the various species groups in the above table, give a clue to just how few species we have recorded, compared to the number which might be present. The Natural History Museum estimates that there over 70,000 species of animals, plants, fungi and single-celled organisms are found in the UK! (https://www.nhm.ac.uk/our-science/data/uk-species).

So how many species might be found in our recording area? It is not possible to say precisely, but after five years of moth trapping, we have recorded around one-fifth of the moths found in the UK. If one-fifth of the UK' species of the groups listed above also occurred here, we could be looking at around 5,000 species (and that does not include many other groups of plants and animals not listed above). So perhaps our impressive figure of 1,000 species is a relatively ***small*** number…. it may well be that at least three-quarters of the species that might occur here are NOT (yet) on our lists!

Our Wildlife In Context…

In conservation terms, it is the large numbers of regularly occurring wetland birds in Holes Bay that are particularly significant in Holes Bay, these are regularly counted as part of the national Wetland Bird Survey (WeBS), a co-ordinated survey of all the major wetlands in the UK including Poole Harbour. Such data is used to assess the national and international importance of different sites (for example a site with 1% or more of the British wintering population would be regarded as of national importance for that species). A review of the historic WeBS data available for Holes Bay was included in our 2020 report. Our records also show that such counts do not always record the maximum number of birds using Holes Bay, for example in 2023 all the monthly maxima for Wigeon were recorded on counts other than those carried out under WeBs; reinforcing the evidence for the importance of this part of Poole Harbour.

In 2021 we reported in detail on one of the most charismatic or our bird species, the Peregrine, which has bred on the tall buildings around Holes Bay. In addition to recording its occurrence, we recorded the very varied diet of these urban birds with prey items including birds such as the Woodcock that we rarely record directly.

As with the birds we have also tried to set our other records in a wider and/or historical context with articles on the diverse flora of the man-made habitats along the Holes Bay Road (2021 and 2022), and the changing salt marsh flora (2022), with a detailed account of one particularly important species, Cord Grass, *Spartina anglica* (2020). In 2021 we looked at the moths recorded here in terms of published data on their national distribution and abundance, which shows that over recent decades some of our species have decreased in abundance at known sites but have expanded their range – potentially a reflection of declining habitat quality but also of the impact of climate change. We continue to see species of moth not previously recorded in the Park, with a further 23 species verified during 2024.

We have also looked at reptiles (2020), fungi (2021), moths (2021), dragonflies (2022) and bats (2023), with updates as appropriate in subsequent years. This year's report contains a follow-up on to the review of historic bat records and shows that Upton House still hosts a surprising variety of these inconspicuous but important animals.

Does Our Recording Make Any Difference?

Our annual bird list is one of several site reports used by the Dorset Bird Club to compile their annual bird report, the definitive account of the County's birds. In addition, those records logged on *Ebird*, *Birdtrack* are permanently stored by the respective organisations, as are our records on

Living Record – such data form a long-term repository of data for use by planners, ecologists and other researchers and help document the changing wildlife of the area. From climate change, to the development of the power-station site to the conversion of farmland at Upton Country Park to open space, the local environment is continually changing and this is likely to be reflected in the wildlife we record.

We also hope to improve the area for both wildlife and people. We are currently working with the site managers at Upton Country Park, the Birds and Recreation Initiative (BARI) and the Birds of Poole Harbour (BoPH) to improve the 'bird screen' at Upton Country Park, by creating a raised viewing platform as has successfully been done at Lytchett Bay and Ham Common. The staff at Upton Country have also responded quickly to improve protection of the bat roost in Upton House based on this year's survey work, and we continue to promote small scale habitat improvements, e.g. reducing the shading of ponds to encourage dragonflies.

The term '*bio-**diversity**'* is often used to describe what we might once have called '*wildlife.'* Hopefully, our recording and documenting of the area's animals and plants demonstrates just how ***diverse*** the wildlife of this area is, and how important it is to maintain it.

Holes Bay ©Martin Adams

BIRDS RECORDED IN HOLES BAY AND UPTON COUNTRY PARK IN 2024

Martin Adams, Jackie Hull, Stephen F. Smith and Nick Woods

The following list of birds includes all those species known to have been reported from the recording area in 2024.

Records have been obtained from individual recorders, the E-bird and Birdtrack online recording systems, the website and news forum of the Dorset Bird Club, the website of the Birds of Poole Harbour and from the Holes Bay Nature X (formerly Twitter) account.

The Holes Bay Nature Park was established in 2015 by a partnership of the Poole Harbour Commissioners, Dorset Wildlife Trust, and the Borough of Poole (now Bournemouth, Christchurch and Poole Council).

Upton Country Park is owned and managed by Bournemouth, Christchurch and Poole Council. A map showing the names used for different locations within the Country Park is included within the report. There is no public access to the fields of Upton Park Farm.

Abbreviations:

BoPH – Birds of Poole Harbour

BTO – British Trust for Ornithology

WeBS – Wetland Bird Survey (carried out by volunteers from the BTO)

SANG – Suitable Alternative Natural Greenspace

This report is based on records and information from the following observers:

Martin Adams, Richard Adams, Tracy Akehurst, Louis Arnaud, Peter Ashley, Simon Baird, Rikki Ball, Ian Ballam, Ian Barber, Phil Bentley, Birdguides, Birds of Poole Harbour, Laura Black, Rowan Blackwell-Cronie, J. Blunt, Rowan Booth, Mick Brooks, Martin Bugler, Pete Cadogan, Elliot Candy, Michael Caponi, Toby Carter, David Chambers, Brian Chard, Peerawat Chiaranunt, Aimee Cokayne, Andy Collyer, Peter Corbin, Chris Courtaux, Jim Coyle, Simon Craft, Ann Crawford, Michael Cross, Kathryn Crouch, Tina Dawkins, Carrie Dominey, Dorset Bird Clubb, Ed Drewitt, Jacob Everitt, Stephen F. Smith, Robert Fielding, David Foster, Tony Furnell, Tony Gaston, Rene Goad, Sally Grant, Tony Grant, Kirsty Green, Clive Hargrave, Tanya Hart, Caroline Hebditch, Mike Hetherington, Lorraine Highfield, Mick Highfield, Jacqueline Hull, Nick Hull, Alice Jenkinson, Jarred Johnson, Ian Julian, Maria Kallionaki, Adrian King, Adrian King, Paul Kirby, Liz Kirton, Colin Lamond, Zoe Leclerc, Garry Lester, Michael Louey, Isaac Moody, Garry Moors, Simon Mussell, Peter Myers, Daniel Nash, Jaidend Orchard, Glyn Owen, Gavin Paterson, Sagar Patil, Ken Pennhillman, Roly Pitts, Tom Pook, Poole Peregrine Project, Phillip Precey, Ian Quelch, Shaun Robson, Sam Ryde, Steve Sansom, Becki Sant, Andrew Sant, John Severn, A. Sharpe, Philip Skinner, Steve Smith, Paul Sutton, Bruce Townsend, Steve Violette, Sean Wallis, Mark Warren, Tom Whetmore, Andy White, David White, Michele Wiggins, Kevin Wood and Nick Woods.

With apologies for any errors or omissions (note: some recorders using Ebird or Birdtrack do not provide a name; so, some records are from others not included in the above list).

The following photographers have also provided photos for use in the report:

Martin Adams, Andy Collyer, Pete Corbin, Tania Dawkins, Rene Goad, Sally Grant, Nick Woods.

The authors would like to thank all the observers and photographers who have contributed. Please accept our apologies for any errors or omissions.

The authors would also like to thank the following people for their assistance: Jez Martin (Bournemouth, Christchurch and Poole Council), Paul Morton (Birds of Poole Harbour), Hamish Murray (Dorset WildlifeTrust), Jennie Saunders (Bournemouth, Christchurch and Poole Council/Upton Country Park).


main entrance
front field
Bascombe's pond
Upton Park Farm
Roper's Lane
SANG car park
Upton House
east field
13 acre field
Creekmoor field
Creekmoor channel
car park
duck pond
Llewellin wood
walled garden
north-east shoreline
play area
kennel mead
the stone bench
the bridge
The Grove (Grove woodland)
drying ground field
bird hide (site of)
Pergins Island
back drive
Allens Lane
boardwalk
Grove pond
half-moon field
lambs leas field
bird screen (observation point)
Jack's wood
Symes Road
the lodge
UPTON COUNTRY PARK
Field names and other names used by bird watchers and others for particular areas or feataures within the Park.
Imagery ©2019 Google, Imagery ©2019 Getmapping plc.Infoterra Ltd & Bluesky. Maxar Technologies. Map data©2019

Brent Goose *(Branta bernicla)*

Still the scarcer of the two 'black geese' regularly recorded, but increasing in Holes Bay.

Maxima	**Total**	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	**12**	-	-	-	-	-	-	-	-	-	-	-	12
2021	**26**	8	7	10	-	-	-	-	-	-	-	1	-
2022	**56**	15	13	13	-	-	-	-	-	-	-	5	10
2023	**87**	18	20	20	-	-	-	-	-	-	-	3	26
2024	**122**	38*	24	24	-	-	-	-	-	-	-	4	32

Combined Holes Bay counts by WeBS counters shown by *.

Since our first Holes Bay record in December 2020, numbers here have risen strongly. The monthly analysis shows a regular pattern typical for geese, with small numbers present in November building up to a maximum in the new year. Almost all records were in the SW sector.

Extreme dates in 2024: 18th March (5) and 26th November (3).

[CLAIM OF 100 Brent Geese on 10th Jan assumed to be a mistake]

Canada Goose *(Branta canadensis)*

The commonest of the 'black geese', with flocks in the hundreds sometimes seen in Holes Bay and flocks also feeding on the fields at Upton Country Park; at least one pair has bred at Upton Country Park in the past (2011).

Canada Geese ©Nick Woods

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
89	18	6	5	40	204	224	6	197	416	198	82*

Combined Holes Bay counts by WeBS counters shown by *.

As usual, most of the three-figure counts in 2024 were made in the NW sector, and the 2024 maximum in 13 Acre Field was 198 on 12th November.

The mean maximum has remained stable at about 111 over the past five years. As usual, numbers were low in spring, when birds were on their breeding areas. Birds returned to Holes Bay in midsummer once young were fledged, and there was then a slight drop in August and September followed by a major rise in October (see table below). Our all-time Holes Bay maximum was 610 in October 2021.

The mean monthly maxima across the five years 2020-2024 are as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
39	12	4	2	60	211	204	31	121	364	126	116

Barnacle Goose *(Branta leucopsis)*

A rare winter visitor or passage migrant to Dorset, though feral birds may also occur.

Not recorded in Holes Bay during 2024.

Greylag Goose *(Anser anser)*

The only 'grey goose' regularly recorded, the birds being part of a widespread feral population small numbers sometimes seen in Holes Bay, often with Canada Geese. Birds have been colour-ringed in Poole Park in a study of the local population (sightings of such birds can be reported to pooleparkgreylags@gmail.com).

2024 was a typical year, with five records: 2 on 18th March, 1 on 14th May, 1 on 12th November, 2 on 3rd December and 2 on 14th December.

Tundra Bean Goose *(Anser serrirostris)*

A very rare winter visitor to Dorset, with very few recent records from Poole Harbour.

Not recorded in Holes Bay during 2024.

White-fronted Goose *(Anser albifrons)*

A rare winter visitor and passage migrant to Poole Harbour, with few recent records from Holes Bay.

Not recorded in Holes Bay during 2024.

Mute Swan *(Cygnus olor)*

A few pairs often breed around Holes Bay, with larger numbers found in winter.

Mute Swan ©Nick Woods

Two pairs bred in 2024, one each side of the railway. Five young were noted with each pair in June and July, but by 15th August this had fallen to 3 north of the railway.

The monthly maxima were similar to 2022.

Maxima	**Mean**	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2024	**26**	20	22	23	24	33	21	11	30	30	34	34	33

Combined Holes Bay counts by WeBS counters shown by *.

Black Swan *(Cygnus atratus)*

An introduced Australian species, now seen in small numbers in Poole Park and at other sites across Dorset.

Not recorded in Holes Bay during 2024.

Egyptian Goose *(Alopochen aegyptiaca)*

A species introduced into Britain and now spreading, one or two occasionally recorded in recent years.

Five records this year, reflecting the increase in this species in southern England: 2 on 17th June, 9 on 2nd October in PCW Channel, 2 on 30th October, 2 on 10th December and 2 on 28th December.

Shelduck *(Tadorna tadorna)*

A few pairs breed around Holes Bay or nearby, with groups of young birds seen in summer; flocks in winter may increase in cold weather (650 recorded in Holes Bay in 1987).

Shelduck ©Nick Woods

Breeding: This appears to have been a poor year. One pair in the NW sector produced 5 young, but these had all disappeared by 28th Aug. A second pair with a brood of 2 was also noted in the SW on 12th July, but further success is not known.

As usual, numbers of adults dropped in summer, as birds left for their moulting areas on the coast of Germany, returning in numbers from November onwards. Monthly maximum counts:

Mean	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
64	251**	168	87	33	8	11	10	11*	6	5	29	151*

Combined Holes Bay counts by WeBS counters shown by *

The annual mean figures of monthly maxima over the past four calendar years are as follows:

2020: 64 2021: 49 2022: 56 2023: 65 2024: 64

These figures suggest that the local adult population is currently stable after a fall of about 30% over the years 2000-2020. This is a long-lived species, however, and poor breeding seasons such of those in 2024 may result in a continued decline in numbers of adults.

Shoveler *(Spatula clypeata)*

A regular winter visitor to Holes Bay, with numbers increasing strongly.

Shoveler ©Rene Goad

This was another good year for this species, although the calendar-year figures did not quite equal the record-breaking figures of 2023.

Monthly maximum counts:

Mean	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
59	215	150	13	-	-	-	-	6	28	101	52	138

A comparison of the figures winter by winter, however, gives a different picture. The mean maxima for the months October to March inclusive over the past four winters make 2023–24 the best winter by a huge margin:

2020-21: 82 2021-22: 46 2022-23: 95 2023-24: 161

Gadwall *(Mareca strepera)*

Mainly a winter visitor to Holes Bay, usually in small numbers.

Gadwall ©Rene Goad

Four the fifth year running, a pair lingered in the PCW channel throughout the breeding season, but no further evidence of breeding was obtained.

Monthly maximum counts:

Mean	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4	10 (15th)	3 (28th)	2 (m)	2 (m)	2 (m)	2 (3rd)	-	-	1 (30th)	2 (14th)	7 (12th)	20 (12th)

The mean monthly maximum has also remained constant at 4, despite the high counts at the two ends of the year. The December count is the highest since we began recording systematically in 2020.

Wigeon *(Mareca penelope)*

A winter visitor to Holes Bay, with numbers greatly increasing in recent years to outnumber all the other duck species, and with counts of over 1,000 often made. The bird's loud whistling call is a characteristic sound on the salt marshes.

Wigeon ©Martin Adams

Mean	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1340	2862 (21st*)	876 (18th*)	264 (1st*)	8 (6th)	-	-	1 (17th)	-	408 (29th*)	924 (27th*)	1097 (22nd)	2018 (22nd)

Combined Holes Bay counts by WeBS counters shown by *. The 'mean' in the first column is calculated from the months Jan – March and Oct – Dec inclusive. The WeBS count for January is believed to be the highest in Holes Bay since systematic recording began here, and 2024 is also the first calendar year to include two monthly maxima exceeding 2,000 birds.

The winter mean monthly maxima below are obtained by taking the mean for the six consecutive months October to March inclusive for each winter. The results for the past four winters show that wintering numbers in Holes Bay remain at a very high level, especially when compared with the situation in the 1990s, when the Holes Bay flock crept over the 100 mark only once.

2020-21 1242
2021-22 1469 [Figure shown in 2023 Report now amended.]
2022-23 1175
2023-24 1373

No progress has been made towards resolving the mystery of the sex imbalance noted in the 2023 Holes Bay report, partly because the birds in the NE have been more distant from the cycle path, perhaps because of disturbance by anglers.

Hybrid Wigeon sp: A bird noted on 22nd March 2024 in NW showed characteristics of **Chiloe Wigeon** *Mareca sibilatrix*.

Mallard *(Anas platyrhynchos)*

Apart from Shelduck, the only duck species known to breed in the area, with pairs often present on the larger ponds in Upton Country Park and small flocks also seen in Holes Bay. A variety of domesticated birds also occur.

Mallard ©Nick Woods

Breeding: a pair in the PCW channel had produced 11 young by 24th March, 9 of which survived until at least 20th May. On 10th June a female was seen with at least 8 recently hatched young on Grove Pond, and a new brood of 7 was seen on 4th July in NE sector.

Monthly maximum counts [no mean is included as these figures include counts of young]:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
8 (m)	36 (10th)	13 (24th)	14 (29th)	13 (m)	9 (m)	18 (3rd)	36 (15th)	39 (29th*)	25 (7th)	30 (7th)	51 (20th)

Combined Holes Bay counts by WeBS counters shown by *. The December count is the highest since systematic reporting began in 2020. The group of 8 present in January were seen in the slightly unusual location of Bascombe's Pond on 29th.

Pintail *(Anas acuta)*

A winter visitor to Holes Bay with numbers increasing in recent years and counts of 100 or more birds now regularly being made.

2024 was another excellent year for this species, as the table of monthly maxima shows. The first column shows the mean for the six winter months Jan-March and Oct-Dec over the calendar year, and this figure of 116 is by far the highest since systematic reporting began in 2020.

Mean	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
116	102 (21st*)	200 (6th)	48 (10th)	-	-	-	-	-	10 (24th)	42 (21st)	72 (22nd)	224 (31st)

Combined Holes Bay counts by WeBS counters shown by*

The mean maxima from the six months from October to March over the past four winters confirm the steady increase in Pintail.

2020-21: 40 2021-22: 49 2022-23: 66 2023-24: 86

There has also been an increase in records from NE and SW sectors.

Teal *(Anas crecca)*

In winter usually the second most abundant duck (after the Wigeon) in Holes Bay, with several hundred often present.

Teal pair ©Nick Woods

Monthly maximum counts. As Teal is less of an exclusively winter species than Wigeon, Shoveler and Pintail, the 'mean' figure here is the average for the 12 months of the calendar year. This mean was relatively low in 2024, largely because of unusual scarcity of Teal in March: the March WeBS figure for Holes Bay was only 11 birds! Although 2024 was not quite the record-breaking year of 2023, the calendar-year averages still show a steady increase over the past five years.

Mean	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
312	1047 (21st*)	718 (18th*)	80 (2nd)	7 (2nd)	1 (2nd)	2 (21st)	7 (29th)	163 (31st)	370 (29th*)	325 (27th*)	230 (7th)	800 (12th)

Combined Holes Bay counts by WeBS counters shown by *.

The winter figures tell a similar story of 2023 – 24 being good but not outstanding:

2020-21: 300 2021-22: 327 2022-23: 731 2023-24: 494

Pochard *(Aythya farina)*

Once a regular winter visitor to Holes Bay, occurring in most years, with over 100 birds recorded in the 1987 cold spell, now rarely seen and then usually in very small numbers.

Not recorded in Holes Bay during 2024.

Tufted Duck *(Aythya fuligula)*

A few birds usually occur in Holes Bay in the winter, though this species and the other 'diving ducks' are much less abundant than the various species of 'dabbling duck'.

Tufted Duck ©Peter Corbin

	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bird-days	**84**	16	8	21	24	4	1	-	-	-	-	-	10
Maxima		3	2	2	2	2	1						1

Present on many more dates than last year, but observers' comments suggest that the records in the first half of the year refer to one pair in the PCW channel.

Scaup *(Aythya marila)*

A scarce winter visitor to Holes Bay, not recorded at all in some years, once present birds maybe present for some time.

Not recorded in Holes Bay during 2024. The most recent records were in Jan-Feb 2020.

Goldeneye *(Bucephala clangula)*

An irregular winter visitor in small numbers to Holes Bay.

The only record in Holes Bay during 2024 was a drake in SE sector on 29th November.

Goosander *(Mergus merganser)*

An uncommon winter visitor and passage migrant in Dorset; a rare visitor to Holes Bay.

One **redhead** was present from 5th to 25th March. Observers' comments indicate that this bird spent its time in NE sector; one present in SE on 25th March may well have been a second bird.

Red-breasted Merganser & Goosander ©Rene Goad

Red-breasted Merganser *(Mergus serrator)*

Irregular winter visitor in small numbers to Holes Bay.

This species is in serious decline in Holes Bay and in Poole Harbour as a whole, and the table now gives bird-days rather than maxima. However, 2024 was at least an improvement on 2023.

	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bird-days	**103**	15	31	30	2	-	-	-	-	-	-	-	25
Maxima		3	6	6	2								5

Pheasant *(Phasianus colchicus)*

Formerly seen regularly at Upton Country Park (prior to the conversion of much of the adjacent farm to SANG), now rarely reported from the recording area.

Two records, both at Upton Country Park – recorded as present on 10th February 2024 with a single recorded on 6th April 2024.

Red-legged Partridge *(Alectoris rufa)*

An introduced species which is released in the county for sporing purposes. There are no known recent records from the recording area though shooting was carried out on the Upton estate in the past.

A single bird seen near Upton House on 4th April 2024.

Nightjar *(Caprimulgus europaeus)*

Although breeding widely on local heathlands a bird rarely if ever reported from the recording area, though given its crepuscular or nocturnal habits, it may be under-recorded.

A single record of 2 birds calling in the Upton Country Park SANG just after sunset on 21st July 2024.

Swift *(Apus apus)*

A summer visitor to Britain which has declined greatly in recent years. Birds may be seen feeding over the recording area and measures are being taken to provide safe nesting sites on buildings nearby.

Recorded from 21st April 2024 to 5th August 2024, most records of small numbers (less than 10) but the following larger counts made: 15 at the PC World drain on 6th June 2024, and at Upton Country Park: 30 on 17th June 2024, 17 on 2nd & 25 on 15th July 2024.

Cuckoo *(Cuculus canorus)*

An uncommon passage migrant in the recording area.

Not recorded in 2024.

Rock Dove/Feral Pigeon *(Columba livia)*

Feral pigeons, in various colour patterns, are thought to breed on many buildings and bridges (including Poole Bridge) and along the railway line around the recording area.

Recorded in every month of the year and usually present in urban areas where breeding probably occurs; maximum number recorded 50 on 12th February 2024 at Holes Bay North East. A small flock of white ‘doves’ sometimes seen in the northern part of Holes Bay.

Stock Dove *(Columba oenas)*

Less conspicuous, lacking the white wing bars of the more abundant Wood Pigeon, the Stock Dove is found in much smaller numbers but its distinctive song can be heard from many wooded areas.

Stock Dove ©Martin Adams

Recorded in all months of the year. The largest count was 7 on 3rd June 2024, but probably overlooked amongst the commoner Wood Pigeon. Singing birds recorded in the woods and gardens of Upton Country Park, but no conclusive evidence of breeding.

Wood Pigeon *(Columba palumbus)*

A common breeding species, the Wood Pigeon also forms feeding flocks, often seen in the fields at Upton Country Park. Flocks apparently migrating sometimes recorded, with a large roost sometimes noted on Pergins Island. Probably under-recorded.

Wood Pigeon ©Nick Woods

Always present at Upton Country Park and likely to have bred though no records of confirmed breeding were received. Counts of 50 or more included 62 on 10th & 75 on 11th March 2024, 58 on 2nd April 2024, 50 on 2nd October 2024 and 85 on 9th December 2024.

Collared Dove *(Streptopelia decaocto)*

Small numbers seen around the recording area, may breed.

Recorded in all months except May-June and November at various locations including around shoreline of Holes Bay and at the PC World drain. Records usually of 1-2 birds with a maximum of 4 recorded on 25th February 2024. No confirmed breeding records, but breeding probable in south-west Holes Bay (interacting pair and nest building seen).

Water Rail *(Rallus aquaticus)*

A secretive bird, rarely seen, its presence often revealed by its squealing call, present in the reed beds around Holes Bay and occasionally on the ponds in Upton Country Park.

Recorded in all months of the year, usually 1-2 birds (maximum 4 on 21st October 2024). Most records from the main reed beds around Holes Bay with a single record from the duck pond in Upton Country Park. No definite evidence of breeding though this may have occurred; most records refer to birds heard. More frequently recorded in spring, and especially, in autumn/winter (bird-days shown below) – possibly a reflection of migrant birds being present.

Bird Days:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7	9	10	3	2	5	2	4	8	11	5	9

Moorhen *(Gallinula chloropus)*

A few pairs breed around Holes Bay and on several of the ponds at Upton Country Park.

Moorhen ©Nick Woods

Recorded in Upton Country Park and around the Bay (including the PC World Drain) in all months of the year. Breeding was confirmed at the Grove pond (Upton Country Park) and the PC World drain, with 5 young from 2 broods seen there with 3 adults on 12th August 2024, suggesting two pairs may have bred. A single bird was also seen on Bascombe's pond in Upton Country Park on 16th May 2024; an unusual location. Maximum number recorded was 8 birds on 12th August 2024.

Coot *(Fulica atra)*

Occasionally seen in Holes Bay and thought to have previously bred on the Grove pond in Upton Country Park.

Five records with a single bird on 7th March 2024 (in Holes Bay opposite the railway station), 2 birds in north-east Holes Bay on 16th November 2024 and single birds in the PC World drain on 4th, 16th & 17th December 2024.

Little Grebe *(Tachybaptus ruficollis)*

A small flock regular in Holes Bay (often seen near the railway line) in the winter, thought to have previously bred on the pond in the Grove at Upton Country Park.

Small numbers in January-March and October-December (monthly maxima below), with last spring record 4 on 11th March 2024 and first autumn record 2 on 2nd October 2024; usually seen close to the railway in Holes Bay.

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
6 (15th)	4 (2nd)	4 (11th)	-	-	-	-	-	-	5 (30th)	9 (9th)	11* (22nd)

Combined Holes Bay counts by WeBS counters shown by *

Great Crested Grebe *(Podiceps cristatus)*

Small numbers present in Holes Bay, mainly in the winter but is seen almost the whole year. Nearby, birds regularly breed on sites such as Hatch Pond.

Great Crested Grebe ©Nick Woods

Reported in Holes Bay in all months of the year (93 dates), an increase on 2023 when the species was only recorded on 50 dates (this was also an increase on 2022, when the bird was mainly recorded in the winter). Around 3/4 of records were from the south of the railway line (though many records are not precise on location). Most records were of 1-4 birds, with a maximum of 6 on 2nd June 2024 and 24th November 2024. There was no evidence of confirmed breeding, though birds were seen briefly displaying in south-east Holes Bay on 11th June 2024.

Black-necked Grebe *(Podiceps nigricollis)*

Rarely recorded in Holes Bay despite being an annual visitor to other parts of the Harbour and Studland Bay.

Not recorded in Holes Bay during 2024.

Oystercatcher *(Haematopus ostralegus)*

Occasional (usually unsuccessful) breeding bird around the margins of the Bay. Present all year round but more common in winter. The wintering population in Poole Harbour has declined since 1990.

Oystercatcher ©Nick Woods

Recorded from all months of the year in Holes Bay, the only ever-present wader this year.

Breeding records were again limited this year with no young observed, although there were records around the roofs in Factory Road (where breeding has occurred before,) including an adult possibly sitting on a nest on 25th June 2024.

In winter, large high tide roosts sometimes assemble on the south side of the railway embankment, usually on the east side of the Bay. Anecdotally, these roosts seem to have declined in number in the last 20 years, in line with a national and local decline in wintering numbers.

Also occasionally seen on the verges of the cycleway in the East of the Bay, and in the school fields in the SW corner of the Bay.

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
96 R (10th*)	99 (25th)	55 R (11th)	25 (17th)	13 R (6th)	14 (3rd)	26 (30th)	22 (16th)	43* (29th)	42* (29th)	71 R (26th)	81 R (4th)

Combined Holes Bay counts by WeBS counters shown by* Roost count shown by 'R'

2020's Yearly Maxima

2020	2021	2022	2023	2024
84	110	101	114	99

Avocet *(Recurvirostra avosetta)*

Appearing in late autumn, flocks in Holes Bay can number over 200 in winter with numbers having increased in recent decades. Poole Harbour is one of the most important wintering sites in the UK for Avocet.

Avocet ©Martin Adams

Large numbers in winter, mainly in northern parts of Holes Bay. Avocet numbers tend to be less dependent on tides than other waders, as their long legs mean they can roost in deeper waters and are less dependent on exposed mud to feed.

6 days earlier than last year.

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
229* (21st)	200 (1st)	12 (14th)	1 (6th)						72 (30th)	177 (29th)	402 (24th)

Combined Holes Bay counts by WeBS counters shown by*

2020's Yearly Maxima

2020	2021	2022	2023	2024
299	238	484	288	402

The WeBS totals for the 1990's show that Avocet were less than annual in Holes Bay 30 years ago, showing how extraordinary their rise has been, with Poole Harbour now having one of the highest winter counts in the country.

WeBS maxima 1990's:

	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Avocet HB max	[zero]	[zero]	2	[zero]	[zero]	[zero]	1	[zero]	1	9

Lapwing *(Vanellus vanellus)*

A winter visitor to Holes Bay in small numbers, often best seen from the boardwalk in Holes Bay NW. Has been seen in the fields at Upton Country Park, especially in prolonged cold spells. Formerly bred on the fields where the Upton bypass now goes through.

Just 11 records, a big decrease compared to 23 in 2023, 2022 and 2020, and 30 records in 2021.

6 records in January, one on 1st July 2024 SW, and 4 in October & November, with a maximum of 5 birds on 2 dates in autumn.

2020's Yearly Maxima

2020	2021	2022	2023	2024
15	11	8	9	5

Grey Plover *(Pluvialis squatarola)*

A passage migrant or winter visitor to Holes Bay, birds being reported more often in recent years.

Grey Plover ©Nick Woods

5 records of single birds: 23rd July 2024, NW 6th September 2024, and 3 records in the SW between 22nd and 30th December 2024. A not untypical year, after 6 records in 2023, although there were an extraordinary 30 records in autumn 2022 with a high count of 11.

Golden Plover *(Pluvialis apricaria)*

A rare winter visitor to Holes Bay.

5 recorded on e-bird 2nd October 2024, the first record since 2018.

Ringed Plover *(Charadrius hiaticula)*

Usually an occasional visitor to Holes Bay, mainly as a passage migrant, with small flocks rarely seeming to stay long.

2 records, the same number as in 2023, with 3 recorded NW 12th April 2024 and a flock of 7 SW 8th August 2024. As with Grey Plover, the autumn of 2022 was extraordinary with 18 records and a high count of 42. More typically, there was 1 record in 2020 and no records in 2021.

Whimbrel *(Numenius phaeopus)*

A regular spring and autumn passage migrant seen in Holes Bay singly or in small numbers. Often found in the under-watched "Boat Graveyard" South of Cobb's Quay in Hole Bay South-West.

Whimbrel ©Peter Corbin

22 Spring between 16th April 2024 and 11th May 2024, and 24 Autumn records between 8th July 2024 and 5th September 2024. More records, although this could be down to more visits in the peak periods when birds are virtually ever present. The dates were broadly similar, although there were 2 outliers on 29th September 2024 and 27th October 2024.

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			9 (29th)	5 (2nd)		2 (31st)	4 (12th)	2* (29th)	1* (27th)		

Combined Holes Bay counts by WeBS counters shown by*

2020's Yearly Maxima

2020	2021	2022	2023	2024
8	7	4	7	9

Whimbrel & Curlew ©Andy Collyer

Curlew *(Numenius arquata)*

Can be seen in Holes Bay in all months of the year with counts of 50 or more in the winter, favouring Pergins Island and the saltmarsh south of the railway embankment. Can also be seen feeding in the fields of Upton Park Farm.

Curlew ©Peter Corbin

Recorded in every month of the year except May, the first Curlew record-free month of the decade, with no records between 29th April 2024 and 7th June 2024. Sadly, this is part of a long-term decline, with maxima once again failing to exceed 100, in contrast to WeBS counts of 200+ in the 1990's. This sadly reflects the national decline of this iconic, Red-listed wader, although the erosion of the salt marsh in Holes Bay may have exacerbated this trend locally.

Inland, there was 1 record of 7 birds in Upton Park Farm on 7th December 2024, and 10 records of birds in 13 Acre Field, with a maximum of 31 on 1st January 2024. There were 2 records of a colour-ringed bird on 22nd and 29th November 2024 in 13 Acre Field.

The curlew, Yf27, was released as part of a re-introduction project in Southern England. Eggs are taken from stable populations in Northern England at sites where there is a high risk of nest destruction, incubated, hatched and reared in captivity, then the young birds released at three sites in the south: Cranborne in Dorset, Peppering in West Sussex, and Elmley in Kent.

Yf27 was released at Cranborne in Dorset on the 19th July 2024. Most of the tagged head started curlew disperse in late summer to sites on England's south coast, between early August and September. From release site to Holes Bay is a journey of about 22 km. (Information from Chris Heward of GWCT.)

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
41 (5th)	67* (18th)	82 (1st)	49 (3rd)		24 (26th)	34 (29th)	42 (15th)	53 (29th)	87* (27th)	77 (22nd)	96* (22nd)

Combined Holes Bay counts by WeBS counters shown by*

WeBS maxima 1990's:

	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Curlew HB max	95	220	277	220	214	197	201	150	190	218
peak month	Mar	Jan	Feb	Feb	Jan	Feb	Nov	Feb	Jan	Jan

2020's Yearly Maxima

2020	2021	2022	2023	2024
122	107	116	88	96

Bar-tailed Godwit *(Limosa lapponica)*

Occasional winter visitor to Holes Bay. In Poole Harbour this species is more characteristic of Whitley Lake and Brownsea Island, and vastly outnumbered by the Black-tailed Godwit.

Just 1 record, a single bird reported on e-bird in Holes Bay S 30TH December 2024, in contrast with 8 records in 2023 and 10 in 2022.

Black-tailed Godwit *(Limosa limosa)*

Can be seen in all months of the year in Holes Bay but numbers much greater, and increasing on passage and in winter, with regular counts of over 1,000. This is an internationally important figure, representing over 1% of the world's population. The Poole Harbour wintering population is thought to be exclusively of the Icelandic race (Limosa limosa icelandica) the population of which is estimated at 50-70,000 individuals.

Black-tailed Godwit ©Martin Adams

Black-tailed Godwit ©Nick Woods

Another very good year, although the high count of 3,212 on 18th January 2024 didn't quite match the then Dorset record of 4,120 from last year. Once again, the high counts were associated with cold weather, causing other sites, especially the lagoon on Brownsea, to freeze up. Counts of 2000+ were still regular in "normal" conditions however, and the March high count of 2061 was a record maximum for March.

In contrast, February's high count of 1,774 is slightly misleading. Counts were generally low, with just 27 birds counted on WeBS just 2 days after this count was recorded. Wet weather and low pressure meant that water levels were unusually high, meaning that the mud the birds feed on and the saltmarsh they roost on was flooded for longer periods. Birds decamped to the Avon Valley, where the wet conditions by contrast made the flood plains there more attractive, and Hole's Bay's Dorset site record was exceeded.

This is a threat going forward, with sea levels predicted to rise, and a sign that, even with the extraordinary numbers currently being recorded, that nothing lasts forever. Holes Bay will suffer from coastal squeeze, where rising sea levels will come against man-made barriers, and inter-tidal habitats will be lost.

Although Blackwit can be seen in every month as non-breeding birds over-summering in Poole Harbour, there were no records between 21st May 2024 and 26th June 2024. There seems to have been a slight trend over the last couple of years towards fewer passage birds in autumn, with birds possibly passing through more quickly.

Recorded 5 times in 13 Acre fields, notably a flock of at least 597 on 22nd November 2024. This flock was extremely restless and flighty for over half an hour, before settling down to feed. It was then apparently indifferent to the presence of a fox in the same field!

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3,212 (18th)	1,774 (16th)	2,061 (7th)	4 (6th)		4 (26th)	315 (31st)	302 (28th)	709 (28th)	1389* (27th)	1400 (7th)	2500+ (12th)

Combined Holes Bay counts by WeBS counters shown by*

WeBS maxima 1990's:

	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Blackwit HB max	866	761	542	208	1811	560	378	813	348	1404

2020's Yearly Maxima

2020	2021	2022	2023	2024
1290	2000	1504	4120	3212

Turnstone *(Arenaria interpres)*

A winter visitor to Holes Bay often seen (usually distantly) on the Railway Embankment.

36 records, a big increase on the 22 from last year, with 25 in the first winter/spring period and 11 in the autumn/ second winter period.

Under-recorded in the past with 1 record in 2020 and 10 in 2021 before being 'discovered' on the Embankment, resulting in greater focus and observer effort. Extreme dates 17th April 2024 and 5th September 2024, the latter over a month earlier than in 2023.

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12 (8th)	14 (26th)	12 (18th)	2 (17th)					9 (5th)	1 (23rd)	8 (22nd)	10 (17th)

Combined Holes Bay counts by WeBS counters shown by*

Yearly Maxima

2020	2021	2022	2023	2024
1	10	14	20	14

Knot *(Calidris canutus)*

An occasional winter visitor to Holes Bay, probably appearing more regularly in recent years.

Consistently present over both winter periods, a slight variation on the usual pattern of the occasional flock with odd birds in-between. There were also 3 passage records of single birds between 16th August and 20th September.

The high counts the previous 2 years of 57 and 25 were the highest counts recorded in Dorset during those years. This year's maximum of 60 is the highest known count in Holes Bay, and although it is believed that a higher count was recorded in Brownsea this year, Holes Bay remains the best place in Dorset to see Knot.

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
60 (18th)	50 (6th)	27 (10th)					1 (16th)	1 m*		4 m*	38 (30th)

Combined Holes Bay counts by WeBS counters shown by*

2020's Yearly Maxima

2020	2021	2022	2023	2024
51	40	25	57	60

Ruff *(Calidris pugnax)*

Occasionally seen in Holes Bay or on the fields of Upton Park Farm, but not recorded every year.

Not recorded in Holes Bay during 2024.

Curlew Sandpiper *(Calidris ferruginea)*

A scarce passage migrant in Holes Bay – recorded occasionally, and not necessarily every year.

Not recorded in 2024, after 1 record in 2023, 2 in 2022, none in 2021 and 2 in 2020. Very probably under-recorded amongst the often-distant flocks of similar-looking Dunlin.

Dunlin *(Calidris alpina)*

The smallest wader commonly found in Holes Bay, winter flocks may number 500 or more, and when disturbed will form tight flocks.

Dunlin ©Martin Adams

Exceeded 600 in the 3 deepest winter months, compared to maxima of just over 500 last January and December, with this year's February and March figures far exceeding the double figure counts of 2023.

It is worth noting that despite seeing such large numbers these birds are on the Red List due to the decline in wintering numbers. A comparison with the WeBS maxima and the totals for this decade doesn't seem to show a significant decline, but it is worth noting that the latter figures represent all records, rather than the snapshot of a monthly WeBS count.

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
641 (12th)	643 (16th)	381 (7th)	30 (19th)			1 (30th)	2 m*	18 (15th)	45 (31st)	311 (12th)	628 (8th)

Combined Holes Bay counts by WeBS counters shown by*

WeBS maxima 1990's:

	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Dunlin HB max	208	986	454	873	693	547	833	400	459	350

2020 Yearly Maxima

2020	2021	2022	2023	2024
458	754	1168	503	643

Woodcock *(Scolopax rusticola)*

Rarely recorded and then usually single birds flushed from some of the less disturbed woodland areas in winter, or more recently as Peregrine prey.

Woodcock ©Sally Grant
(BoPH ringing at Sunnyside Farm)

Recorded as Peregrine prey in December 2024. It possible that the Peregrines took this bird as it migrated over at night.

Jack Snipe *(Lymnocryptes minimus)*

A scarce winter visitor, seen infrequently in Holes Bay – probably associated with cold spells and not recorded each year.

Not recorded in Holes Bay during 2024.

Snipe *(Gallinago gallinago)*

An inconspicuous wader often lurking on the edges of the reed beds in Holes Bay in winter.

After increasing records from 10 in 2021 to 44 in 2023, Snipe have been upgraded from a bird where the number of records noted, to one where the maxima are recorded. This is largely due to greater focus on the South West, and getting to know their haunts and habits. Birds seem ever or often present in the winter, and in the second winter period the numbers were particularly strong, even allowing for this extra focus, with 50+ recorded for the first time, followed by a recent record count of 70.

The area of saltmarsh in the South West, north of Cobb's Quay is by far the most productive, followed by the Boardwalk in The North West, and the corner of Pergins Island in the North East. There was 1 record on 18th January 2024 in 13 Acre Field.

Last Spring record 28th March 2024, 11 days earlier than in 2023. First winter record 14th September 2023, nearly a month earlier than in 2024. The latter bird was in the Boat Graveyard in Holes Bay South West, where a fisherman told the observer that he recalled shooting Snipe in the east of The Bay before the land was reclaimed for the Holes Bay road.

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
27 (7th)	30 (12th)	7 (6th)						1 m*	12 (21st)	14 (16th)	70 (27th)

Combined Holes Bay counts by WeBS counters shown by*

2020's Yearly Maxima

2020	2021	2022	2023	2024
41	24	Not known	24	70

Common Sandpiper *(Actitis hypoleucos)*

Mainly a spring or autumn migrant in Poole Harbour (and more rarely a winter visitor); usually seen around the edge of Holes Bay, often frequenting the railway embankment or the shore along the Holes Bay cycleway.

Common Sandpiper ©Rene Goad

2 records in the first winter period, on the 8th and 24th of January 2024.

7 Spring passage records of 1 or 2 birds between 10th April and 7th of May 2024.

44 autumn records between 9th July and 31st October 2024, with 6 on 6th September 2024 the highest count. This represented a substantial increase on the 24 autumn records, although greater focus on the PC World Drain (bringing 19 records) accounting for much of this increase. There was a gap between the penultimate record on 14th October and the last record on Halloween.

Birds on the Railway Embankment are often flushed by passing trains, where they can be easily identified from within the train by their distinctive flight. There were 7 records obtained this way this year.

Green Sandpiper *(Tringa ochropus)*

A scarce passage migrant or winter visitor, usually of single birds. Sometimes frequents the channels in Holes Bay NE.

A very good year with 11 records, an increase on 3 records from 2023.

7 of these records were from the wet areas of Upton Park Farm, viewed from the car park at Upton Farm. In total there were 10 records in the first winter period, with 1 from the North West, and 2

from the PC World Drain, and 1 record from the second winter period, in the South West on 4th December 2024.

Redshank *(Tringa totanus)*

Present in Holes Bay for most of the year, and may have bred in the past, it's piping call is one of the signature sounds of wetland habitats. Passage or wintering flocks can number more than 200.

Recorded in all months of the year except May. This year's high count of 405 was the biggest total of the decade. The WeBS figures from the 1990's show a decline in numbers since that time, with the maxima over half that recorded 30 years ago.

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
268 (17th)	222* (18th)	148 (24th)	66 (3rd)		12 (24th)	181 (31st)	287 (15th)	405 (20th)	275 (27th)	93 (24th)	255 (22nd)

Combined Holes Bay counts by WeBS counters shown by*

WeBS maxima 1990's:

	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00
Redshank HB max	373	836	1120	637	772	733	722	509	681	313

2020's Yearly Maxima

2020	2021	2022	2023	2024
354	306	323	292	405

On 11th and 25th July 2024, a colour-ringed Redshank was seen in Holes Bay NW from the 'WadersForReal' program: https://www.gwct.org.uk/wadersforreal/. This bird was ringed as an adult in 2022 in the Lower Avon Valley, and has been seen in Holes Bay every year since then. This is the fourth year running that a bird from this program has been recorded in Holes Bay.

Spotted Redshank *(Tringa erythropus)*

Once a regular winter visitor or passage migrant with one or two birds being regularly seen along the Northern fringes of Holes Bay, this species has become much less frequent in recent years. In the last couple of years, it has been recorded more frequently in the South-West.

Spotted Redshank ©Martin Adams

16 records, down on 29 records in 2023, 24 in 2022, after a significant increase on the 8 records in 2021 and 2 records in 2020.

2 records in January, followed by 7 spring records between 23rd February and 21st March 2024 (with 1 record of 2 birds on 12th March 2024).

2 records in September, followed by 5 winter records from 12th November 2024 onwards.

Greenshank *(Tringa nebularia)*

An uncommon but annual passage migrant or winter visitor to Holes Bay. As with Spotted Redshank, this is a bird that has become less common in recent years.

Greenshank ©Nick Woods

In contrast to the other uncommon shank, there were 26 records in 2024, the best of the decade after 12 records in 2023, 16 in 2023, 10 in 2021, and 11 in 2020.

4 records up to 20th February 2024, then 1 on 22nd April 2024.

18 records between 12th September and 7th November 2024, including 3 records of 2 birds, then 1 record on 28th December 2024.

Kittiwake *(Rissa tridactyla)*

A rare visitor to Holes Bay, though breed in small numbers it is common on passage along the Dorset Coast.

Only record of one as prey to the Peregrine at Asda on the 21st October 2024.

Black-headed Gull *(Chroicocephalus ridibundus)*

Present all year in Holes Bay, flying over and on the fields of Upton Country Park. Breeds elsewhere in Poole Harbour and the strikingly patterned juveniles may attract attention in late summer. Large flocks may be seen flying to and from Holes Bay.

Black-headed Gull (juvenile) ©Martin Adams

Black-headed Gull ©Martin Adams

Seen in all months of the year with high counts in the winter months, a winter count of 2,627 was made on the 23rd February 2024. An Autumn roost count of over 1000 was made on the 8th October 2024 and a high count of 2,300 seen the next day 9th October 2024. |
The first juveniles were recorded on the 1st July 2024.

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1689 (28th)	2627 (23rd)	256* (24th)	c45 (2nd)	70+ (20th)	100+ (3rd)	300+ (17th)	495* (4th)	468* (29th)	2300+ (9th)	2210 (28th)	253 (22nd)

Combined Holes Bay counts by WeBS counters shown by *

Little Gull *(Hydrocoloeus minutus)*

A very scarce visitor.

Little Gull ©Nick Woods

A one day only sighting, a single bird on 24th November 2024 in Holes Bay N/E in adult non breeding plumage.

Mediterranean Gull *(Ichthyaetus melanocephalus)*

The distinctive calls of overflying birds of this species are a feature of early spring and birds may also be seen in Holes Bay or on the fields of Upton Park Farm.

Recorded in January-April, June-July and November-December with most records received between February and April, with the highest counts on 10th February 2024 with 15 and an outstanding160 on the 3rd April 2024. The first juvenile noted was on the 1st July 2024.

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3 (10th)	15 (10th)	5 (10th)	160 (3rd)	-	2 (28th)	2 (1st)	-	-	-	1* (24th)	2 (28th)

Combined Holes Bay counts by WeBS counters shown by *

Common Gull *(Larus canus)*

Recorded in spring, winter, and autumn, usually in Holes Bay.

Common Gull ©Martin Adams

Good numbers seen during autumn and winter lingering into April 2024, the last spring record was of a single bird on the 8th April, 2024 . First returning autumn birds were recorded on the 23rd July 2024. The largest count was of 40 on the 7th October 2024.

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10 (29th)	20 (6th)	5* (24th)	1 (8th)	-	-	3 (23rd)	14* (4th)	7* (29th)	40 (7th)	20 (28th)	18 (15th)

Combined Holes Bay counts by WeBS counters shown by *

Great Black-backed Gull *(Larus marinus)*

This large and intimidating gull is usually present in low numbers in Holes Bay.

Seen in all months of the year usually in small numbers, however an exceptional count of 31 was made on the 26th November 2024 in South East Holes Bay.

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
8 (25th)	6 (13th)	10 (24th)	2 (2nd)	1 (20th)	1 (3rd)	2 (23rd)	5* (4th)	7* (29th)	2 (8th)	31 (26th)	7 (12th)

Combined Holes Bay counts by WeBS counters shown by *

Herring Gull *(Larus argentatus)*

Common resident and winter visitor.

Herring Gull chicks ©Nick Woods

Almost always present in Holes Bay. Usually breeds on buildings in Poole town and on industrial buildings to the west of Upton Country Park, Several were seen carrying nest materials on 23rd April 2024. A record of an occupied nest with 2 adults and two separate broods of two and three young were recorded on the roof of an industrial unit in Factory Road, Upton on 10th June 2024. With 27 birds including 4 young on the 11th June 2024.

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
489 (28th)	123 (18th)	207* (24th)	50 (9th)	5 (9th)	63 (3rd)	27 (11th)	330* (4th)	144* (29th)	351* (27th)	25 (4th)	67 (20th)

Combined Holes Bay counts by WeBS counters shown by *

Yellow-legged Gull *(Larus michahellis)*

Once a regular visitor to Holes Bay in small numbers, this species is now only seen occasionally.

Two late winter records of one seen on 21st January 2024 and 26th February 2024. Only three further sightings with one on 16th August, one on 20th September 2024 and two on 7th October 2024.

Lesser Black-backed Gull *(Larus fuscus)*

Regularly present in small numbers in Holes Bay.

Lesser Black-backed Gull ©Martin Adams

Lesser Black-backed Gull ©Nick Woods

Seen in all months of the year, maximum count this year of 16 on 28th January 2024 of birds roosting on mudflats late afternoon and flying in up to sunset. On 25th June 2024 two adult and two well grown young on roof on Factory Road Industrial Estate.

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
16 (28th)	8 (6th)	9* (24th)	8 (8th)	4 (20th)	6 (3rd)	3 (23rd)	12* (4th)	4* (29th)	5 (2nd)	2 (4th)	6* (22nd)

Combined Holes Bay counts by WeBS counters shown by *

Sandwich Tern *(Thalasseus sandvicensis)*

Breeding locally on Brownsea Island and an occasional visitor to Holes Bay particularly during passage time.

Sandwich Tern ©Nick Woods

Recorded first in Holes Bay South a single on 23rd and 25th February, and 1st March 2024. Two were seen on 25th March 2024, four on 30th March 2024, three on 31st March 2024 and on 3rd April 2024 two on 26th April 2024, with singles in late April through to July 2024.

Only sightings after this in the Autumn on 18th and 29th September 2024. Several sighting of two in the first half of October 2024, last sighting was a single bird 13th October 2024.

Common Tern *(Sterna hirundo)*

Like the Sandwich Tern, this summer migrant breeds on Brownsea Island but relatively few visit Holes Bay and then usually only 1 or 2 birds at a time.

Common Tern ©Martin Adams

Only eight daily sighting were made during the summer of 2024, all single birds. First recorded on 10th June 2024 and last on 25th July 2024.

Arctic Tern *(Sterna paradisaea)*

Rare migrant.

An old record of 2 Arctic Terns on 27th April 1991 [Dorset Bird Report] was unearthed just before publication of this report.

Forster's Tern *(Sterna forsteri)*

A rare North American visitor seen in Poole Harbour in 2023 and in Spring 2024

Forster's Tern ©Peter Corbin

Recorded in Holes Bay on seven days from 6th April 2024 to 2nd May 2024. It returned to Holes Bay in the Autumn and seen on 20th September 2024 and then on 1st, 2nd and 3rd October 2024.

This bird has been found to spend the winter in Brittany, France and during July 2024 was seen in County Louth, Ireland.

Arctic Skua *(Stercorarius parasiticus)*

Regarded as a locally common passage migrant in Dorset, this species is usually recorded over the sea with few records as far 'inland' as Holes Bay. First known record for Holes Bay in 2024.

A dark morph individual seen in Holes Bay South West on 28th November 2024 is the first record of this species, or of any Skua species, in Holes Bay. The same bird was around Baiter and Poole Quay the day before and the day after, following a period of stormy weather.

Razorbill *(Alca torda)*

A coastal species rarely found in the inner harbour. As far as is known, not previously recorded in Holes Bay.

Not recorded in 2024.

Red-throated Diver *(Gavia stellata)*

A very scarce winter visitor to Holes Bay.

Not recorded in 2024.

Black-throated Diver *(Gavia arctica)*

Regarded as an uncommon winter visitor and passage migrant in Dorset; typically seen on the coast. The record below is the first known record for Holes Bay.

Black-throated Diver ©Rene Goad

A single bird was seen in Holes Bay south on 4th-12th, 14th and 24th-26th January 2024 and again on 4th-6th & 10th December 2024 (the last record being a bird which flew over Brownsea Island towards Holes Bay).

Great Northern Diver *(Gavia immer)*

A very scarce winter visitor to Holes Bay, not recorded in every year and then usually single birds.

Single birds in the south part of Holes Bay on the following dates: 2nd & 12th January 2024 and 28-29th November 2024.

Fulmar *(Fulmarus glacialis)*

On the coast this species is regarded in Dorset as a locally common breeding resident and passage migrant. However, it is very unusual away from the coast and is not thought to have been previously noted around Holes Bay.

One was seen heading north over central harbour, over Poole Quay and out towards Holes Bay / Lytchett Bay on 9th June 2024.

Shag *(Phalacrocorax aristotelis)*

Breeding along the cliffs of Dorset, this species, unlike the Cormorant, is rarely seen in the inner parts of Poole Harbour.

Shag ©Martin Adams

Single birds seen in the south part of Holes Bay on 11 dates in January-April and November-December 2024.

Cormorant *(Phalacrocorax carbo)*

Often present in small numbers in Holes Bay, much larger flocks are occasionally recorded.

Cormorant ©Peter Corbin

Present in Holes Bay throughout the year, usually with 20 or less birds being recorded but with the following large counts (50 or more birds): 370 on 19th October 2024 (with the site given as Poole SZ0091), 320 on 7th November 2024, 108 on 1st & 58 on 27th December 2024 The large counts usually referring to flocks of birds.

Spoonbill *(Platalea leucorodia)*

An occasional visitor to Holes Bay though now regularly seen in some numbers in Poole Harbour as a whole.

Spoonbill ©Nick Woods

In the first winter period: 1-2 birds present in Holes Bay on 8th & 10th January and 6th February 2024 and then individuals or a small flock present on 8 dates from 18th October to 9th December 2024, maximum count 16 on 28th November 2024.

Cattle Egret *(Bubulcus ibis)*

Once a rare passage migrant, the Cattle Egret is now regularly recorded at sites across Dorset and has bred in the county.

A single bird seen flying over Turlin Moor on 9th April 2024 was thought to have been roosting on Pergins Island and in October there were five records of birds flying to or from an over-night roost there: 25 on 1st, 10 on 2nd, 27 on 3rd and 7 on 4th October 2024 with 24 seen over Lytchett Bay and believed to have been from Holes Bay on 5th October 2024. Singles seen with Little Egrets in the field between the car park and farm at Upton Country Park on 14th October 2024, 12th November 2024 and 1st & 5th December 2024.

Grey Heron *(Ardea cinerea)*

Usually present in Holes Bay, with birds sometimes seen roosting at high tide along the railway line; sometimes visits Grove pond in Upton Country Park.

Grey Heron ©Nick Woods

Recorded (usually in single figures) in all months of the year in Holes Bay with a maximum count of 15 on 27th October 2024. Birds were seen roosting on the railway embankment at high tides on several dates and in the trees on Pergins Island on at least one occasion.

Great White Egret *(Ardea alba)*

Rarely recorded in Holes Bay, though with increasing numbers being reported in Dorset (as a passage migrant and winter visitor) perhaps likely to become more frequent.

Not recorded in 2024.

Little Egret *(Egretta garzetta)*

Usually present in Holes Bay, sometimes with large high tide roosts along the railway line or in the trees along the shore of Upton Country Park.

Little Egret ©Martin Adams

Recorded in all months of the year often in Holes Bay and/or feeding on the fields of Upton Park Farm, with occasional birds on the Grove pond in Upton Country Park. Larger counts sometimes refer to birds at the Pergins Island roost or on the railway embankment at high tide

Monthly maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12 (9th)	9* (18th)	6* (24th)	3 (21st)	4 (11th & 30th)	61 (4th)	68 (22nd)	114 (21st)	61 (19th)	39* (27th)	22 (19th)	22 (18th)

Combined Holes Bay counts by WeBS counters shown by *

Osprey *(Pandion haliaetus)*

Regularly seen in Holes Bay on migration, with sightings having increased in recent years. In the autumn, one or more birds may be present for several weeks. A project to reintroduce the Osprey to Poole Harbour is currently being run by the Birds of Poole Harbour.

Osprey ©Andy Collyer

After no Spring records in 2022 or 2023, there were a far greater range of records this year, with 3 records in March, and 1 each in April, May and June, the latter of a bird attempting to fish in the Bay.

In contrast, the autumn was slightly less productive with 10 records between 31st July and 25th September 2024, including 1 record of 2 birds on 21st August 2024. There were 17 autumn records in both 2022 and 2023.

Sparrowhawk *(Accipiter nisus)*

Regularly seen flying over Upton Country Park and around Holes Bay– probably breeds locally.

Recorded in every month of the year, and throughout the recording area, with a record of birds carrying prey to Pergins Island on 23rd May and 13th June 2024 strongly suggesting breeding occurred there.

Marsh Harrier *(Circus aeruginosus)*

Occasional visitor to Holes Bay, birds flying over the saltmarsh or reed beds usually causing havoc amongst the waders and wildfowl.

1 record, on 1st January 2024.

Hen Harrier *(Circus cyaneus)*

Very rarely recorded in Holes Bay, though at least one previous record: one near Upton Country Park in 1983.

Not recorded in Holes Bay during 2024.

Red Kite *(Milvus milvus)*

Increasing numbers seen in south-east Dorset, especially in spring of 2020, several records for Holes Bay, Upton Country Park and nearby areas.

11 records between 18th February and 19th May 2024, including 4 on 7th May 2024, the same number of Spring records as in 2023, although there were no autumn records compared to 3 the previous year.

White-tailed Eagle *(Haliaetus albicilla)*

Birds from the Isle of Wight re-introduction scheme are becoming an increasingly common and popular sight in Poole Harbour.

White-tailed Eagle ©Rene Goad

11 records, including 5 records of 2 birds, a big increase on the 3 records in 2024. A lot of the records were inferred records of birds seen flying towards and away from the Bay, with 1 record of a single Eagle landing on Pergin's Island on 1st April 2024.

The records of 2 birds were presumed to be the regular adult Poole Harbour pair, but there was also one record of a sub-adult bird on 2nd April 2024, so at least 3 Eagles visited the Bay.

Buzzard *(Buteo buteo)*

The most frequently seen bird of prey in the recording area, and has bred in Upton Country Park. Once scarce it spread rapidly in south-east Dorset in the 1980s and 1990s.

Buzzard ©Martin Adams

Ever present – recorded in every month of the year around Upton CP, Holes Bay, 13 Acre Field, Upton Park Farm and the PC World Drain. 4 on the 9th May 2024 was the best count, and the first juvenile recorded on 27th June 2024, although there were no confirmed breeding records.

Barn Owl *(Tyto alba)*

Occasionally recorded at Upton Country Park, though rarely in recent years.

One record of a single bird apparently hunting over the SANG fields at Upton Country Park just after sunset on 21st July 2024.

Tawny Owl *(Strix aluco)*

Usually reported from woodland areas notably in Upton Country Park where it has bred.

One or two birds (both male and female) on 8 dates in January-February, April, August, October and November 2024. Most records refer to birds heard calling and all from Upton Country Park. No confirmed records of breeding but probably under-recorded as few observers visit at night.

Kingfisher *(Alcedo atthis)*

A winter visitor to Holes Bay (when at least one bird is often present), with movement through in autumn, the birds starting to appear in August. Often seen perched on posts (or a shopping trolley) close to the Holes Bay cycleway and occasionally visits ponds in Upton Country Park.

Kingfisher ©Rene Goad

Kingfisher ©Rene Goad

Recorded on 105 dates from 1st January 2024 to 16th April 2024 and from 11th July 2024 to 2th December 2024: usually a single bird but occasionally 2 or 3, and on one occasion (11th December 2024) 4 birds. Mainly recorded from around Holes Bay with one record from the duck pond in Upton Country Park.

Monthly bird-days:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
23	7	5	1	-	-	2	13	27	27	18	22

Lesser Spotted Woodpecker *(Dryobtes minor)*

Regarded as a scarce and declining resident in Dorset; there is concern that this species, once regularly reported from Upton Country Park, is now disappearing from the County.

A single bird was reported near the stone bench in Upton Country Park on 28th December 2024.

Great Spotted Woodpecker *(Dendrocopos major)*

Widespread and conspicuous in woodland areas and gardens, breeding at Upton Country Park and probably other areas.

Great Spotted Woodpecker ©Nick Woods

One to two birds regularly recorded in all months of the year, usually at Upton Country Park with at least two drumming birds recorded. Probably bred in recording area though there were no confirmed breeding records.

Green Woodpecker *(Picus viridis)*

The distinctive 'yaffle' call of this species is frequently heard in Upton Country Park (often from the fields behind the stone bench) and the bird probably breeds in the Park and possibly in other areas. Locally there is some concern that numbers may be declining.

Singles reported on 40 dates in all months of the year except April, June and September (with 2 birds on 19th February 2024). Records were often of birds calling in the vicinity of '13-acre field' in Upton Country Park, and occasionally from around Upton House or the SANG car park towards Upton itself.

Kestrel *(Falco tinnunculus)*

Seen occasionally hunting over Upton Country Park and along the Holes Bay Road.

Kestrel ©Andy Collyer

15 records in 2024, down after 26 records in 2023, 18 in 2022, and 13 in 2021.

Most records from birds hunting around the fringes of Holes Bay, mostly in the winter months. Only 1 record in Upton Country Park, after 12 records in 2023, 11 in 2022 and none in 2021.

Hobby *(Falco subbuteo)*

A summer migrant, the Hobby breeds in Dorset's heaths and forests, and birds are occasionally seen in the recording area.

One seen from the Holes Bay path on 26th May 2024.

Peregrine *(Falco peregrinus)*

After several years of records in Holes Bay South on the Asda building, a pair successfully bred on Barclay's House in 2021 after a failed attempt in 2020. This pair died due to Avian Influenza after breeding in 2023.

Peregrine ©Martin Adams

Peregrine ©Rene Goad

An adult female was seen on Barclays House on 5th January 2021, with an adult regularly seen on Barclays and Asda from then on, presumably having chased off the juvenile that was still hanging around at the end of 2023. A pair were seen on Asda 12th February 2024, and frequently after. Subsequently, it became apparent that previous records of single birds had been of both a male and female. On 3rd March 2024 the male was seen chasing off a sub-adult bird, likely one of last year's young, and there was another interloper on 24th March 2024. The pair were also seen attempting copulation on 3rd March, and on 4 subsequent occasions up until the 28th March 2024, and the male was regularly seen provisioning the female with prey.

Although the pair were seen investigating the balcony on Barclays, they apparently showed no interest in the nest box installed on the Asda building by the Dorset Raptor Study Group, and the pair were not successful in breeding this year. This is not uncommon in pairs breeding for the first time however, the previous pair were unsuccessful, and both birds remained on territory for the rest of the year. There was at least one record of a colour-ringed female however, although the resident female was subsequently back on her territory.

A pair of wings from a Kittiwake represented a new prey species for the area, taking the total to 26 species taken by the Poole peregrines.

Jay *(Garrulus glandarius)*

A common breeding bird in Dorset with additional birds often arriving in autumn and conspicuous in the woodland and parkland of Upton Country Park.

Recorded in small numbers in all months of the year, with a maximum count of 6 on 14th October, probably reflecting an influx of wintering continental birds. No records of breeding.

Magpie *(Pica pica)*

A common bird, probably breeding around the recording area.

Widely recorded all months of the year, maximum count 10 on 2nd September 2024. Recorded nest building in the PC World Drain in February, and likely to have bred further in the recording area.

Jackdaw *(Coloeus monedula)*

Often the most abundant member of the crow family, with flocks frequenting the fields of Upton Park Farm. Probably breeds in trees and buildings in the recording area. Large roosts regularly form on Pergins Island.

Jackdaw ©Nick Woods

Recorded in all months of the year and particularly notable for the large roosts that form on Pergins Island. 2000+ were recorded October to December, but true numbers are hard to assess with mobile flocks, often in poor light. Interestingly 500+ roosts were noted in April and 1000+ in June, suggesting the possibility of large numbers of non-breeding birds.

Large pre-roosts form before sunset in the fields of Upton Park Farm and the surrounding trees. The flock then departs to Pergins Island around sunset, where they spend the night, before leaving before sunrise. The roosts seem to largely head back west, with some heading back north west. In poor weather, more birds seem to head in the latter direction.

There are no known records of this roost before winter 2020/21 suggesting that it may be a new phenomenon. A survey of Corvid roosts by Birds of Poole Harbour in 2007/08 did not record a roost on Pergins Island, although it did record them flying over the Island upon leaving a roost on Upton Heath.

Recorded carrying nest material in Grove Woods in March.

Rook *(Corvus frugilegus)*

Recorded much less often than the Jackdaw, with which it will feed, thought to have previously bred on the Upton Estate.

Rook ©Nick Woods

Recorded in far greater numbers this year, with 219 on 14th December 2024 heading to roost. 20 was the highest figure in 2023; the difference is also certainly due to greater understanding of their habits. Pre-roosts gather on the power lines around Grove Lake, and birds tend to fly to and from Pergins Island over The Boardwalk.

Often found in Upton Park Farm in the day, usually in single figures.

Carrion Crow *(Corvus corone)*

A resident species probably breeding in the recording area.

Carrion Crow ©Martin Adams

Usually present in Upton Country Park, and especially in the fields of Upton Park Farm, with birds noted from the recording area in all months of the year. 22 were recorded in Upton Country Park on the 3rd June 2024, but there were 36 “called in” to mob a Buzzard in Upton Park Farm on 24th December 2024.

There are also significant numbers recorded in Holes Bay SE, where birds move between the Saltmarsh Triangle in the middle of Holes Bay South and the industrial estates to the East. 51 on 24th September 2024 is the highest count, although this population is probably under-recorded.

Carrion Crows also join the Corvid roost on Pergins Island, tending to come from the south-east. They often form a pre-roost on the saltmarsh in Holes Bay NE, with 150 recorded here on 12th June 2024.

Raven (*Corvus corax)*

In recent years the Raven has been recorded regularly in the area and is believed to have bred on Pergins Island, reflecting the bird's increasing presence in Dorset. Its distinctive call is often heard over Upton Country Park.

Recorded in every month of the year except May (having only been recorded in 9 months last year) The favourite areas are Pergins Island and along the railway line to the West of it, and the far South of the Bay, especially the Power Station site. 2 recorded frequently during first part of the year, suggesting a breeding pair. There was a record of another Raven being chased off on 4th June 2024, and then 4 birds on Pergins on 10th June, suggesting a family party that probably bred there.

There was a further record of at least 5 birds "playing" over the railway line just south of Pergins on 16th July 2024, and 10 in the same location on 8th August 2024.

Waxwing *(Bombycilla garrulus)*

An irruptive winter visitor to Dorset but rarely noted in the Holes Bay area – with the most recent historic record of 13 overhead in 2011.

At Upton Country Park 3 'possibles' were reported on 21st & 2 on 22nd January 2024. Five were reported nearby at the 'Fleetsbridge public footpath' on 27th January 2024 and a single at an unspecified part of Holes Bay on 17th February 2024. A small long-staying flock were often reported in Upton village approximately 400 m north-west from the recording area and were believed to regularly fly between there and Canford Heath. It is difficult to be precise about the exact location of some of the records, but it is possible some refer to birds commuting between these two locations.

Coal Tit *(Periparus ater)*

Frequent in woods and gardens and probably breeding widely in the recording area.

Recorded in all months of the year. Maximum recorded count was 5 at Upton Country Park on 14th December 2024. At least one pair bred at Upton Country Park, with recently fledged young seen near the SANG car park on 11th July 2024.

Marsh Tit *(Poecile palustris)*

An uncommon and declining breeding resident in Dorset, very rarely reported from the recording area.

Blue Tit *(Cyanistes caeruleus)*

Widespread and common as a breeding bird.

Blue Tit with faecal sac ©Nick Woods

Recorded in all months of the year. Maximum count was 20 on 17th October 2024 in Upton Country Park. Breeding was confirmed at Upton Country Park, with a bird nesting in a cavity on the south wall of Upton House, near the kiosk (bird seen carrying food or faecal sac on 23rd May and fledged young seen on 25th May 2024) and at the PC World drain (fledged young seen on 29th May 2024).

Great Tit *(Parus major)*

Probably widespread and common as a breeding bird around the recording area.

Great Tit ©Andy Collyer

Recorded in all months of the year with a maximum count of 17 on 19th February 2024 (combined count for all areas of Upton Country Park). Probably bred in Upton Country Park (bird entering nest hole in tree in the Grove on 6th March 2024) and breeding confirmed at the PC World drain (fledged young seen on 29th May 2024).

Bearded Tit *(Panurus biarmicus)*

A very scarce autumn or winter visitor to the more extensive reedbeds – often only one or two birds and not recorded in every year.

A single report of 2 birds seen in south-west Holes Bay on 8th November 2024.

Skylark *(Alauda arvensis)*

Rarely reported from the recording area though a possible migrant.

Not recorded in Holes Bay during 2024.

Sand Martin *(Riparia riparia)*

The scarcest of the three hirundines (Swallows and Martins) which are regular summer visitors, though a few are usually seen over Holes Bay on migration.

Recorded on six dates: 12 on 2nd May 2024, 1 on 22nd July 2024, 1 on 5th, 2 on 15th & 1 on 23rd August 2024 and 3 on 12th September 2024.

Swallow *(Hirundo rustica)*

A few pairs often breed on buildings at Upton Country Park with flocks seen feeding over Holes Bay and the fields of Upton Park Farm.

Swallow ©Nick Woods

Swallow ©Martin Adams

Regularly recorded from 4th April to 17th October 2024. Usually in small numbers (20 or fewer birds), though the larger counts were made in the autumn: 20 on 15th & 23 on 19th August 2024 and 20+ on 11th, 40+ on 19th & 46 on 20th September 2024. Breeding was confirmed at Upton Country Park (bird carrying food or faecal sac on 8th June 2024) and it is believed birds bred in one or more of the 'ice houses' in the walled garden. It is not known if birds bred at other previously-used sites.

House Martin *(Delichon urbicum)*

Regular on migration with flocks often assembling in autumn, sometimes resting on prominent buildings such as Upton House.

Recorded on 30 dates from 2nd May to 3rd October 2024. Eighteen records of ten or more birds including: 25 on 8th, 40 on 21st c 35 on 26th, 60 on 29th & 40+ on 31st August 2024, 50 on 12th, 50+ on 15th, 25+ on 19th & 36 on 20th September and 50 on 3rd October 2024. The larger counts often from the fields at Upton Country Park, with the largest count, a minimum of 50 hawking insects for an hour, at the PC World drain on 3rd October 2024.

Cetti's Warbler *(Cettia cetti)*

The sudden, indignant song of this inconspicuous resident warbler has been heard regularly along the shoreline since 2017 when a pair is first thought to have bred at Upton Country Park.

Recorded on 31 dates in March-June and September-December 2024, mostly from the north-west of Holes Bay/Upton Country Park, at least 8 records of singing birds and a bird was seen with nesting material near the boardwalk in Upton Country Park 18th April 2024. Only two records were noted as being at the PC World drain, though other records attributed to Holes Bay may also have been from this area. Although successful breeding was not confirmed, it seems likely that birds were holding territory along the shoreline in Upton Country Park, after only a limited presence there in 2022 and 2023.

Long-tailed Tit *(Aegithalos caudatus)*

Probably a widespread breeding bird, the noisy flocks formed in the winter and roving around woodlands and gardens are more conspicuous.

Long-tailed Tit ©Peter Corbin

Recorded (usually 1-10 birds) in all months except June, with larger counts including 15+ on 1st July 2024, 20 on 17th October 2024 and 13 on 25th & 14 on 28th November 2024. Fledged young were seen at the PC World drain on 29th May 2024 suggesting at least one pair bred.

Yellow-browed Warbler *(Phylloscopus inornatus)*

A very scarce visitor with a few records from wet scrubby areas around Holes Bay.

Not recorded in Holes Bay during 2024.

Willow Warbler *(Phylloscopus trochilus)*

Once thought to be a regularly breeding bird at Upton Country Park, the Willow Warbler has declined as a breeding bird and is now usually seen on spring or autumn migration, although the attractive song can sometimes be heard in spring and occasionally in autumn.

Willow Warbler ©Nick Woods

One to ten birds recorded on 36 dates from 23rd March2024 to 14th September 2024, with birds recorded in all months from March to September inclusive. Most (23) of records were of single birds, though the maximum number was approximately 10 birds at the PC World drain on 29th August 2024. There were twelve records of 3 or more birds, of which at least eleven were at the PC World drain. All the records at this location were in two periods: 23rd March-28th April 2024 and 11th July-14th September 2024, suggesting these were migrants. In contrast of the 8 records of singing birds only three were at the PC World drain (on 23rd & 25th March and 4th April 2024), the other five, between 13th May and 18th June 2024, being of a bird singing at Upton Country Park in the area between the SANG car park, the stream and the Ropers Lane footpath, suggesting a bird held territory there, though there were no evidence of successful breeding.

Chiffchaff *(Phylloscopus collybita)*

In recent years, far commoner than the similar Willow Warbler; can be difficult to see but the simple 'chiff-chaff' song can be heard from woodland and scrub. A common passage migrant and found as a winter visitor.

Chiffchaff ©Nick Woods

Recorded in all months of the year. Wintering records were mainly from the PC World Drain, with occasional records from other areas. In the first winter period (January-February), the maximum was 20+ on 21st January 2024 and the maximum in the second winter period (November-December) was 15 on 16th December 2024, both at the PC World drain. These numbers were greatly exceeded by presumed migrants with a spring maximum of 15 on 16th March 2024 and an autumn maximum of at least 80 on 1st October 2024 ('channel was alive with them'). From 25th September 2024 to 17th October 2024 there were 15 counts of 20 or more birds made; an impressive total for a site not visited every day and where full counts are difficult to make.

Singing birds widely recorded especially at Upton Country Park and at the PC World Drain, with birds also present on the power station site. Twelve birds, mainly singing birds were recorded at Upton Country Park on 2nd April 2024 and the bird probably bred widely in the area though there were no reports of confirmed breeding.

Siberian Chiffchaff *(Phylloscopus collybita tristis)*

The Siberian Chiffchaff is usually regarded as a different subspecies to the bird commonly found in Britain; difficult to distinguish on plumage it has a distinctive call and is regarded as a scarce autumn migrant and increasing winter visitor in Dorset.

Singles reported at Upton Country Park on 27th January 2024 and the PC World drain on 16th December 2024.

Sedge Warbler *(Acrocephalus schoenobaenus)*

Usually reported as a migrant passing through, though sometimes singing in one place for a few days – much less frequent than the Reed Warbler.

Sedge Warbler ©Nick Woods

Recorded on 4 dates in spring, including 3 on 27th, 2 on 28th & 1 on 29th April 2024 (most of these birds being at the PC World drain) with a singing bird in the hedgerow between lamb leas field and half-moon field in Upton Country Park on 9th May 2024. In the autumn a single bird on the Grove pond in Upton Country Park on 31st July 2024 and singles on 10 dates at the PC World drain between 21st August and 16th September 2024.

Reed Warbler *(Acrocephalus scirpaceus)*

The song of this summer migrant is regularly heard from reed beds around the Bay and in wet habitats such as the Grove pond and duck pond at Upton Country Park.

Reed Warbler ©Martin Adams

Regularly recorded in low numbers (maximum 11 on 23rd May 2024) from 14th April 2024 to 19th September 2024. Singing birds were widely reported from around Holes Bay and on the duck pond and the Grove pond in Upton Country Park and several pairs probably bred, though breeding was not confirmed. Probable migrants also recorded at various sites, including the PC World drain.

Blackcap *(Sylvia atricapilla)*

Mainly a summer migrant, with a few birds sometimes being found in winter, the clear, tuneful song is widely heard from woodland and scrub.

Two records from the first winter period: 1 female at Holes Bay on 10th January 2024 and 2 at the PC World drain on 28th February 2024. Then regularly recorded from 9th March 2024 to 14th October 2024. Early spring and autumn records often from the PC World drain, including maxima of 9 there on 12th April 2024 and 20 on 9th October 2024; these probably being mainly migrants. Singing birds widespread in woodland and scrub areas especially at Upton Country Park and the PC World Drain, with breeding confirmed at both locations, with an occupied nest at the former on 23rd May 2024 and recently fledged young at the latter on 3rd July 2024. A count of 8 birds at Upton Country Park on 9th May 2024 probably represents resident birds.

Lesser Whitethroat *(Sylvia curruca)*

Rarely reported passage migrant in recording area; less frequently seen than the Whitethroat.

A singing bird was present in the planted scrub along the Holes Bay Road on 21st & 26th April 2024 and singles were present at the PC World drain on 28th April 2024 and 27th August 2024.

Garden Warbler *(Sylvia borin)*

Much scarcer than the similar sounding Blackcap, the Garden Warbler may occur occasionally on passage but tends not to breed in the recording area.

Recorded on 8 dates at the PC Word drain: 3 on 16th and 1 on 28th April 2004, 1 on 29th & 2 on 30th August 2024 and singles on 4th,5th, 6th & 8th September 2024.

Whitethroat *(Sylvia communis)*

Much more frequent than the Lesser Whitethroat on passage recorded most years, with birds sometimes singing and possibly breeding.

Whitethroat ©Nick Woods

Presumed migrants included 20 on 27th & 28th April 2024 and 1 on 29th April 2024, all at the PC World drain with another bird nearby in trees along the Broadstone Relief Road on 1st May 2024. Singing birds were recorded in Upton Country Park on 9th & 11th May, the former in the hedge between lambs leas and half-moon fields where a pair bred in 2023, although there were no further indications of breeding.

Firecrest *(Regulus ignicapilla)*

Previously a scarce winter visitor to areas such as Upton Country Park, the Fircrest has greatly increased as a breeding bird in recent years, with singing birds heard in a number of locations. Wintering birds are widely found in woodland and garden areas with good cover.

Small numbers (usually one to two birds) recorded on 49 dates in January-June and August-December 2024, with a maximum of 3 on 13th & 19th October 2024. Monthly bird-days (given below), were similar to those in 2023, though with a marked peak in October 2024. At Upton Country Park singing birds were recorded on at least three occasions at each of the following locations: near the north-west corner of the walled garden, around the winter garden/bird hide and near the Allen's Lane entrance, suggesting birds holding territories and probably breeding, though this was not confirmed. Wintering birds recorded at various locations including Upton Country Park and at the PC World channel.

Monthly bird-days:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
8	4	4	6	6	1	-	2	5	15	4	7

Goldcrest *(Regulus regulus)*

A common breeding bird in woodland and gardens, still far outnumbering the Firecrest, which has recently increased as a breeding bird.

Recorded in all months except June, mainly from Upton Country Park, but also the PC World Drain and Holes Bay in general, maximum counts of 4 at Upton Country Park/Holes Bay on 27th November 2024 and 14th December 2024. Singing birds and a pair in suitable nesting habitat reported on several occasions in Upton Country Park but no reports of confirmed breeding.

Wren *(Troglodytes troglodytes)*

Widespread and common in woodland, scrub and gardens as a breeding bird, occupying even small areas of suitable habitat.

Wren ©Sally Grant

Recorded in all months of the year, with a maximum count of 18 birds from all areas of Upton Country Park on 9th May 2024 and 3rd June 2024. No evidence of breeding was reported though this probably took place in Upton Country Park and elsewhere.

Nuthatch *(Sitta europaea)*

Widely distributed as a breeding bird in woodland and gardens, one of the noisiest and most conspicuous woodland birds.

Recorded in all months of the year and widespread in woodland and gardens at Upton Country Park and possibly suitable habitat elsewhere around the Bay. Maximum count of 7 birds on 4th November 2024 (count from all areas of Upton Country Park). Although no records of breeding were received it is likely that several pairs bred in the Park.

Treecreeper *(Certhia familiaris)*

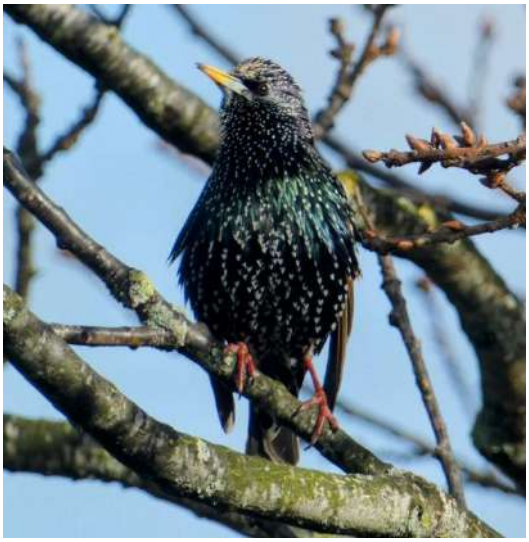
Much quieter and far less conspicuous than the Nuthatch, the Treecreeper is widely distributed in woodland, usually seen creeping up the trunks of the larger trees.

Treecreeper ©Nick Woods

Recorded on 29 dates, from every month except November 2024, usually one or two birds but 3 on 29th January 2024. Most records from Upton Country Park, with those for which a location was specified (13 records), concentrated in the area around Bascombe's Pond, the Grove (including the Grove pond) and Jack's Wood, with occasional reports from other locations. A bird was seen entering a hole in a standing dead oak trunk in the Grove (near the back drive) on 25th March 2024 and birds may have bred there and at other locations.

Starling *(Sturnus vulgaris)*

Most obvious for the passage or winter flocks, often seen feeding on grassland or perched on pylons and electricity transmission lines, e.g. on the Hamworthy side of Holes Bay. Starlings may also breed in trees or buildings.



Starling ©Martin Adams

Recorded in all months of the year. Recently fledged young were reported in the south-west of Holes Bay on 30th May 2024 suggesting birds may have bred locally. There were 13 counts of 20 or more birds: 20 on 6th, 100 on 7th & 39 on 8th January 2024, 75+ on 3rd February 2024, 40 on 18th March 2024, 32 on 10th June 2024, 250+ on 8th, 450+ on 25th & 500+ on 27th August 2024, 60 on 10th & 41 on 20th September 2024 and 80 on 27th & 20 on 28th October 2024. The 100 birds on the 7th January 2024 were flying in a tight flock around the flats at Sterte suggesting a roost site nearby and the 450+ on 25th August 2024 were on the power lines over the Grove pond at Upton Country Park.

Fieldfare *(Turdus pilaris)*

Mainly a winter visitor with some birds also passing through, numbers may increase with flocks of over 100 birds being seen in really cold weather.

As in recent years, it seems the Fieldfare is now a relatively scarce visitor to the area unless there is severe weather and there were only three reports in 2024 (all at Upton Country Park): 15 on 3rd February 2024, singles on 11th March 2024 and 18th November 2024 (this bird thought to be moving through).

Song Thrush *(Turdus philomelos)*

A widespread breeding species with its repetitive song of clear phrases heard from gardens and woodland.

Songthrush ©Peter Corbin

Songthrush ©Martin Adams

Recorded in all months of the year, usually in small numbers (one to three birds) but with a maximum of 9 on 9th May 2024; the majority of records from Upton Country Park. Several records of singing birds and a bird seen carrying food or a faecal sac in the Park on 18th June 2024 indicating at least one pair bred.

Mistle Thrush *(Turdus viscivorus)*

A widespread species, perhaps more comfortable away from cover than the Song Thrush it is often seen in the fields of Upton Park Farm.

Recorded on only eight dates (1-2 birds) in January-March 2024 and November-December 2024. All records from Upton Country Park. Relatively few records for a species once regarded as regular. No evidence of breeding.

Redwing *(Turdus iliacus)*

Like the Fieldfare a winter visitor also seen on passage, often more abundant than the Fieldfare with birds present in woodland areas for much of winter and large flocks numbering several hundred in severe weather.

Redwing ©Nick Woods

Recorded from 1st January to 16th March 2024,maximum 150 feeding in 13-acre field, Upton Country Park on 29th January 2024 and from 14th October to 28th December 2024,maximum 100 flying north over Holes Bay on 17th October 2024 (probably birds on migration). Most of the records were from Upton Country Park.

Blackbird *(Turdus merula)*

A common breeding bird and prominent singer, the Blackbird is also a migrant and winter visitor though these are difficult to distinguish from the residents, often seems more abundant in winter.

Blackbird ©Nick Woods

Recorded in all months of the year, mainly from Upton Country Park. Several pairs probably bred; fledged young seen at the winter garden in Upton Country Park on 2nd May 2024 but no other evidence of breeding. Maximum counts were 16 on 9th May and 3rd June 2024(counts from all areas of Upton Country Park).

Spotted Flycatcher *(Muscicapa striata)*

A declining summer visitor in Dorset, the Spotted Flycatcher is now a characteristic autumn migrant often seen in scrub around the farm fields at Upton Country Park where individuals will make fly-catching sorties and usually return to the same perch.

A single record of 1 bird on 7th June 2024 at Upton Country Park/Holes Bay, possibly a locally breeding bird and autumn passage recorded on 21 dates from 16th August to 3rd October 2024 (though with a gap from 21st September to 2nd October 2024 inclusive), usually 1-3 birds but with a maximum of 5 on 5th September 2024 at the PC World drain. Most of the records were from the

PC World drain, with only around 4 records from Upton Country Park (usually a well-known site for this species) and one record from the ASDA site on the south edge of Holes Bay.

Monthly bird-days:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	-	-	1	-	9	23	1	-	-

Pied Flycatcher *(Ficedula hypoleuca)*

Very scarce passage migrant in recording area.

A single bird reported on 5th & 6th September 2024 at the PC World drain.

Robin *(Erithacus rubecula)*

Widespread and common as a breeding bird and, where fed, happy to approach people; migrant birds probably increase numbers in winter.

Robin ©Nick Woods

Recorded in all months of the year with maximum counts of 20 birds from all areas of Upton Country Park on 10th March 2024. Several pairs probably bred at the Park and elsewhere in the recording area, with fledged young reported from the Park and also from the PC World drain.

Nightingale (Luscinia megarhynchos)

Regarded as an uncommon and declining breeding visitor and passage migrant in Dorset. Prior to 2024 the most recent record at Holes Bay/Upton Country Park is believed to have been in 2011.

A single bird in subsong was identified in small trees close to the pedestrian crossing near McDonalds on the Holes Bay Road on 8th April 2024.

Redstart *(Phoenicurus phoenicurus)*

A scarce passage migrant around Holes Bay.

Single birds recorded in Upton Country Park on 28th April 2024 and at the PC World drain on 5th & 6th September 2024.

Whinchat *(Saxicola rubetra)*

A scarce passage migrant in the recording area.

A single bird reported from the car park at ASDA on the south shore of Holes Bay on 29th April 2024.

Stonechat *(Saxicola rubicola)*

A common breeding bird on nearby heaths but seen in the recording area mainly in autumn/spring and winter – when birds may occasionally be found on the shoreline or in the fields at Upton Country Park.

Stonechat ©Nick Woods

First winter-period records of 2 on 15th January 2024 and singles on 12th & 14th February 2024, with another single bird on 8th March 2024. One or two birds reported on 12 dates from 5th August 2024 to 27th November 2024, with three on 23rd October 2024. Majority of records from Upton Country Park, the birds favouring the hedge-line and scrub planted as part of the SANG landscaping between lambs-leas and half-moon fields. A single record from the scrub in the SANG near the Ropers Lane footpath.

Wheatear *(Oenanthe oenanthe)*

An uncommon passage migrant, sometimes seen in areas such as Upton Country Park and along the Holes Bay Road.

Wheatear ©Martin Adams

In the spring 1 on 8th, 2 on 21st & 3 on 22nd March 2024 and 1 on 12th April 2024. Autumn records of singles on 13th & 29th August 2024, 2 on 17th September 2024 and singles on 10th & 14th October 2024. Most records given as Holes Bay or Holes Bay south – probably mainly referring to birds along the Holes Bay cycleway, with the single bird on 14th October 2024 being at Upton Country Park.

House Sparrow *(Passer domesticus)*

A once abundant bird that is known to have declined in many areas, probably still breeds in residential areas around Holes Bay and small flocks may be seen on the fringes of Upton Country Park.

Although this species may be under-recorded, it was recorded in all months of the year. Most records from the south-west part Holes Bay (usually between monkey island and Symes Road) where at least one local resident has bird feeders on the edge of the reedbed. Occasional records of 1-4 birds from the north-east shoreline and Upton Country Park (the SANG near Ropers Lane and the hedge between lamb leas and half-moon fields). Largest counts, all along the developed south-west shoreline, included c500 on 2nd January 2024 and 150 on 4th December 2024. Likely to breed on the Hamworthy side of Holes Bay but no records of breeding received.

Dunnock *(Prunella modularis)*

A widespread breeding resident.

Dunnock ©MartinAdams

Recorded in all months of the year, usually in small numbers (maximum count 6 on 9th May and 11th July 2024 – counts from all of Upton Country Park). Probably a common breeding bird - singing birds widely reported but no evidence of confirmed breeding.

Yellow Wagtail *(Motacilla flava flavissima)*

A scarce passage migrant in the recording area.

One record: 2 birds in Upton Country Park on 30th August 2024.

Grey Wagtail *(Motacilla cinerea)*

Usually, a passage migrant or winter visitor, with one or two birds seen along the shoreline or on streams and ditches.

Grey Wagtail ©Nick Woods

Small numbers (usually singles, but maximum of 4 birds including two fledglings on 8th May 2024) recorded on 87 dates in all months of the year. Monthly bird days given below. This was a large increase in records compared to 2023 and probably reflects the presence of a breeding pair in spring and possibly a large number of birds moving through in September 2024. Breeding was confirmed around the PC World drain/Creekmoor Channel where a bird was seen carrying food on 25th April 2024, a male was seen feeding a female on 5th May 2024 and two fledglings were being fed by two adults on 8th May 2024. Most records were from the PC World drain or north east of Holes Bay, though birds were also recorded around other parts of Holes Bay (including Upton Country Park and the wood at Symes Road).

Monthly bird-days:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
9	7	15	5	14	1	1	12	39	10	7	11

Pied/White Wagtail *(Motacilla alba)*

A few pairs may breed and small parties are found on passage in winter, often in farm fields. Characteristic 'chis-ick' call often heard from birds flying over.

Recorded in all months, usually in small numbers – with four counts of 10 or more birds: 37+ in the car park at ASDA on 12th January 2024 and the following counts at Upton Country Park, with most birds in 13-acre field: 19 on 8th, 15 on 11th & 17 on 12th October 2024. For the second year running, recently fledged young were seen in Upton Country Park, in this case on 26th April 2024, when a very young bird was being fed by an adult at the front of Upton House, suggesting breeding there. Although some observers recorded the birds as 'White Wagtails' there were no known records of the subspecies *alba*.

Meadow Pipit *(Anthus pratensis)*

Seen on passage or in winter with occasional birds or small flocks seen, usually in grasslands or in farm fields.

Recorded in small numbers on 33 dates in January-April 2024 and September-December 2024, usually less than 10 birds with the following counts above this: 11 on 7th & 12 on 21st January, 10 on 13th February and 16 on 8th October 2024. Most frequently recorded from Upton Country Park, especially in half-moon / lambs leas or 13-acre field, but also from the power station and PC World drain.

Water Pipit *(Anthus spinoletta)*

A scarce passage migrant or winter visitor with very few records.

Not recorded in Holes Bay during 2024.

Rock Pipit *(Anthus petrosus)*

Usually seen in winter along the shoreline, the rock used for coastal protection along the Holes Bay Road helping to provide suitable habitat.

Recorded on 18 dates (compared to 9 in 2023) in January-March and December 2024 (usually single birds but 2 on 1st February and 1st March 2024); only one record in December, a single bird on 31st December 2024. Monthly bird-days given below, most records from around Holes Bay, often along the Holes Bay Road.

Monthly bird-days:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	6	3	-	-	-	-	-	-	-	-	1

Chaffinch *(Fringilla coelebs)*

A widespread and common breeding species with small flocks sometimes found at Upton Country Park.

Chaffinch ©Martin Adams

Recorded in all months (except September 2024), usually in small numbers, highest count 15 from the north west part of Holes Bay on 14th December 2024. Singing birds present in some areas but no records of confirmed breeding.

Brambling *(Fringilla montifringilla)*

A very scarce winter visitor or passage migrant to the recording area.

Not recorded in Holes Bay during 2024.

Hawfinch *(Coccothraustes coccothraustes)*

Regarded as a scarce passage migrant and winter visitor in Dorset; the last record in the Holes Bay is thought to have been in 2017.

A single bird flying north over Holes Bay north east on 17th October 2024.

Bullfinch *(Pyrrhula pyrrhula)*

Despite the colourful plumage of the male, the Bullfinch can be surprisingly inconspicuous and is probably under-recorded (helped by its weak song); may be seen all around the area and probably breeds.

Recorded (one or two birds) on 18 dates in January-March, June-August and October-December 2024. Most records from Upton Country Park but also recorded at the PC World Drain and SW Holes Bay. No evidence of breeding.

Greenfinch *(Chloris chloris)*

A resident bird often breeding in loose colonies e.g., in the scrubby areas of Upton Country Park recently taken over from the adjacent farm.

Greenfinch ©Nick Woods

Recorded in small numbers (usually 10 or less) in all months of the year except September-October 2024 in Upton Country Park and in other areas around Holes Bay, maxima: 12 in Upton Country Park on 8th August 2024. There was a lack of records in September-October 2024, though it is not known if this reflects genuine absence or just observers not recording such a common species. There were no reports of confirmed breeding, though singing males were recorded in several areas as well as birds carrying nest material and young birds present in the flock of 12 recorded in Upton Country Park on 8th August 2024.

Linnet *(Linaria cannabina)*

Singing birds have been found along the edge of some of the fields of Upton Park Farm possibly indicating breeding. In winter, flocks of 100 or more have also been recorded – possibly taking advantage of seeds from farming operations or weeds as areas have been taken out of agricultural production.

Linnet ©Sally Grant

Recorded in Upton Country Park on 19 dates in January-July and October 2024, with a maximum count of 33 on 21st January 2024. An increase in the number of dates recorded and the maximum count compared to 2023. Most records from Upton Country Park, once again singing birds were recorded along the shoreline near the bird screen but there were no confirmed breeding records.

Lesser Redpoll *(Acanthis cabaret)*

Once thought of as an 'occasional winter visitor,' now reported vary rarely.

Not recorded in Holes Bay during 2024.

Goldfinch *(Carduelis carduelis)*

Probably breeds locally and flocks occur in autumn and winter.

Goldfinch ©Nick Woods

Recorded in all months of the year; most often from Upton Country Park. No reports of breeding but this may have occurred. Small flocks regularly present, with maximum counts of 30 on 2nd October 2024 and 90 on 8th October 2024 (at Upton Country Park). Small flocks often seen feeding on thistles and alders.

Siskin *(Spinus spinus)*

Small flocks occasional in winter in Upton Country Park, often feeding on the Alders planted at Upton Country Park.

Siskin ©Martin Adams

Recorded on 27 dates in January-April 2024 and November-December 2024, most records from Upton Country Park and the PC World drain (sometimes of birds feeding on Alders in the car park by KFC). Most records of 1-8 birds with 20 on 5th & 37 on 29th January, 20 on 3rd February and 14 on 11th March 2024.

Reed Bunting *(Emberiza schoeniclus)*

Although the male is strikingly marked, its song is easily overlooked but several pairs probably breed in the reed beds along the shoreline.

Only recorded on 17 dates in January, March-June, September-October and December 2024 (a reduction from 37 dates in all months of the year in 2023). Records usually of single birds with 2 on two dates. Most records from Upton Country Park and the PC World drain, mainly from the shoreline but one record from the hedge between lambs leas and half-moon fields in the Park. No evidence of breeding – with no reports of singing birds. This suggests a local decline of this characteristic reed bed species but could be due to observers failing to report a species perceived as common.

HOLES BAY BIRD CHECKLIST

Stephen F. Smith

This is an update of the post-1900 checklist which appeared in the Holes Bay report for 2022. Since then, eight species have been added: Wood Sandpiper, Kittiwake, Arctic Tern, Forster's Tern, Arctic Skua, Razorbill, Black-throated Diver and Fulmar. All these appear in **bold** in the list below.

References and abbreviations

BoD Green, G.P.: *The Birds of Dorset*. Helm, London, 2004

BoPH Birds of Poole Harbour species list

DBR Dorset Bird Reports

HBR Holes Bay Wildlife Reports 2020-24

IML Records provided by Ian Lewis

MA Records provided by Martin Adams

NW Records provided by Nick Woods

CW Records provided by Chris Walker

SFS Records provided by Stephen Smith

PCW PC World Drain, local name for Fleetsbridge Channel

UCP Upton Country Park

WeBS Wetland Bird Survey

All statistics in this list refer to Holes Bay, not Poole Harbour as a whole.

Species list

1	Brent Goose [Dark-bellied]	Winter visitor; recent max 38 on 21st Jan 2024 [HBR]
2	Canada Goose	Common and increasing; max 455 in Nov 2015 [DBR]
3	Barnacle Goose	Rare winter visitor, presumed mainly feral birds
4	Greylag Goose	Occasional visitor; recent max 6 on 11th Oct 2021 [HBR]
5	Tundra Bean Goose	1988: 1, undated; 2021–22: 3 from 20th Dec to 1st Jan
6	White-fronted Goose	Rare winter visitor, most recently 2 on 7th Feb 2021 [HBR]
7	Mute Swan	Breeding resident; recent max 104 in Dec 2020 [WeBS]
8	Bewick's Swan	1988: 5 overhead on 30th Nov [DBR]
9	Black Swan	Occasional visitor; feral or escaped birds only
10	Egyptian Goose	Occasional visitor; feral birds only
11	Shelduck	Winter visitor and breeder, recent max 251 in Jan 2024 [WeBS]
12	Ruddy Shelduck	1986: 1 on 2nd Mar, of unknown origin [DBR]
13	Mandarin Duck	1 present for much of 1997 and Sep-Oct 2003 [DBR]
14	Garganey	Rare migrant; recent max 4 on 11th Apr 2018 [DBR]
15	Shoveler	Winter visitor, recent max 312 in Dec 2023 [HBR]
16	Gadwall	Regular non-breeding visitor, recent max 10 in Jan 2022 [HBR]

17	Wigeon	Winter visitor, max 2862 in Jan 2024 [WeBS]
18	Mallard	Breeding resident, recent max 51 in Dec 2024 [HBR]
19	Pintail	Winter visitor; recent max 224 in Dec 2024 [HBR]
20	[Eurasian] Teal	Numerous year-round visitor, max 1144 in Feb 2023 [HBR]
21	Green-winged Teal	Rarity, most recently 1 on 7th – 12th Feb 2013 [BoPH]
22	Pochard	Scarce winter visitor, most recently 1 on 6th Feb 2020 [HBR]
23	Red-crested Pochard	1 on 10th Nov 1984 and 19th Nov 1988, origin unknown
24	Tufted Duck	Winter visitor in small numbers, recent max 37 in Dec 2022 [HBR]
25	[Greater] Scaup	Scarce winter visitor, most recently 6, Jan-Feb 2020 [HBR]
26	Goldeneye	Scarce winter visitor, most recently 1 in Nov 2024 [HBR]
27	Goosander	Rare winter visitor, most recently 1 in March 2024 [HBR]
28	Red-breasted Merganser	Declining winter visitor, recent max 19 on 23rd Feb 2020 [HBR]
29	Smew	Rare winter visitor, most recently 1 in Jan-Feb 2017 [DBR]
30	Ruddy Duck	Now presumed eradicated in UK; most recently 2 in late 1990s, undated [SFS]
31	Pheasant	Old records of released or feral birds
32	Red-legged Partridge	Old records of released or feral birds [NW]
33	Nightjar	Breeds on Upton Heath; only Holes Bay records 2008 and 2024 [DBR]
34	Swift	Declining summer visitor, recent max 30 on 17th June 2024
35	Cuckoo	Occasional records until 1989, now rare [NW]
36	Rock Dove / Feral Pigeon	Common breeding resident
37	Stock Dove	Common breeding resident in UCP, regularly noted in single figures
38	Woodpigeon	Breeding resident, under-recorded; 750 at roost on Pergins I, Dec 2021 [HBR]
39	Collared Dove	Resident in built-up areas, under-recorded
40	Water Rail	Resident, 2-3 pairs [BoPH survey 2013]
41	Corncrake	Shooting records from the early 1900s [NW]
42	Moorhen	Breeding resident, recorded in single figures
43	Coot	Occasional visitor, usually single birds in PCW channel
44	Little Grebe	Winter visitor, max 21 on 18th Nov 2014 [DBR]
45	Great Crested Grebe	Winter visitor, recent max 5 in May 2023 [HBR]
46	Black-necked Grebe	Rare visitor, most recently 1 in Nov and Dec 2021 [HBR]
47	Oystercatcher	Resident, max 114 in Dec 2023 [HBR]
48	Avocet	Increasing visitor, max 484 in Jan 2022 [WeBS]
49	Lapwing	Declining winter visitor, now rarely more than 5
50	Golden Plover	Occasional visitor, most recently 14 on 18th Mar 2018 [WeBS]
51	Grey Plover	Scarce passage migrant, recent max 11 on 3rd Oct 2022 [HBR]
52	Ringed Plover	Winter visitor, recent max 42 in Oct 2022 [HBR]
53	Little Ringed Plover	1 on 26th Aug 2011 [DBR] and 1st Sep 2016 [CW]
54	Dotterel	1961 Feb 12th: 1 in 'the inner harbour', local name for Holes Bay [DBR]
55	Whimbrel	Passage migrant; recent max 8 on 6th May 2021 [HBR]
56	Curlew	Migrant and winter visitor; recent max 122 in 2020 [WeBS]
57	Bar-tailed Godwit	1-2 birds recorded annually, most recently 1 on 30th Dec 2024 [HBR]
58	Black-tailed Godwit	Numerous migrant and winter visitor, max 3212 on 18th Jan 2024 [HBR]
59	Turnstone	Regular winter visitor, max 20 in Dec 2023 [HBR]
60	Knot	Regular winter visitor, recent max 60 in Jan 2024 [HBR]
61	Ruff	Irregular migrant, most recently 1 on 16th Aug 2020 [HBR]
62	Curlew Sandpiper	Scarce migrant, most recently 4 on 4th Oct 2023 [HBR]
63	Sanderling	2020: 22 on 12th Nov in NW sector seems to be the only record [HBR]
64	Dunlin	Numbers reaching 500 most winters; recent max 754 on 3rd Jan 2021 [HBR]
65	Little Stint	Rare migrant, most recently 1 on 11th Sep 2019 [DBR]
66	Woodcock	Winter visitor to UCP in small numbers [NW]

67	Jack Snipe	Occasional winter visitor, mainly sites now built on; latest record early 2017 [DBR]
68	[Common] Snipe	Winter visitor, recent max 70 in Dec 2024 [HBR]
69	Grey Phalarope	2004: 1 on 22nd Nov [DBR]
70	Wilson's Phalarope	1988: 1 on 20th June [DBR]
71	Common Sandpiper	Migrant, max 10 on 18th Aug 2020 [HBR]
72	Green Sandpiper	Migrant in single figures, usually near Upton Farm [HBR]
73	[Common] Redshank	Migrant and winter visitor; recent max 354 on 18th Aug 2020 [HBR]
74	**Wood Sandpiper**	**2022: 1 on 3rd Sep [DBR]**
75	Spotted Redshank	Historical max 8 in early 2007 [DBR]; now annual maxima of 2
76	Greenshank	1-2 recorded most months; 2 in Nov 2024 [HBR]
77	Collared Pratincole	1977: 1 on 24th May [DBR]
78	**Kittiwake**	**2022: 1 on 22nd Nov, apparently sick [HBR]**
79	Black-headed Gull	Ever-present, max 2627 in Feb 2024 [HBR]
80	Little Gull	Very scarce visitor, most recently 2 in May 2023 and 1 in Nov 2024 [HBR]
81	Mediterranean Gull	Regular visitor, recent max 160 on 3rd April 2024 [HBR]]
82	Common Gull	Regular visitor, mainly in winter; recent max 40 in Oct 2024 [HBR]
83	Great Black-backed Gull	Usually present in single figures; max 31 in Nov 2024 [HBR]
84	Herring Gull	Ever-present in double figures; max 489 in Jan 2024 [HBR]
85	Iceland Gull	Most recent record 1 on 24th Apr 2016 [DBR]
86	Yellow-legged Gull	Max 312 in Sep 2001 [DBR]; now single figures only
87	Lesser Black-backed Gull	Ever-present, recent max 23 in Apr 2023 [HBR]
88	Ring-billed Gull	Most recent record 1, 3rd-9th Apr 1994 [DBR]
89	Sandwich Tern	Fairly frequent visitor, max 4 in Mar 2024 [HBR]
90	Little Tern	Included in a list of records 1980-83, but no other details [NW]
91	Roseate Tern	2021: 1 probable on 3rd Sep [HBR]
92	Common Tern	Occasional wanderers from Brownsea; recent max 3 in July 2023 [HBR]
93	**Arctic Tern**	**1991: 2 on 27th April [DBR]**
94	**Forster's Tern**	**2024: 1, multiple records in April and October [HBR]**
95	Black Tern	1996: 1 on 11th May [DBR]
96	**Arctic Skua**	**2024: 1 on 28th Nov [HBR]**
97	**Razorbill**	**2023: 1 on 11th Nov [HBR]**
98	Red-throated Diver	Rare winter visitor, most recently 1 on 10th Dec 23 [DBR]
99	**Black-throated Diver**	**2024: 1 for much of Jan [HBR]**
100	Great Northern Diver	Single birds, most recently Nov 2024 [HBR]
101	Leach's Petrel	1991: 1 on 9th Jan [DBR]
102	**Fulmar**	**2024: 1 seen from Poole Quay on 9th June appeared to fly into Bay [HBR]**
103	White Stork	2021: 30 on 16th Dec, from Knepp reintroduction project [HBR]
104	Cormorant	Ever-present, mainly in south, occasional counts in 3 figures [HBR]
105	Shag	Sometimes present in southern part of Bay, recent max 3 in Jan 2024 [HBR]
106	Glossy Ibis	2010: 1 on Aug 13th [DBR]
107	Spoonbill	Increasing winter visitor, recent max 16 in Nov 2024 [HBR]
108	Bittern	Rare winter visitor, most recently 1 on 30th Nov 2012 [DBR]
109	Cattle Egret	Occasional visitor, max 27 at roost in Oct 2024 [HBR]
110	Grey Heron	Common resident, recent max 17 on 27th Sep 2020 [HBR]
111	Great White Egret	Occasional visitor, most recently 7 in Oct 2023 [HBR]
112	Little Egret	Now ever-present, recent max 101 in Aug 2024 [HBR]
113	Osprey	Increasing spring and autumn migrant, seen on 16 dates in 2024 [HBR]
114	Honey-buzzard	1997: 1 on 24th May [DBR]
115	Sparrowhawk	Resident, may breed on Pergins Island
116	Goshawk	2007: 1 on 19th Feb [DBR]

117	Marsh Harrier	Scarce autumn and winter visitor: most recently 1 in Jan 2024 [HBR]
118	Hen Harrier	2020: 1 on 19th and 21st Nov [HBR]
119	Red Kite	Increasing spring migrant, seen on 11 dates in 2024 [HBR]
120	White-tailed Eagle	Increasing since 2021, seen on 10 dates in 2024 [HBR]
121	[Common] Buzzard	Common resident, breeding locally.
122	Barn Owl	Rare, most recent record 1 in July 2024 [HBR]
123	Little Owl	Most recent definite record 2008 [BoPH]
124	Short-eared Owl	1986: 1 on Pergin's Island on 18th Apr [DBR]
125	Tawny Owl	Breeding resident; probably still 1-2 pairs in Upton CP [HBR]
126	Hoopoe	2017: 1 on 21st Nov in Upton Country Park [DBR]
127	Kingfisher	Non-breeding visitor; 2-3 ever-present in winter [HBR]
128	Lesser Spotted Woodpecker	Formerly bred UCP, most recent records spring 2017 and Dec 2024 [DBR/HBR]
129	Great Spotted Woodpecker	Breeding resident
130	Green Woodpecker	Breeding resident, may still breed [HBR]
131	Kestrel	Formerly common, now irregular; seen on 17 dates in 2024 [HBR]
132	Merlin	Rare visitor, most recently 1 in Mar 2016 [DBR]
133	Hobby	Scarce summer visitor, most recently 1 from Holes Bay path in May 2024 [DBR]
134	Peregrine Falcon	Breeding species on tall buildings SE of Holes Bay [HBR]
135	Jay	Common resident
136	Magpie	Common resident
137	Jackdaw	Ever-present at Upton Farm; roost on Pergins Is, max 2000 in Dec 2023 [HBR]
138	Rook	Normally present at Upton Farm, recent max 219 in Dec 2024 [HBR]
139	Carrion Crow	Numerous resident; recent max 150 in June 2024 [HBR]
140	Raven	Regular visitor, may breed on Pergins Island [HBR]
141	Waxwing	2011: 13 overhead on 20th Jan [DBR]
142	Coal Tit	Resident, probably breeding in UCP [HBR]
143	Marsh Tit	Now rare; most recently 1 in Jan 2022 [HBR]
144	Blue Tit	Common breeding resident; recent max 28 in UCP, Feb 2023 [HBR]
145	Great Tit	Common breeding resident; recent max 20 in UCP, Jan 2023 [HBR]
146	Willow Tit	1984: 1 on 16th Apr [DBR]
147	Bearded Tit	2016: 2 on 10th Feb [DBR]
148	Woodlark	Rare visitor; max 17 in Dec 1976 [BoD]
149	Skylark	Formerly bred; most recent record 1 in Oct 2021 [HBR]
150	Sand Martin	Migrant, regular in small numbers; max 12 on 2nd May 2024 [HBR]
151	Swallow	Common summer visitor, bred in walled garden 2021 [NW]
152	House Martin	Common summer visitor, breeding locally [HBR]
153	Cetti's Warbler	Breeding population estimated at 2 pairs, 2017-21 [DBR 2017]
154	Long-tailed Tit	Common resident, max 20 in Oct 2024 [HBR]
155	Yellow-browed Warbler	Rare autumn migrant; most recently 1 on 19th Oct 2020 [HBR]
156	Willow Warbler	Passage migrant; seen on 37 dates in 2024, max 10 on 29th Aug [HBR]
157	Chiffchaff	Common breeding visitor and migrant; c30 winter in PCW drain [HBR]
158	Sedge Warbler	Scarce migrant, seen on 15 dates in 2024, max 3 on 27th Apr [HBR]
159	Reed Warbler	Breeding summer visitor, 20 territories in 2023 [HBR]
160	Grasshopper Warbler	Most recently 1 on 17th Aug 2021 in PCW Drain [HBR]
161	Blackcap	Breeding summer visitor and migrant, max 9 in UCP, May 2023 [HBR]
162	Garden Warbler	Migrant, mainly in PCW Drain; seen on 8 dates in 2024 [HBR]
163	Lesser Whitethroat	1989: pair carrying food near Bascombe's Pond [NW]
164	[Common] Whitethroat	Scarce migrant; 1 pair bred in 2023 [HBR]
165	Dartford Warbler	Most recently 1 on 14th Oct 2021
166	Subalpine Warbler	2013: 1 seen on 19th Apr in PCW Drain [DBR]

167	Firecrest	Increasing migrant and winter visitor, perhaps 3 territories in UCP [HBR]
168	Goldcrest	Breeding species and migrant; recent max 8 in Oct 23 [HBR]
169	Wren	Common breeding resident; max 24 in May 2023 [HBR]
170	Nuthatch	Common breeding resident; max 11 in Sep 2023 [HBR]
171	Treecreeper	Breeding resident, perhaps 2 pairs [HBR]
172	Starling	Breeding resident, under-recorded
173	Song Thrush	Resident, perhaps still breeding [HBR]
174	Mistle Thrush	Resident, breeding no longer certain [HBR]
175	Redwing	Winter visitor; recent max 150 in 13-Acre Field, Jan 2024 [HBR]
176	Blackbird	Common breeding resident, max 24 in Feb 2023 [HBR]
177	Fieldfare	Winter visitor; max 200 in Jan 2013 [DBR], recent max 15 in Feb 2024 [HBR]
178	Ring Ouzel	2016: 1 on 6th Oct in PCW Drain [DBR]
179	Spotted Flycatcher	Late-summer migrant, recent max 4 on 14th Sep 2022 [HBR]
180	Robin	Common breeding resident, recent max 20 in Mar 2024 [HBR]
181	Nightingale	Now a rarity: most recent record 1 in trees beside A350 on 8th Apr 2024 [HBR]
182	Pied Flycatcher	Scarce migrant, most recently 1 in PCW drain, Sep 2024 [HBR]
183	Black Redstart	2013: 1 in car park on several dates in Jan [NW]
184	[Common] Redstart	Late-summer migrant, recent max 6 in PCW drain, 30th Aug 2023 [HBR]
185	Whinchat	Migrant, most recently 1 on 21st and 22nd Sep 2023 [HBR]
186	Stonechat	Migrant and winter visitor, recent max 3 in Oct 2024 [HBR]
187	Wheatear	Migrant, often on rocks beside A350; seen on 9 dates in 2024 [HBR]
188	House Sparrow	Common breeding resident, max 500 in SW in Jan 2024 [HBR]
189	Dunnock	Common breeding resident, recent max 14 in Mar 2023 [HBR]
190	Yellow Wagtail	Declining passage migrant, recent max 5 in 13-acre field, Aug 2023 [HBR]
191	Grey Wagtail	1 – 2 ever-present in PCW drain in winter; bred in 2024 [HBR]
192	Pied / White Wagtail	Common resident; recent max 62 in 13-acre field, Nov 2023 [HBR]
193	Meadow Pipit	Migrant and winter visitor, max 40 in 13-acre field, Nov 2023 [HBR]
194	Tree Pipit	Migrant: records of 1-2 from 1980s, scarce thereafter [NW]
195	Water Pipit	Scarce winter visitor, most recently 1 on 11th Dec 2021 [HBR]
196	Rock Pipit	Regular winter visitor, recent max 14 in SW in Dec 2021 [HBR]
197	Chaffinch	Resident, perhaps breeding; recent max 15 in Dec 2024 [HBR]
198	Brambling	Rare winter visitor, most recently 1 on 6th Jan 2019 [DBR]
199	Hawfinch	2017: 3 on 15th Oct during major national influx [DBR]
200	Bullfinch	1 -2 pairs bred in UCP in 2023 [HBR]
201	Greenfinch	Breeding resident, 2-3 pairs in 2023 [HBR]
202	Linnet	Present all year, recent max 200 in Feb 2019 [DBR] and 33 in Jan 2024 [HBR]
203	[Lesser] Redpoll	Scarce winter visitor, recent max 30 on 20th Jan 2017 [DBR]
204	Crossbill	1 on 1st Sep 1984, 10 overhead on 18th Feb 2006 [IML]
205	Goldfinch	Common resident, recent max 90 in Oct 2024 [HBR]
206	Siskin	Winter visitor, recent max 37 in Jan 2024 [HBR]
207	Yellowhammer	Old records, most recently 1 singing on 13th Apr 1985 [NW]
208	Reed Bunting	Present in reedbeds; 1-2 pairs bred in 2023 [HBR]

THE FLORA OF EASTERN HOLES BAY, 2000-2024

Stephen F. Smith

The Eastern Margins

This is an update of the article which appeared in the Holes Bay Nature Park Birds & Wildlife Report for 2021. The most botanically varied part of Holes Bay is the eastern margin alongside the A350, which was surveyed by Bryan Edwards in 2000 and by Robin Walls in 2015. Since then, I have done my best to update the species list. I am grateful to Jean and Tom Smith and other members of the Dorset Flora Group for sharing their knowledge.

When the A350 was routed along the eastern margin of Holes Bay in the 1980s, chalk-based aggregate was used as the base of the road and adjacent cycle path. This is visible at points where the surface has broken away [photo].

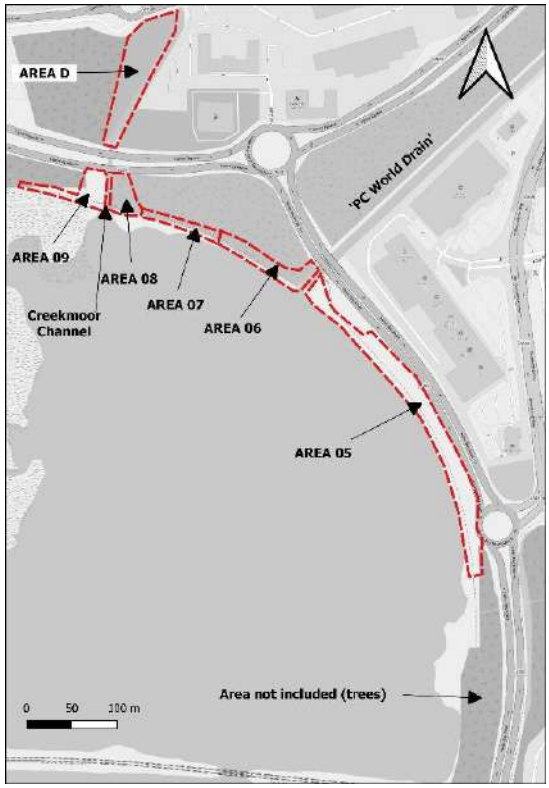
The calcareous base has allowed the growth of plants normally associated with chalk and limestone, such as Kidney Vetch, Greater Knapweed, Pyramidal Orchid and Bee Orchid.

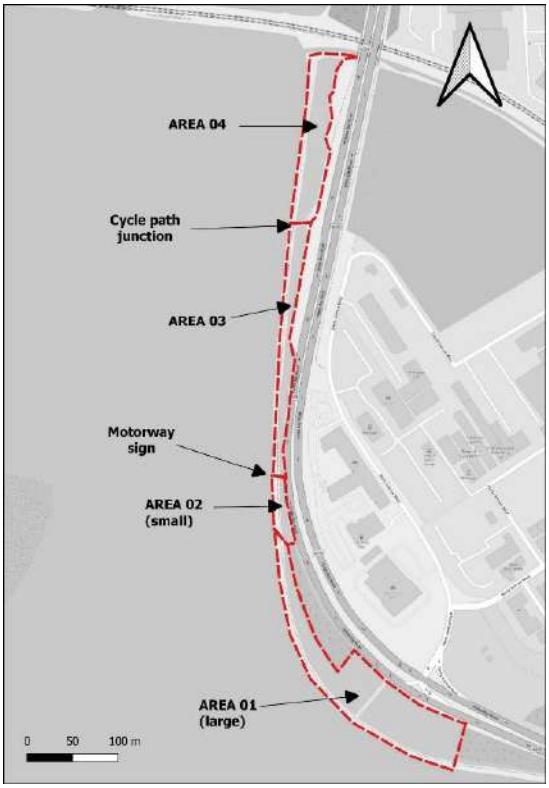
These have mingled with the species more typical of the acidic soils of Poole basin to produce a very rich and varied flora which has become the subject of increasing interest among local botanists.

Areas Surveyed [See Maps 1 & 2 below]

Starting at the south-eastern corner of Holes Bay [opposite Poole Station], the following nine areas were surveyed:

SE01	the large open area between SZ 0062 9166 and SZ 0081 9142, extending north-east as far as the A350 and closest to the pedestrian crossing
SE02	'the orchid site' between the motorway sign and SZ 0062 9166. Although this site may seem to be arbitrarily defined, it has been kept separate here because of the stand of Pyramidal Orchids found here in 2019
SE03	between the cycleway junction at SZ 0064 9201 and the motorway sign at SZ 0062 9173
SE04	between the railway and the cycleway junction at SZ 0064 9201
NE05	all open grassland between PC World Drain and the railway
NE06	between SZ 0045 9282 and the PC World Drain
NE07	between the two channels, SZ 0033 9287 to SZ 0045 9282
NE08	between Creekmoor Channel and SZ 0033 9287
NE09	the western side of Creekmoor Channel as far as the gate to Upton Country Park
Area D	derelict land along western side of Creekmoor Channel, between A350 and A35





***Map 1: Areas surveyed north of railway** ***Map 2: Areas surveyed south of railway**
***Map data from OpenStreetMap ©OpenStreetMap contributors**

Systematic List

This combines the findings of Bryan Edwards in 2000, Robin Walls in 2015 and later surveys between 2021 and 2024.

Key:
p = present - = not found or no record known

Notes:

In the case of **grass species**, the 'blank' symbol may appear in the 2000 and 2015 columns simply because grasses were not included in previous versions of the Holes Bay wildlife report. In fact, they may have been found in 2000 and / or 2015, but I no longer have the records to hand.

For the grass records which are included here, I am very grateful to Jean and Tom Smith for sharing their expertise at identification.

The species Good-king-Henry, included in previous versions of this report, has now been removed, and the identification changed to Spear-leaved Orache.

Dorset notable plant species are shown in red.

	Scientific Name	Common Name	2000	2015	2021-24
			[BE]	[RMW]	(SFS, Dorset Flora Group et al)
1	*Achillea millefolium*	Yarrow	p	-	widespread
2	*Allium roseum*	Rosy Garlic	-	p	small groups in NE05, SE04 and SE01
3	*Allium vineale*	Wild Onion	p	-	widespread in NE01 and NE02
4	*Alopecurus geniculatus*	Marsh Foxtail	-	-	present in SE01 / SE02
5	*Anacamptis pyramidalis*	Pyramidal Orchid	-	-	2019: 42 in SE02 2024: 300 in SE01 and SE02 combined
6	*Anisantha sterilis*	Barren Brome	-	-	present in SE01 / SE02

7	*Anthoxanthum odoratum*	Sweet Vernal-grass	-	-	present in SE01 / SE02
8	*Anthriscus sylvestris*	Cow Parsley	-	p	present in areas NE09 and SE04
9	*Anthyllis vulneraria*	Kidney Vetch	p	p	numerous in D, NE09 /08, SE04, SE01
10	*Arctium minus*	Lesser Burdock	-	-	2022: 1 plant in SE04
11	*Arenaria serpyllifolia*	Thyme-leaved Sandwort	-	p	-
12	*Artemisia vulgaris*	Mugwort	p	p	scattered plants
13	*Aster tripolium*	Sea Aster	p	p	numerous in NE
14	*Atriplex glabriuscula*	Babington's Orache	-	p	-
15	*Atriplex littoralis*	Grass-leaved Orache	-	-	present in NE06 / NE07, 2024
16	*Atriplex patula*	Common Orache	p	-	-
17	*Atriplex portulacoides*	Sea Purslane	p	-	widespread on shoreline
18	*Atriplex prostrata*	Spear-leaved Orache	-	-	present in SE01 / 02 and NE06 / 07
19	*Avena fatua*	Wild Oat	-	-	present in SE01 / SE02
20	*Barbarea verna*	American Winter-cress	-	p	a few present in SE01
21	*Bellis perennis*	Daisy	p	p	widespread
22	*Beta vulgaris*	Sea Beet	p	p	widespread on shoreline
23	*Brassica oleracea*	Wild Cabbage	-	-	one plant in NE05 [2022]
24	*Brassica nigra*	Black Mustard	p	p	numerous in NE
25	*Calystegia sepium*	Hedge Bindweed	-	p	present
26	*Capsella bursa-pastoris*	Shepherd's-purse	p	-	present
27	*Cardamine hirsuta*	Hairy Bitter-cress	p	-	-
28	*Cardamine pratensis*	Cuckooflower	-	-	-
29	*Carex divulsa*	Grey Sedge	-	-	present in SE01
30	*Carex hirta*	Hairy Sedge	-	-	present in SE01 / SE02
31	*Carex spicata*	Spiked Sedge	-	-	present in SE01 / SE02
32	*Catapodium rigidum*	Fern-grass	-	-	present in SE01 / SE02
33	*Centaurea cyanus*	Cornflower	p	-	one plant, presumed escape
34	*Centaurea nigra*	Common Knapweed	p	p	abundant
35	*Centaurea scabiosa*	Greater Knapweed	p	-	14 plants in NE08 [2024]
36	*Centaurium erythraea*	Common Centaury	p	p	-
37	*Cerastium fontanum*	Common Mouse-ear	-	p	widespread south of railway
38	*Cerastium glomeratum*	Sticky Mouse-ear	-	p	mainly in areas NE09 and SE02
39	*Cerastium tomentosum*	Snow-in-summer	-	-	one patch in SE01 beside asphalt path
40	*Chaerophyllum tenelum*	Rough Chervil	-	p	-
41	*Cirsium arvense*	Creeping Thistle	p	p	widespread
42	*Cirsium nutans*	Musk Thistle	p	-	present in SE01 / SE02
43	*Cirsium vulgare*	Spear Thistle	p	p	widespread
44	*Cochlearia anglica*	English Scurvygrass	-	p	present in NE07 and NE08
45	*Cochlearia danica*	Danish / Early Scurvygrass	-	p	scattered along shoreline
46	*Convolvulus arvensis*	Field Bindweed	-	-	present in SE01 / SE02
47	*Conyza canadensis*	Canadian Fleabane	-	-	a few plants on rocks in SE01
48	*Cotoneaster horizontalis*	Wall Cotoneaster	-	-	present in SE01 / SE02
49	*Crataegus monogyna*	Hawthorn	p	p	present in scrub
50	*Crepis capillaris*	Smooth Hawk's-beard	p	-	present in SE01 / SE02
51	*Crepis vesicaria*	Beaked Hawk's-beard	p	p	present in SE01 / SE02
52	*Crithmum maritimum*	Rock Samphire	-	-	scattered plants along shore
53	*Cynosurus cristatus*	Crested Dog's-tail	-	-	present in SE01 / SE02
54	*Cytisus scoparius*	Broom	p	p	present in scrub in SE02 and NE09

55	*Dactylis glomerata*	Cock's-foot	-	-	present in SE01 / SE02
56	*Danthonia decumbens*	Heath-grass	-	-	present in SE01 / SE02
57	*Daucus carota*	Wild Carrot	p	p	a few plants in NE09 and SE02
58	*Digitalis purpurea*	Foxglove	p	-	scattered plants
59	*Dipsacus fullonum*	Wild Teasel	p	p	numerous along shore
60	*Echium vulgare*	Viper's-bugloss	p	-	scattered along shore; numerous on central reservation of A350 (off-site)
61	*Elymus athericus*	Sea Couch	-	-	present in SE01 / SE02
62	*Eschscholzia californica*	California Poppy	-	-	present in SE01 / SE02
63	*Festuca rubra*	Red Fescue	-	-	present in SE01 / SE02
64	*Foeniculum vulgare*	Fennel	p	p	common in SE04; abundant in SE01
65	*Fumaria muralis*	Common Ramping-fumitory	-	p	-
66	*Galium aparine*	Cleavers / Goosegrass	p	p	widespread, especially in SE04
67	*Galium molugo*	Hedge Bedstraw	-	p	-
68	*Gaudinia fragilis*	French Oat-grass	-	-	present in SE01 / SE02
69	*Geranium dissectum*	Cut-leaved Cranesbill	p	p	present in most areas
70	*Geranium molle*	Dove's-foot Cranesbill	p	p	present in NE09, NE06 and SE02
71	*Geranium pusillum*	Small-flowered Cranesbill	-	-	one plant beside rock armour [2024]
72	*Geranium pyrenaicum*	Hedgerow Cranesbill	-	-	present in SE01 /SE02
73	*Geranium robertianum*	Herb-robert	-	p	scattered plants in NE06 and NE05
74	*Geranium rotundifolium*	Round-leaved Crane's-bill	-	p	present in D and NE05
75	*Helminthotheca echioides*	Bristly Ox-tongue	p	-	numerous along shore
76	*Heracleum sphondylium*	Hogweed	-	p	-
77	*Holcus lanatus*	Yorkshire Fog	-	-	widespread in NE09
78	*Hypericum perforatum*	Perforate St John's-wort	p	p	present in areas D and SE01
79	*Hypochaeris radicata*	Cat's-ear	p	p	present along shore
80	*Jacobaea vulgaris*	Common Ragwort	p	p	abundant in late summer
81	*Juncus bufonius agg.*	Toad Rush	p	p	present along shore
82	*Juncus conglomeratus*	Compact Rush	-	-	present in SE01 / SE02
83	*Knautia arvensis*	Field Scabious	-	p	-
84	*Lactuca serriola*	Prickly Lettuce	p	p	-
85	*Lamium purpureum*	Red Dead-nettle	p	p	a few plants in NE09
86	*Lathyrus latifolius*	Broad-leaved Everlasting-pea	-	p	numerous in NE09
87	*Lathyrus nissolia*	Grass Vetchling	-	p	present throughout; abundant in SE01
88	*Lathyrus pratensis*	Meadow Vetchling	-	p	-
89	*Leontodon saxatilis*	Lesser Hawkbit	p	-	-
90	*Lepidium didymum*	Lesser Swine-cress	p	-	present in SE01 / SE02
91	*Leucanthemum vulgare*	Ox-eye Daisy	p	p	abundant, especially in SE01
92	*Linaria purpurea*	Purple Toadflax	p	-	present in SE01 / SE02
93	*Linum bienne*	Pale Flax	p	p	plentiful most areas
94	*Lolium perenne*	Perennial Rye-grass	-	-	present most areas
95	*Lotus corniculatus*	Common Birdsfoot Trefoil	p	p	abundant throughout site
96	*Lotus pedunculatus*	Greater Bird's-foot Trefoil	p	-	present in SE01
97	*Lotus subbiflorus*	Hairy Bird's-foot Trefoil	p	-	one sizeable patch in SE03
98	*Luzula multiflora*	Heath Wood Rush	-	-	present in SE01 / SE02
99	*Lysimachia arvensis*	Scarlet Pimpernel	-	-	widespread, thinly scattered

100	*Lysimachia vulgaris*	Yellow Loosestrife	-	-	2022: 4 present in SE04
101	*Malva moschata*	Musk Mallow	-	-	2022: 3 present in SE03
102	*Malva sylvestris*	Common Mallow	p	-	widespread in small numbers
103	*Matricaria discoidea*	Pineappleweed	p	-	-
104	*Medicago arabica*	Spotted Medick	p	p	numerous south of railway
105	*Medicago lupulina*	Black Medick	p	p	found only in NE09
106	*Medicago sativa*	Lucerne	-	-	common in SE02 nd SE03
107	*Melilotus albus*	White Melilot	p	-	-
108	*Melilotus altissimus*	Tall Melilot	p	-	-
109	*Melilotus officinalis*	Ribbed Melilot	p	p	present in SE04
110	*Mercurialis annua*	Annual Mercury	-	p	-
111	*Myosotis arvensis*	Field Forget-me-not	-	p	scattered plants in NE09 and NE05
112	*Myosotis discolor*	Changing Forget-me-not			one patch in SE02 [2024]
113	*Myosotis ramosissima*	Early Forget-me-not	-	-	one patch in SE04
114	*Myosotis sylvatica*	Wood Forget-me-not	-	-	2021: 5 present 2022: present in NE05 and NE09
115	*Odontides vernus*	Red Bartsia	-	p	-
116	*Oenanthe crocata*	Hemlock Water-dropwort	-	p	mainly in areas SE04 and D
117	*Oenanthe pimpinelloides*	Corky-fruited Water-dropwort	-	-	numerous in SE03
118	*Oenothera glazoviana*	Large-flowered Evening-primrose	p	p	scattered plants
119	*Ophrys apifera*	Bee Orchid	-	-	2021: 16 in NE05 2024: 70, mainly SE01 but widespread
120	*Orobanche minor*	Common Broomrape	-	-	100+ plants in SE01 [2022 & 2024]
121	*Papaver rhoeas*	Common Poppy	p	p	numerous in SE01 [2024]
122	*Parapholis strigosa*	Hard-grass	-	-	present in SE01 / SE02
123	*Pastinaca sativa*	Wild Parsnip	p	p	one plant in NE05
124	*Pentaglottis sempervirens*	Green Alkanet	-	p	present in SE04
125	*Persicaria maculosa*	Redshank	p	-	-
126	*Petroselinum siletum*	Corn Parsley	-	p	-
127	*Phragmites australis*	Southern Reed	-	-	increasing in SE03 and SE04
128	*Picris hieracioides*	Hawkweed Ox-tongue	-	-	present by shore in SE03 [2024]
129	*Plantago coronopus*	Buck's-horn Plantain	-	p	numerous beside cycle path
130	*Plantago lanceolata*	Ribwort Plantain	p	p	abundant throughout site
131	*Plantago maior*	Greater Plantain	p	-	-
132	*Plantago maritima*	Sea Plantain	p	-	present in NE06 / NE07 and SE03
133	*Poa pratensis agg.*	Smooth Meadow-grass	-	-	present in SE01 / SE02
134	*Poa trivalis*	Rought Meadow-grass	-	-	present in SE01 / SE02
135	*Polygonum aviculare*	Knotgrass	p	-	present in SE01 / SE02
136	*Polypogon monspeliensis*	Annual Beard-grass	-	-	widespread along shore
137	*Populus alba*	White Poplar	p	p	large stands present, spreading
138	*Potentilla recta*	Sulphur Cinquefoil	-	-	see Note [1] below
139	*Potentilla reptans*	Creeping Cinquefoil	p	p	scattered plants
140	*Ranunculus acris*	Meadow Buttercup	p	p	widespread, plentiful
141	*Ranunculus bulbosus*	Bulbous Buttercup	-	-	numerous in SE01 in 2021 only
142	*Ranunculus repens*	Creeping Buttercup	p	p	noted in NE09 and NE06
143	*Ranunculus sardous*	Hairy Buttercup	p	p	about 100 plants in area D; one patch found SE04 in June 2024

144	*Raphanus raphanistrum*	Wild Radish	-	-	2022: 1 plant in SE04
145	*Reseda alba*	White Mignonette	p	-	-
146	*Reseda lutea*	Wild Mignonette	-	-	present in SE01
147	*Reseda luteola*	Weld	p	-	-
148	*Rosa canina agg.*	Dog Rose	-	-	present in NE09 and SE01
149	*Rosa rugosa*	Japanese Rose	-	p	widespread in scrub areas; invasive
150	*Rubus fruticosus agg.*	Bramble	p	p	numerous in scrub areas
151	*Rumex acetosa*	Common Sorrel	p	p	fairly widespread
152	*Rumex acetosella*	Sheep's Sorrel	-	-	present in NE05
153	*Rumex crispus*	Curled Dock	p	p	widespread
154	*Sagina maritima*	Sea Pearlwort	-	-	on shore in SE01 / SE02 [2024]
155	*Sagina procumbens*	Procumbent Pearlwort	-	-	present in SE01 / SE02
156	*Saponaria officinalis*	Soapwort	-	p	-
157	*Scirpoides holoschoenus*	Round-headed Club Rush	p	p	one clump in NE07 protected by stones
158	*Sedum acre*	Biting Stonecrop	-	p	several large clumps in NE05 / NE06; also in SE01 and beside cycleway near station
159	*Senecio squalidus*	Oxford Ragwort	p	p	present along shore
160	*Senecio viscosus*	Sticky Groundsel	p	-	-
161	*Sherardia arvensis*	Field Madder	p	-	patch in SE01 beside gravel path
162	*Silene latifolia*	White Campion	-	p	patches in SE01 and on railway bridge
163	*Silene vulgaris*	Bladder Campion	-	-	one plant in SE03 [2024]
164	*Sinapis arvensis*	Charlock	-	p	present in NE
165	*Sisymbrium officinale*	Hedge Mustard	-	-	present along shore in SE01 / SE03
166	*Solanum dulcamara*	Bittersweet	p	p	found only in NE02 / NE09
167	*Sonchus arvensis*	Perennial Sow-thistle	-	-	on shoreline in NE05
168	*Sonchus asper*	Prickly Sow-thistle	p	p	present along shore
169	*Sonchus oleraceus*	Smooth Sow-thistle	p	p	present in SE01 / SE02
170	*Spartine anglica*	Common Cord-grass	-	-	present in NE06 / NE07
171	*Spergularia marina*	Lesser Sea-Spurrey	p	-	-
172	*Spergularia media*	Greater Sea-Spurrey	-	-	one plant in NE05 in 2021
173	*Spiranthese spiralis*	Autumn Lady's-tresses	-	-	one plant in 2023 [per Mariko Whyte]
174	*Stachys palustris*	Marsh Woundwort	-	-	a few plants in NE05
175	*Stachys sylvatica*	Hedge Woundwort	p	-	-
176	*Stellaria graminea*	Lesser Stitchwort	-	-	present in NE05
177	*Suaeda vera*	Annual Sea-blite	-	-	present in NE06 / NE07
178	*Taraxacum sp.*	Dandelion	p	p	widespread
179	*Tragopogon pratensis*	Goat's-beard	-	p	one plant on shore in SE01
180	*Trifolium arvense*	Hare's-foot Clover	-	-	widespread in SE01
181	*Trifolium campestre*	Hop Trefoil	-	p	fairly numerous in SE01
182	*Trifolium dubium*	Lesser Trefoil	-	p	abundant throughout site
183	*Trifolium pratense*	Red Clover	-	p	common throughout site
184	*Trifolium repens*	White Clover	-	p	common throughout site
185	*Trifolium striatum*	Knotted Clover	-	p	-
186	*Trifolium subterraneum*	Subterranean Clover	-	p	-

187	*Tripleurospermum inodorum*	Scentless Mayweed	p	-	present in NE04, also *T. maritimum?*
188	*Ulex europaeus*	Gorse	p	p	increasing in NE09
189	*Urtica dioica*	Common Nettle	p	p	numerous beside Creekmoor Channel
190	*Valerianella carinata*	Keeled-fruited Cornsalad	-	p	scattered plants
191	*Veronica agrestis*	Green Field-speedwell	-	-	present in SE01 / SE02
192	*Veronica chamaedrys*	Germander Speedwell	-	-	widespread
193	*Veronica persica*	Common Field Speedwell	p	-	scattered, nowhere numerous
194	*Veronica serpyllifolia*	Thyme-leaved Speedwell	-	-	a few plants in NE06
195	*Vicia cracca*	Tufted Vetch	p	-	fairly widespread
196	*Vicia hirsuta*	Hairy Tare	p	p	widespread SE02, SE01; present Area D
197	*Vicia sativa*	Common Vetch	p	p	common throughout site
198	*Vicia tetrasperma*	Smooth Tare	p	-	-
199	*Viola arvensis*	Field Pansy	p	-	-

[1] Possible Potentilla recta Sulphur Cinquefoil: a few plants provisionally identified as this species were found in SE01 in 2022. In 2024, more [presumed to be the same species] were again found in SE01, but they showed dense hairs [not densely glandular] on the sepals. The sepals were also not deeply notched. The identification therefore remains provisional.

Notes On Selected Species [all photos taken in situ by the author]

HAIRY BUTTERCUP *Ranunculus sardous*

A sizeable patch of this species was found in area D, with about 100 plants counted in 2021. It shares with Bulbous Buttercup the feature of reflexed sepals, but Hairy Buttercup is a smaller plant overall, with paler yellow petals and a palmate leaf shaped curiously like the footprint of an animal.

After 2021, area D was not visited, but a few plants were noted on SE03 in 2024.

SEA BEET *Beta vulgaris ssp. maritima*

A subspecies of the Beet cultivated for sugar production.

The leaf is dark green and glossy, and the basal edge of the leaf tapers a long way along the stem.

GREATER SEA-SPURREY *Spergularia media*

One plant of this species was found on the rock armour in area NE05 [east of the PC World drain] in 2021. It was distinguished from Lesser Sea-spurrey by the larger flowers, which were over 10 mm across.

CUCKOOFLOWER / LADY'S SMOCK
Cardamine pratensis

A few plants in a damp part of area SE01, 17th April 2024.

DANISH SCURVY-GRASS *Cochlearia danica*
and
ENGLISH SCURVY-GRASS *Cochlearia anglica*
are both present.

Danish tends to flower earlier than English and has the alternative name Early Scurvy-grass.

They are members of the Cabbage family and both have small white flowers with the four petals typical of the Brassicas. The two species are similar but can be distinguished by the shape of the leaves: an ivy-shaped leaf [see photo] is diagnostic of Danish, and there is therefore an acute angle between the stem and the lower edge of the leaf, whereas the leaves of English Scurvy-grass taper back into the stems.

Danish Scurvy-grass is by nature a shoreline plant, and its liking for salt has allowed it to colonise the salted edges of major roads, where it forms dense mats, up to 10 cm high, along the edges, and especially in the central reservations of dual carriageways. In Holes Bay it occurs in a semi-natural environment among the rock armour, but has now also colonised the edges of the A350, especially the southernmost parts near Poole Station.

As the name indicates, these plants were used in the past to treat scurvy, a disease caused by a lack of vitamin C, but the taste is not pleasant, and other sources of vitamin C, such as citrus fruits, are preferable to most people.

WHITE STONECROP
Sedum album

HAIRY BIRDSFOOT-TREFOIL *Lotus Subbifloratus*

June 8th 2024.

Distinguished from Common Birdsfoot-trefoil by much smaller flowers, all of which are uniform orange colour [not yellow or red].
The hairy leaves and flower buds are visible at centre of photo.

Leaves of Buckshorn Plantain are evident in lower parts of photo.

HARE'S-FOOT CLOVER *Trefolium arvense*

Not identified in the two earlier surveys but featured on the signboard for the area, this large clover species was found in abundance in 2021 in SE01 and SE02.

The petals are pale pink but almost hidden by soft white hairs. Leaves are oval but narrower than in other clover species.

KIDNEY VETCH *Anthyllis vulneraria*

This species was first noted in 2021 on both sides of the Creekmoor Channel, and it now covers large parts of SE01 and other areas.

It normally grows on calcareous soils, and its presence here indicates the chalk aggregate underlying the road and cycle path.

It is also the food plant for the Small Blue butterfly, which has been found by others beside the A 350 and on the former power station site.

COMMON BROOMRAPE *Orobanche minor*

A new colonist of the now un-mown area SE01, where about 100 plants were present in 2021 and 2024.

Any comments about the species identification would be welcome, as I have relied on the PlantNet app on this occasion.

FIELD MADDER *Sherardia arvensis*

A tiny member of the Bedstraw family, identified by members of DFG on 8th June 2024, beside the gravel cross-path in area SE01.

Flowers nearly all finished, but the pointed sepals remained.

Leaves in whorls of 6, also pointed.

FIELD MADDER *Sherardia arvensis*

8th June 2024, at Holes Bay, Dorset.

Showing one of the last remaining flowers, 3mm across.

PROBABLE KEELED-FRUITED CORNSALAD
Valeriana carinata

This is presumed to be Keeled-fruited rather than Common Cornsalad, *Valeriana locusta,* but the two species are normally identified by their fruits, which are not present here.

PYRAMIDAL ORCHID
Anacamptis pyramidalis

One of the two Orchid species which have become the stars of the site, Pyramidal has been present at least since 2019, when 42 flower-heads were counted in the section of roadside closest to the Premier Lodge Hotel [area SE02 – see photo].

Conditions were unfavourable in the dry summer of 2023, but by 2024 numbers had increased to about 500 flower-heads in areas SE01 and SE02.

BEE ORCHID
Ophrys apifera

16 plants were counted between the PC World Drain and the railway in 2021, and by 2024 this had increased to several hundred, mainly in area SE01, with a few plants even on the narrow grass verge across the railway bridge.

MOTHS RECORDED IN UPTON COUNTRY PARK AND HOLES BAY IN 2024

Sally Grant

INTRODUCTION

During 2024 up to four moth traps were operated at Upton Country Park (UCP): in The Walled Garden, as in the previous years, and also in a slightly boggy, scrubby area close to the shoreline.

These were two Robinson-style traps; one with a 125-watt mercury-vapour bulb and another fitted with a black light “the MV trap”; a Skinner-style trap (‘the actinic trap’) with two 20-watt actinic bulbs; a battery-operated “bucket”-style actinic trap with one actinic bulb. Both MV and actinic were recorded as “MV” or “actinic” with no differentiation made between differing light sources.

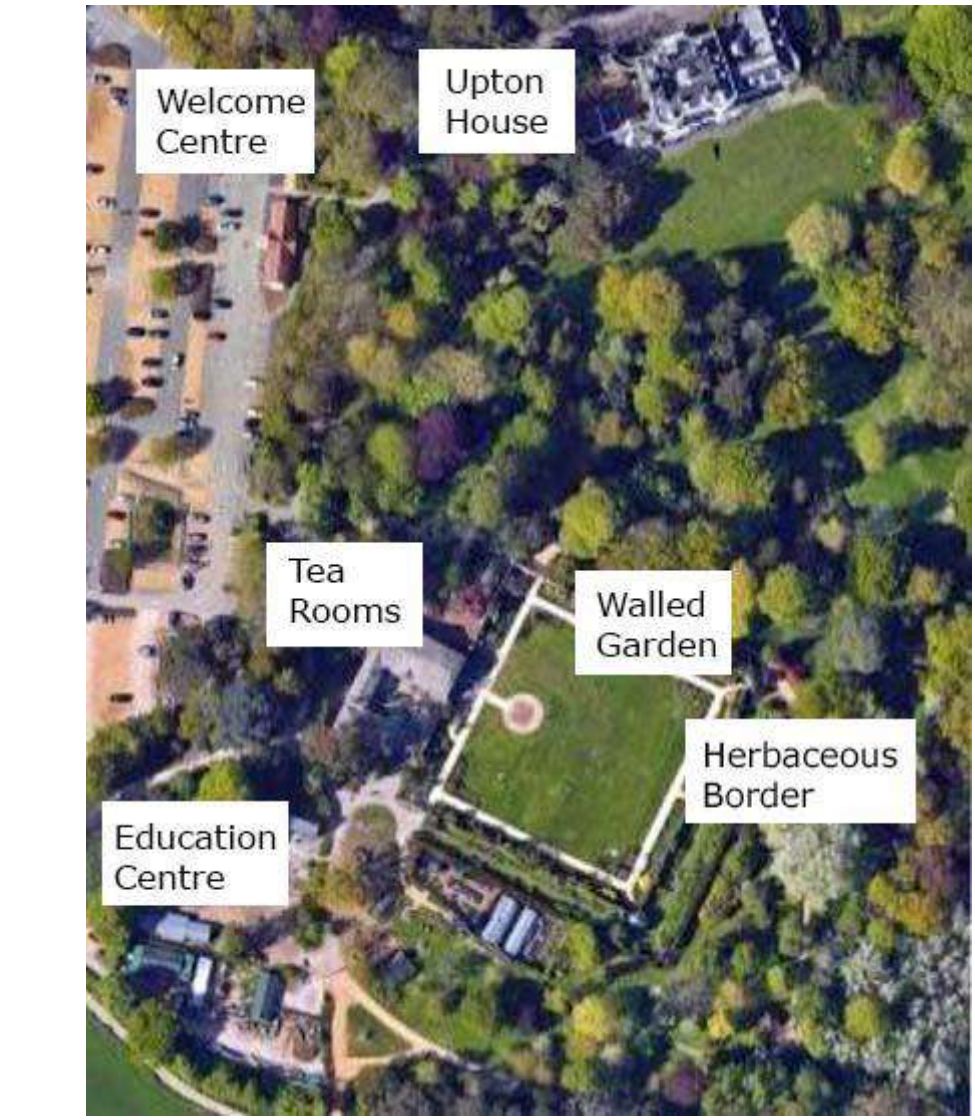


Fig. 1 Upton Country Park – typical locations for moth traps

The traps were left overnight in the walled garden or adjacent herbaceous border, or near the shoreline, as these areas are secure. The walled garden is largely amenity grass (turfed in 2012) with small beds of ornamental planting and is surrounded by areas of formal gardens and ornamental pleasure grounds. The shoreline site is slightly boggy in an area of scrub, surrounded by mostly deciduous trees. All potential sites are set within the larger area of former parkland with some veteran oak trees and unimproved or semi-improved grassland and much mixed woodland, mainly of plantation origin. Slightly further away are the saltmarsh, reed beds and mudflats of Holes Bay. On the landward side the site is surrounded by grazed pasture or former farmland,

much of which has recently been laid down to grass with substantial areas of native tree and shrub planting to form a ‘SANG.

The walled garden is popular with visitors and adjacent to the Park’s tearooms. The catch from the traps was examined early in the morning in the walled garden or to the side of the tearooms, and the opportunity taken to show different species to interested members of the public. The moths were released as quickly as possible.

Moth Trap Supervisor – Juvenile Robin ©Sally Grant

Records of the moths identified were entered on ‘Living Record’ an online recording system, used by the Dorset Environmental Records Centre (DERC), from which the National Moth Recording Scheme can draw records. Records submitted in this way are subject to verification by local experts but this report has been prepared prior to completion of this process.

FIELD RECORDS

Casual field records of moths throughout Upton Country Park and the around Holes Bay have continued to be included, and an informal list has been collated of those species spotted by members of the public and UCP staff and listed on the “Sightings” board and diary in the Welcome Centre. Such observations are invited from anyone.

Please email details and photographs to: sallygrantucp@gmail.com.

Clifden Non-Pareil ©Sally Grant

NEW FOR SITE (NFS) AND "HISTORICAL RECORDS"

Since 2020 moth surveys have been carried out at UCP on a regular basis, but we also have more sporadic moth counts dating from the 70s, 80s, 90s and 2000s which we have referred to when collating this report.

These "historical" records were mostly from traps set within the walled garden, but also on the roof of Upton House, and Gordon Eastwick-Field trapped in the area known as Kennel Mead, between the Winter Garden and the Bird Hide. One record only lists the species trapped without any numbers recorded. In this case each species has been listed as one individual. Also, whilst micros would certainly have been present, very few have been listed in these records.

Taking these "historical" records into account allows us to state with a little more certainty the species of moth that have not been formally recorded on-site before. Whilst many of the moths not listed may have been present, for the purposes of this report we have referred to them as New for Site (NFS).

NAMING CONVENTIONS

In this article the first mention of a particular species will usually include both English and scientific names. Later mentions will use only the English name for those relatively well-known, usually larger, species typically regarded as 'macro-moths.' As the latest (second) version of the Field Guide to the Micro-moths of Great Britain and Ireland now includes English (i.e. vernacular or common) names for the majority of 'micro-moths,' the English name will be given after the scientific name.

Bloodvein ©Tony Grant

Mottled Umber ©Tony Grant

Merveille du Jour ©Tony Grant

Common Wave ©Tony Grant

Fig. 3 Some of the macro moths recorded at Upton County Park in 2024

SUMMARY OF RESULTS 2024

262 moth taxa were recorded in 2024. This includes adult moths recorded in the field as well as those trapped. Most moths were identified to species level though a few critical species were only recorded as aggregates and a few only to genus level. See Appendix 1 for full list.

Moths were caught in either or both traps on 29 dates between 13th February and 13th November 2024, compared with 35 in 2023 and 27 in 2022. An mv and an actinic trap were both used on 20 of those dates; the actinic only was used on one occasion, and the mv only on 8 dates. We caught at least one moth on every date.

It is worth noting that the new portable, battery-operated actinic bucket trap was used on 5 dates close to the shoreline between May and September and 86 individual moths of 37 species were recorded. One species; *Chilo phragmitella* or Reed Veneer was recorded in this trap as "new for site."

A total of 1545 adult moths of 252 taxa were recorded from the traps. A total of 1,028 moths of 218 taxa were recorded in the MV traps on 28 dates and 517 moths of 142 taxa on 21 dates in the actinic trap. There were 360 taxa identified from both types of trap, with 104 species identified unique to the mv trap and 34 unique to the actinic trap. Table 3 lists the larvae recorded.

The number of taxa identified from the traps in each month in 2024 and the number of trapping sessions is shown in Fig 2.

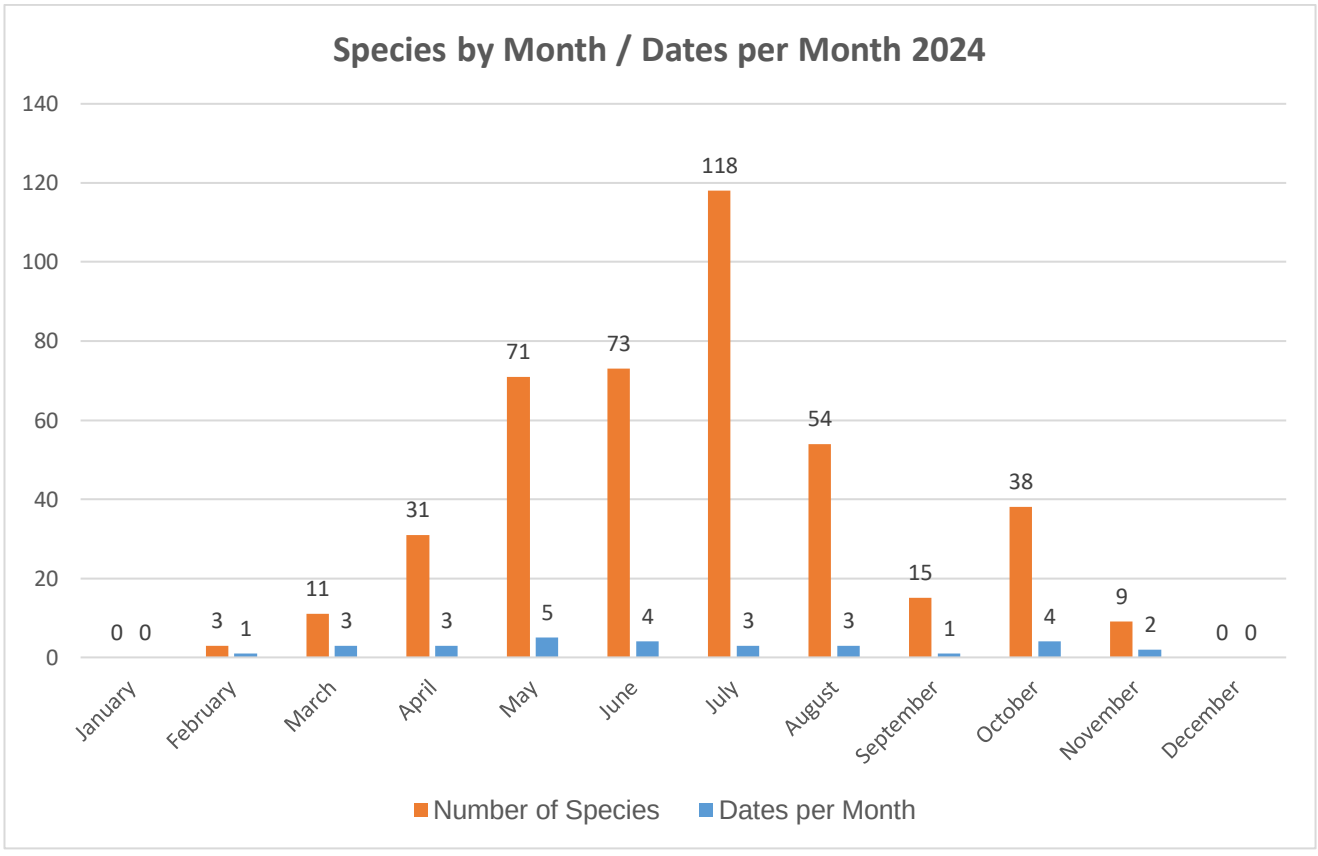


Fig. 2

Number of species trapped and number of trapping sessions 2023

The 20 most trapped species in 2024 are shown in Table 1. These account for 1030 (ca. 64%) of the total catch of 1615 moths. The Box Tree moth has fallen dramatically to only 20 adult moths recorded, compared with 218 in 2023, whereas the Large Yellow Underwing and Heart & Dart are still the second and third most prevalent species recorded.

At the same time 96 taxa were only caught on a single occasion:

Common Name	Scientific Name	m	Individuals
Common Quaker	*Orthosia cerasi*		73
Large Yellow Underwing	*Noctua pronuba*		69
Heart & Dart	*Agrotis exclamationis*		48
Ermine sp.	*Yponomeuta sp.*	m	42
Riband Wave	*Idaea aversata*	m	38
Garden Grass-moth	*Chrysoteuchia culmella*	m	34
Hebrew Character	*Orthosia gothica*		33
Common Footman	*Eilema lurideola*		31
Flame Shoulder	*Ochropleura plecta*		31
Silver Y	*Autographa gamma*		30
Common Rustic agg.	*Mesapamea secalis agg.*		29
Marbled Piercer	*Cydia splendana*	m	29
Six-spot Burnet	*Zygaena filipendulae*		29
Double-striped Pug	*Gymnoscelis rufifasciata*		21
Mottled Rustic	*Caradrina morpheus*		21
November moth agg.	*Epirrita dilutata agg.*		21
Straw Dot	*Rivula sericealis*		21
Treble Lines	*Charanyca trigrammica*		21
Box-tree Moth	*Cydalima perspectalis*	m	20
Dark Arches	*Apamea monoglypha*		20
Rosy Footman	*Miltochrista miniata*		20
Light Emerald	*Campaea margaritaria*		19
True Lover's Knot	*Lycophotia porphyrea*		19
Willow Ermine	*Yponomeuta rorrella*	m	19
Common Swift	*Korscheltellus lupulina*		18
Uncertain/Rustic agg.	*Hoplodrina octogenaria/blanda*		18
Lesser Broad-bordered Yellow Underwing	*Noctua janthe*		16
Muslin Moth	*Diaphora mendica*		16
Willow Beauty	*Peribatodes rhomboidaria*		16
Marbled Minor agg.	*Oligia strigilis agg.*		15
Mother of Pearl	*Patania ruralis*	m	15
Setaceous Hebrew Character	*Xestia c-nigrum*		15
Pied Grey	*Eudonia delunella*	m	13
Small Quaker	*Orthosia cruda*		13
Vine's Rustic	*Hoplodrina ambigua*		13
Black Arches	*Lymantria monacha*		12
Brussels Lace	*Cleorodes lichenaria*		12
Dingy Footman	*Eilema griseola*		12
Orange Footman	*Eilema sororcula*		12
White Ermine	*Spilosoma lubricipeda*		12
Bright-Line Brown-Eye	*Lacanobia oleracea*		10
Broad-bordered Yellow Underwing	*Noctua fimbriata*		9
Clouded Drab	*Orthosia incerta*		9
Common Marble	*Celypha lacunana*	m	9
Sandy Carpet	*Perizoma flavofasciata*		9
Snout	*Hypena proboscidalis*		9
Square-spot Rustic	*Xestia xanthographa*		9

Table 1 Twenty most prevalent trapped species 2024 (m=macro)

Data for the last 4 years shows that the Box-tree Moth is still the most prevalent moth seen with a total of 450, with Large Yellow Underwing, Common Quaker and Heart & Dart still showing as our most prevalent species overall.

There are 78 species recorded prior to 2020 that have not been recorded since'

Common Name	Scientific Name		2021	2022	2023	2024	TOTAL
Box-tree Moth	*Cydalima perspectalis*	m	159	53	218	20	**450**
Large Yellow Underwing	*Noctua pronuba*		77	73	185	69	**404**
Common Quaker	*Orthosia cerasi*		58	151	31	73	**313**
Heart & Dart	*Agrotis exclamationis*		42	53	91	48	**234**
Dark Arches	*Apamea monoglypha*		26	76	69	20	**191**
Lesser Broad-bordered Yellow Underwing	*Noctua janthe*		42	80	49	16	**187**
Garden Grass-moth	*Chrysoteuchia culmella*	m	49	31	68	34	**182**
Common Footman	*Eilema lurideola*		35	34	74	31	**174**
Common Rustic agg.	*Mesapamea secalis agg.*		8	36	71	29	**144**
Flame Shoulder	*Ochropleura plecta*		20	71	17	31	**139**
Treble Lines	*Charanyca trigrammica*		45	28	39	21	**133**
Hebrew Character	*Orthosia gothica*		38	37	20	33	**128**
Vine's Rustic	*Hoplodrina ambigua*		23	26	66	13	**128**
Setaceous Hebrew Character	*Xestia c-nigrum*		15	50	39	15	**119**
Uncertain/Rustic agg.	*Hoplodrina octogenaria/blanda*		17	23	52	18	**110**
Silver Y	*Autographa gamma*		17	8	54	30	**109**
Double-striped Pug	*Gymnoscelis rufifasciata*		23	51	13	21	**108**
Light Emerald	*Campaea margaritaria*		42	15	30	19	**106**
Common Masoner	*Blastobasis adustella*	m	12	49	37	4	**102**
Riband Wave	*Idaea aversata*		17	15	26	38	**96**

Table 2 Twenty most prevalent trapped species 2021-2024 (m=macro)

Buff Ermine ©Tony Grant

Canary Shouldered Thorn ©Tony Grant

Fig. 4 Some of the macro moths recorded at Upton County Park in 2024

FIELD RECORDS

Field Records account for 19 species, including larvae of 2 species, and 70 individual adults. Several Box-tree Moth larvae were seen in the walled garden, but only 1 was formally recorded. The 50 Brown-tail larvae were seen in Holes Bay South West.

12 of the 17 adult species were not recorded in the traps.

These are informal, ad-hoc sightings and do not reflect the true number of species that may be present outside of the walled garden.

Common Name	**Scientific Name**	**Adult**	**Larvae**
Box-tree Moth*	*Cydalima perspectalis**		1
Brown-tail	*Euproctis chrysorrhoea*		50
Burnet Companion	*Euclidia glyphica*	6	
Cocksfoot Moth*	*Glyphipterix simpliciella**	1	
Common Gorse Moth*	*Cydia ulicetana**	1	
Common Marble*	*Celypha lacunana**	1	
Green Longhorn* (NFS)	*Adela reaumurella**	2	
Humming-bird Hawk-moth	*Macroglossum stellatarum*	1	
Jersey Tiger	*Euplagia quadripunctaria*	2	
Lime-speck Pug	*Eupithecia centaureata*	1	
Marbled Fern*	*Musotima nitidalis**	1	
Nettle-tap*	*Anthophila fabriciana**	1	
Red-barred Tortrix*	*Ditula angustiorana**	1	
Silver Y	*Autographa gamma*	12	
Six-spot Burnet	*Zygaena filipendulae*	29	
Straw Dot	*Rivula sericealis*	1	
Yellow Belle	*Aspitates ochrearia*	1	
Yellow Shell	*Camptogramma bilineata*	5	
Yellow-banded Longhorn*	*Nemophora degeerella**	4	
19 Species, 17 Adult Species		**70**	**51**

Table 3 Field Record of Species seen in 2024 - *micro Adult moths are included in Appendix 1

NEW FOR SITE (NFS)

In 2024 a further 24* species were recorded that were NFS, compared with 49 NFS species in 2023. In addition, just 2 species were recorded for the first time since 2019, and 21 species had only been recorded once before.

*One species not verified at the time of writing.

Common Name	Scientific Name	Micro	Sum of Adult	Forewing Length In mm
Birch Mocha	*Cyclophora albipunctata*		1	12-14
Black Cloak (formerly Yellow-faced Belle)	*Notocelia cynosbatella* (formerly *Epiblema cynostabatells*)	m	1	16-22
*Black Gelechia	*Gelechia nigra*	m	1	13-18
Blair's Mocha	*Cyclophora puppillaria*		2	12-15
Burdock Straw (formerly Burdock Conch)	*Aethes rubigana*	m	1	15-19
Chequered Pine Knot-horn (formerly New Pine Knot-horn)	*Dioryctria sylvestrella*	m	2	28-35
Coastal Buff (formerly Coastal Flat-body)	*Agonopterix yeatiana*	m	2	18-22
Cocksfoot Moth	*Glyphipterix simpliciella*	m	1	6-9
Common Zebra Moth (formerly Orange Crest)	*Helcystogramma rufescens*	m	1	14-18
Copper-fringed Drab (formerly Little Ermine)	*Swammerdamia pyrella*	m	1	10-13
Cream-bordered Green Pea	*Earias clorana*		1	10-12
Dotted Border	*Agriopis marginaria*		1	16-20
Eyed Hawk-moth	*Smerinthus ocellata* (formerly *Smerinthus ocellatus*)		1	36-44
Green Longhorn	*Adela reaumurella*	m	2	14-18
Least Brown (formerly Small Purple Flat-body)	*Agonopterix purpurea*	m	2	11-15
Mouse Moth	*Amphipyra tragopoginis*		1	16-18
Oak Eggar (female)	*Lasiocampa quercus*		1	33-40
Oak-tree Pug	*Eupithecia dodoneata*		5	8-11
Oegoconia sp.	*Oegoconia sp.*		1	
Poplar Kitten	*Furcula bifida*		1	16-22
Reed Veneer	*Chilo phragmitella*	m	1	24-40
Spindle Knot-horn	*Nephopterix angustella*	m	1	20-25
Streamer	*Anticlea derivata*		2	14-16
Water-dropwort Brown (formerly Dingy Flat-body)	*Depressaria daucella*	m	1	21-24

Table 4 New for Site (NFS) for 2024; m=micro (included in Appendix 1)

MACRO MOTHS

181 macro-moth taxa were identified in 2024 out of approximately 900 species found in the UK[1]. Of those, 11 species were NFS.

Here are photos of some of the Macro moths that were NFS.

Please note that these are not to scale – forewing lengths are recorded in **Table 4**.

Blair's Mocha ©Tony Grant
Cyclophora puppillaria

Cream-bordered Green Pea ©Tony Grant
Earias clorana

Dotted Border ©Tony Grant
Agriopis marginaria

Eyed Hawk-moth ©Tony Grant
Smerinthus ocellata

Oak Eggar ©Tony Grant
Lasiocampa quercus

Poplar Kitten ©Tony Grant
Furcula bifida

Common Plume ©Tony Grant

Oak Hook-tip & True Lover's Knot ©Tony Grant

"NFS" Streamer ©Tony Grant
Anticlea derivata

"NFS" Micro:
Chilo phragmitella © Tony Grant
Reed Veneer

MICRO MOTHS

81 taxa of micro-moth were identified in 2024; a small proportion of around 1,600 species known from Britain. 13 of those recorded were NFS.

Micro-moths, by definition, tend to be small, and not necessarily easy to identify. For more information about micro moths please see the Holes Bay Nature Park Report for 2021.

***Notocelia cynosbatella* ©Tony Grant**
Black Cloak

***Black Gelecia ©Tony Grant**
Gelechia nigra
*Subsequently NOT verified

Aethes rubigana **©Tony Grant**
Burdock Straw

Dioryctria sylvestrella **©Tony Grant**
Chequered Pine Knot-horn

Agonopterix yeatiana **©Tony Grant**
Coastal Buff

Glyphipterix simpliciella **©Tony Grant**
Cocksfoot moth

Helcystogramma rufescens **©Tony Grant**
Common Zebra moth

Agonopterix purpurea **©Tony Grant**
Least Brown

BOX-TREE MOTH: UPDATE

The number of Box-tree Moths recorded in the traps reached an all-time high of 218 adult moths in 2023, but plummeted to 20 in 2024. However, it is still the most prevalent species trapped since 2021. Many larvae were seen in the Walled Garden in 2024, but not recorded on Living Record.

In spring 2024, the Garden Team started replacing the box hedging in the walled garden with Lonicera nitida (shrubby honeysuckle). This photo (left) from April shows the first of the new planting. It has subsequently established extremely well. The photo on the right shows the brown and dead box hedge outside the tea room. This too has since been replaced.

Fig. 5 Box hedging in Walled Garden being replaced due to damage by Box-tree Moth

DISCUSSION AND CONCLUSIONS

The 181 macro moths and 81 micro moths recorded in 2024 represent around 20% and 5% respectively of the total number of species known from Great Britain. Collectively, there is little difference between the years to date.

This table also shows that on average we are recording 191 Macro moths and 91 Micro moths each year.

Year	Macro	% of 900 UK Species	Micro	% of 1600 UK Species
2020-21	172	19%	88	6%
2022	201	22%	105	6.5%
2023	210	23%	90	5.65%
2024	181	20%	81	5%
Average per year	**191**		**91**	

Table 5 Numbers of Macro & Micro Moths 2024

Whilst we continue to record moths not seen previously on site (NFS), our numbers still fall short of the 451-500 species of Macro moths recorded in *The Atlas of Britain and Ireland's Larger Moths*[2] *for the 10 km grid square SY99, which includes most of Upton Country Park.*

It is hoped that the number of taxa recorded will continue to rise, but only time will tell.

Fig 6 shows the number of times individual species were recorded in the traps, once, twice, etc., along with a percentage of the total species.

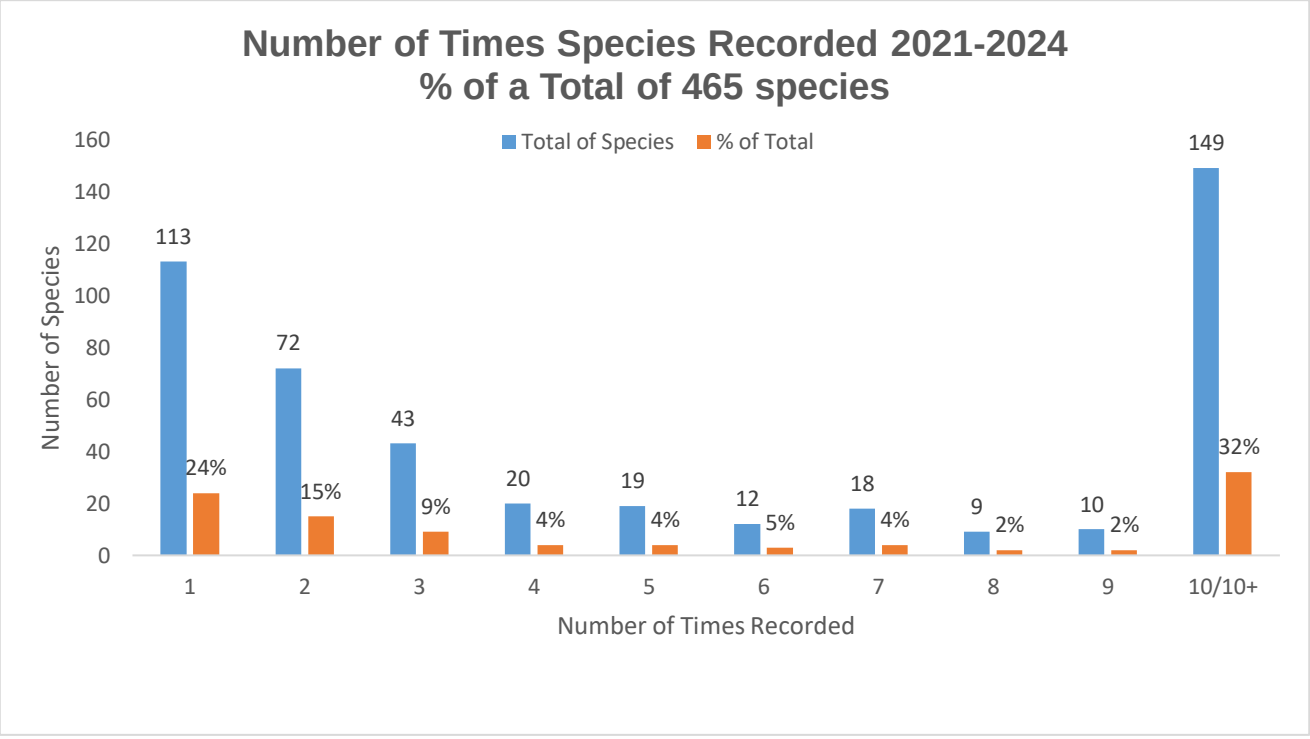


Fig. 6 Proportion of species trapped once, twice, three times etc 2021-2024

Of the 465* species recorded in the traps during 2021-2024, 24% were represented by a single moth only recorded once, whereas 32% were represented by a single moth as were recorded on 10 or more occasions. 16% were only recorded twice.

*This figure excludes the large numbers of three species of day-flying moths, but does include other Field Records.

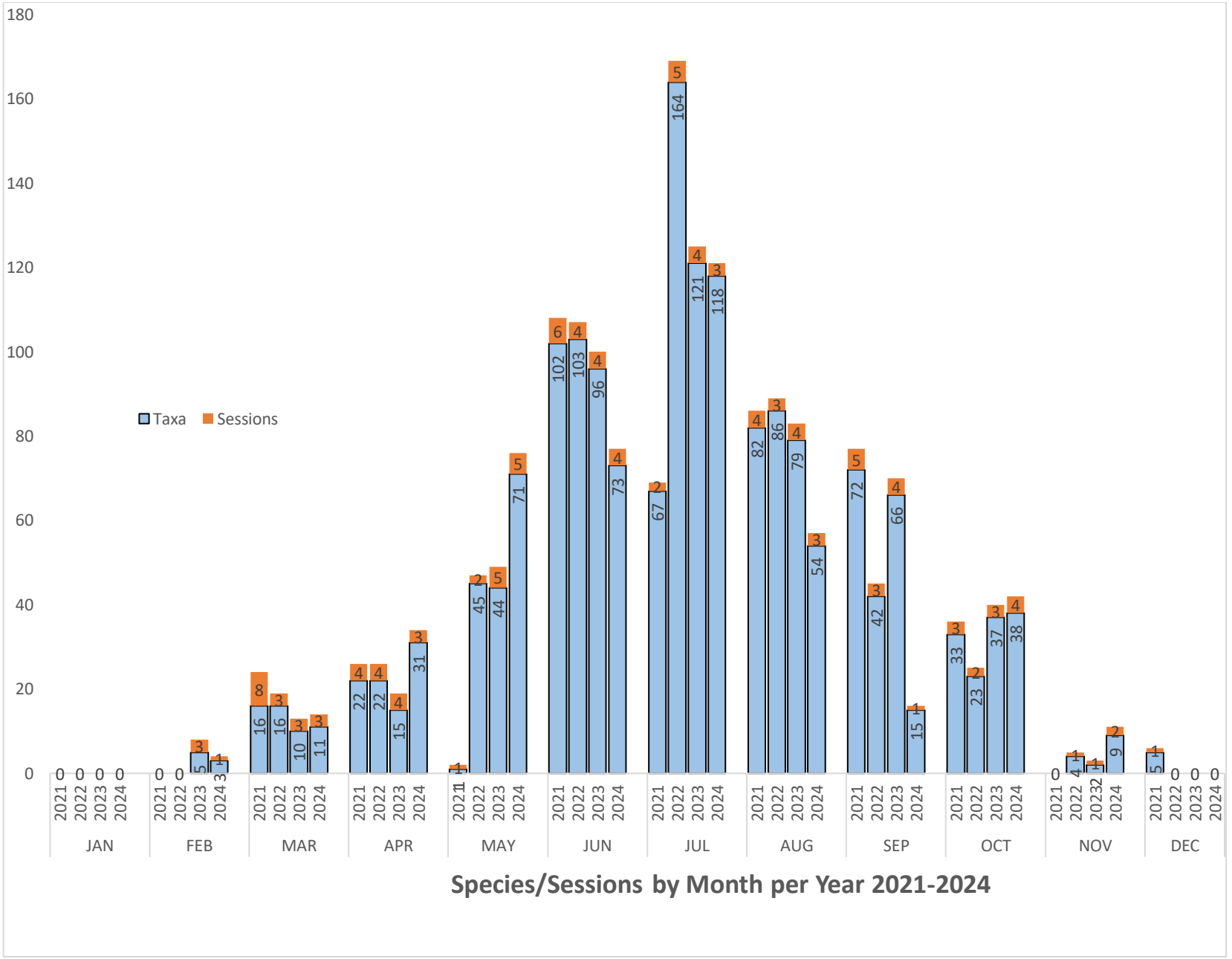


Fig. 7 Number of species trapped by Month per Year 2021-2024

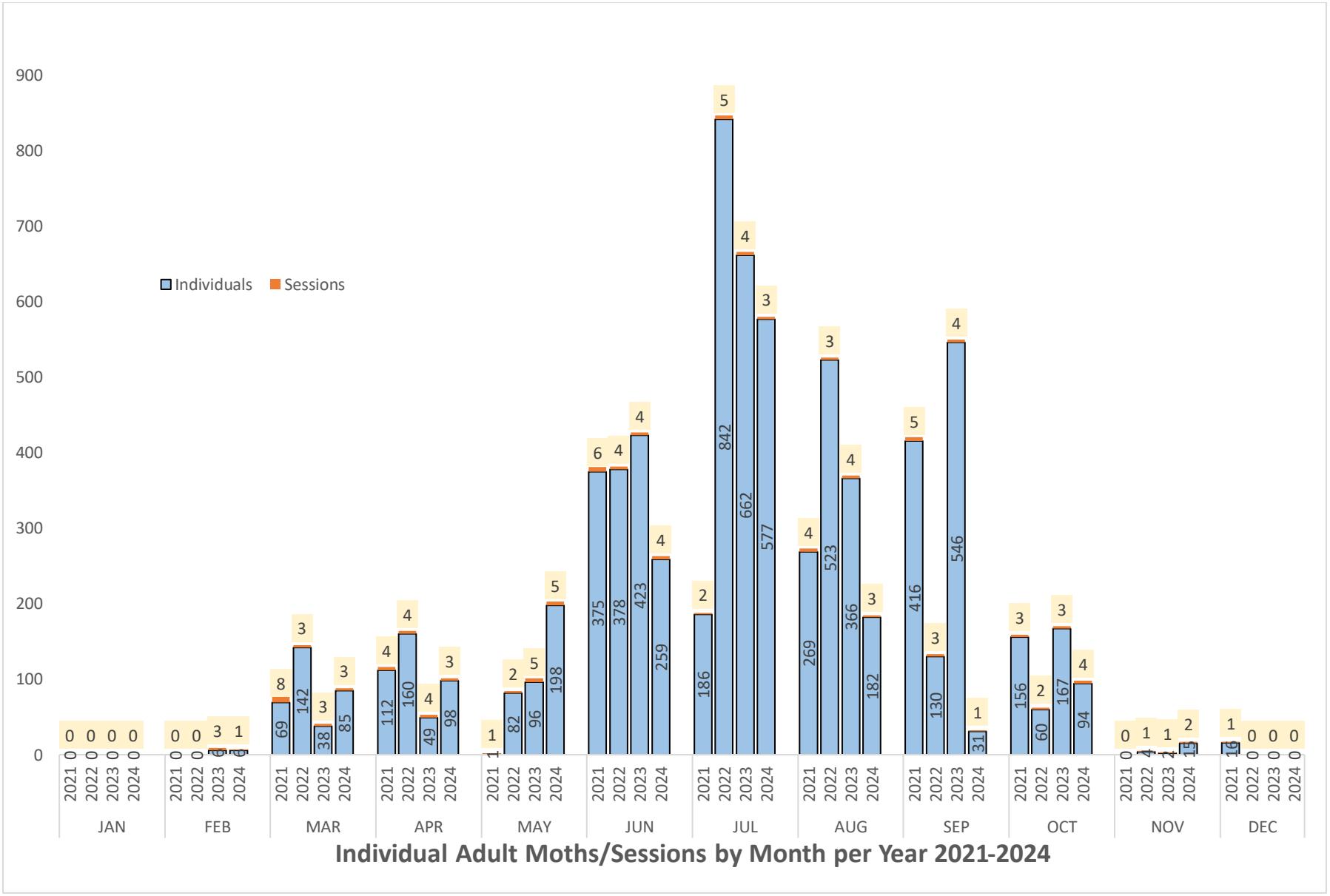


Fig. 7a Number of adult moths trapped by Month per Year 2021-2024

The number of species trapped in 2024 fell to 252 compared with the apparent rise in numbers from 2021-2023. The traps were put out on just 29 occasions due to a cold and wet start to the year; only attracting high numbers at the very end of July. Compare with 2022 where a cold May allowed just one session with one moth recorded. However, the average number of species recorded at each session remains similar, with the average of 11 reflecting the long, hot summer of 2022.

Year	Taxa	Sessions	Average Number of Taxa per Session
2021	242	34	7
2022	297	27	11
2023	300	35	8
2024	252	29	9

Since the late 1970s to the end of 2023 a total of 554 Adult Taxa and 16710 individual moths have been recorded: 368 macro and 184* micro moths.

**Micro moths were not often recorded before 2020.*

ACKNOWLEDGEMENTS

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Photographs in this article unless otherwise stated are by Sally Grant, Tony Grant and Nick Woods.

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1 “Moths” - Butterfly Conservation website (https://butterfly-conservation.org/moths-0).

2 “The Atlas of Britain and Ireland’s Larger Moths”, Randle, Z., Evans-Hill, L. j., Parsons, M. S., Tyner, A., Bourn, N.A.D., Davis A.M., Dennis, E.B., O’Donnell, M., Prescott, T., Tordof, G.M., and Fox, R 2019, Pisces Publications, Newbury.

Appendix 1 Moths recorded at Upton Country Park pre-2020 to 2024

Common Name	Scientific Name		<2020	2020	2021	2022	2023	2024	TOTAL
Acorn Piercer	*Pammene fasciana*	m				2	1	2	**5**
Alder Moth	*Acronicta alni*					2	1		**3**
Amber Mompha	*Mompha ochraceella*	m					1		**1**
Angle Shades	*Phlogophora meticulosa*		22		3	7	9	1	**42**
Antler Moth	*Cerapteryx graminis*		3						**3**
Apple Leaf-miner	*Lyonetia clerkella*	m	1			14	1	1	**17**
Ash-bark Knot-horn	*Euzophera pinguis*	m			1	4	3	2	**10**
August Thorn	*Ennomos quercinaria*		1		1				**2**
Australian Orange-tip (Ruddy Streak)	*Tachystola acroxantha*	m	1		5	4	5	2	**17**
Autumnal Rustic	*Eugnorisma glareosa*		22						**22**
Barred Fruit-tree Tortrix	*Pandemis cerasana*	m	3	1	6	4	3	1	**18**
Barred Hook-tip	*Watsonalla cultraria*		3						**3**
Barred Marble	*Celypha striana*	m	1		4	5	8	6	**24**
Barred Red	*Hylaea fasciaria*		1						**1**
Barred Sallow	*Tiliacea aurago*		1		11	1	4	1	**18**
Barred Straw	*Gandaritis pyraliata (Eulithis pyraliata)*		3						**3**
Beaded Chestnut	*Agrochola lychnidis*				2	2	9	2	**15**
Beautiful Brocade	*Lacanobia contigua*						1	1	**2**
Beautiful Hook-tip	*Laspeyria flexula*		2		7	3			**12**
Beautiful Oak Knot-horn	*Acrobasis repandana*	m					1	1	**2**
Beautiful Plume	*Amblyptilia acanthadactyla*	m			1		1		**2**
Beautiful Yellow Underwing	*Anarta myrtilli*		1					1	**2**
Bee Moth	*Aphomia sociella*	m			1	2		3	**6**
Beech Mast Piercer	*Cydia fagiglandana*						1	1	**2**
Birch-borer Tortrix	*Epinotia tetraquetrana*	m				1			**1**
Birch Mocha	*Cyclophora albipunctata*							1	**1**
Bird-cherry Ermine	*Yponomeuta evonymella*	m				7			**7**
Bird's Wing	*Dypterygia scabriuscula*		8		1	1			**10**

Bittersweet Moth	*Scrobipalpa costella*	m				2			**2**
Black Arches	*Lymantria monacha*		7	4	3	27	8	12	**61**
Black Cloak	*Notocelia cynosbatella*	m						1	**1**
Black Rustic	*Aporophyla nigra*		88		2	5	11	5	**111**
Black-fronted Straw	*Cochylichroa atricapitana (Cochylis atricapitana)*	m	1			1	1		**3**
Black-marked Tortrix (Small Birch Bell)	*Epinotia ramella*	m			3		1		**4**
Black-spotted Snout	*Dichomeris alacella*	m				2			**2**
Blackthorn Knot-horn	*Acrobasis suavella*	m				1			**1**
Blackthorn Tip Moth	*Argyresthia spinosella*	m				1			**1**
Blair's Mocha	*Cyclophora puppillaria*							2	**2**
Blair's Shoulder-knot	*Lithophane leautieri*		3			2	1		**6**
Blood-Vein	*Timandra comae*		32		4	3	10	5	**54**
Blue-bordered Carpet	*Plemyria rubiginata*				1				**1**
Bordered Beauty	*Epione repandaria*		1						**1**
Bordered White	*Bupalus piniaria*		4						**4**
Box-tree Moth	*Cydalima perspectalis*	m		52	159	53	218	20	**502**
Bramble Blotch-miner	*Coptotriche marginea*	m				1	1		**2**
Bramble Shoot Moth	*Notocelia uddmanniana*	m			1	1	2	1	**5**
Brassy Y	*Argyresthia goedartella*	m			2	1	1		**4**
Brick	*Sunira circellaris (Agrochola circellaris)*		4		1				**5**
Bright Straw	*Agapeta zoegana*	m		1					**1**
Bright-Line Brown-Eye	*Lacanobia oleracea*		36		11	25	5	10	**87**
Brimstone Moth	*Opisthograptis luteolata*		58	2	14	7	1	8	**90**
Brindled Beauty	*Lycia hirtaria*				2	8	1	4	**15**
Brindled Buff	*Agonopterix arenella*	m			1				**1**
Brindled Green	*Dryobotodes eremita*		80		4	1	1	1	**87**
Brindled Poplar Tortrix	*Epinotia nisella*	m				1			**1**
Brindled Pug	*Eupithecia abbreviata*		2		1			2	**5**
Brindled White-spot	*Parectropis similaria*				1				**1**
Broad-bordered Bee Hawk-moth	*Hemaris fuciformis*		1						**1**

Broad-bordered Yellow Underwing	*Noctua fimbriata*		28	9	3	9	22	9	**80**
Broken-barred Carpet	*Electrophaes corylata*				1	1	1		**3**
Broken-barred Oak Dot	*Ectoedemia subbimaculella*	m					1		**1**
Broom Moth	*Ceramica pisi*		1						**1**
Brown Bark Moth	*Crassa unitella*	m					2	2	**4**
Brown China-mark	*Elophila nymphaeata*	m	3		2				**5**
Brown House-moth	*Hofmannophila pseudospretella*	m	1		2	2	2	1	**8**
Brown Moss-moth	*Bryotropha terrella*	m			1		1		**2**
Brown Rustic	*Rusina ferruginea*		7			1			**8**
Brown Silver-line	*Petrophora chlorosata*		8		1	2	2	1	**14**
Brown-spot Pinion	*Anchoscelis litura*		1						**1**
Brown-tail	*Euproctis chrysorrhoea*		4	1	1	1	1	2	**10**
Brussels Lace	*Cleorodes lichenaria*		2		8	25	18	12	**65**
Buff Arches	*Habrosyne pyritoides*		13		1	21	1	2	**38**
Buff Ermine	*Spilosoma lutea*		37			11	2	4	**54**
Buff Footman	*Eilema depressa*		9		3	5	1	2	**20**
Buff Mompha	*Mompha epilobiella*	m				2	2	1	**5**
Buff-tip	*Phalera bucephala*		41	1	15	9	4	5	**75**
Bulrush Veneer	*Calamotropha paludella*	m					2	2	**4**
Burdock Seedhead Moth	*Metzneria lappella*	m				1			**1**
Burdock Straw (Burdock Conch)	*Aethes rubigana*	m						1	**1**
Burnet Companion	*Euclidia glyphica*					48	10	6	**64**
Burnished Brass	*Diachrysia chrysitis*		11		1				**12**
Cabbage Moth	*Mamestra brassicae*		12		2	1		1	**16**
Canary-shouldered Thorn	*Ennomos alniaria*		4		3	2	2		**11**
Carnation Tortrix	*Cacoecimorpha pronubana*	m				1	3		**4**
Centre-barred Sallow	*Atethmia centrago*		2		3		6	1	**12**
Chequered Fruit-tree Tortrix	*Pandemis corylana*	m			4	4	4		**12**
Chequered Grass-moth	*Catoptria falsella*	m				1	1		**2**
Chequered Grey	*Scoparia basistrigalis*	m				1			**1**
Chequered Pine Knot-horn	*Dioryctria sylvestrella*	m						2	**2**

Chestnut	*Conistra vaccinii*		33		3	3	4	5	**48**
Chevron Grass-moth	*Agriphila geniculea*	m			2	2	1		**5**
Chinese Character	*Cilix glaucata*		2		1				**3**
Chocolate-tip	*Clostera curtula*		4			1	1		**6**
Cinnabar	*Tyria jacobaeae*		9			10			**19**
Clay	*Mythimna ferrago*		48			11	5	1	**65**
Clay Triple-lines	*Cyclophora linearia*		3	1		2	3	1	**10**
Clifden Nonpareil	*Catocala fraxini*					1		1	**2**
Cloaked Minor	*Mesoligia furuncula*		2			7	2	2	**13**
Clouded Border	*Lomaspilis marginata*		19	1	7	2	7	5	**41**
Clouded Drab	*Orthosia incerta*		4		3	16	4	9	**36**
Clouded Silver	*Lomographa temerata*		2		1	1	5	1	**10**
Clouded Slender	*Caloptilia populetorum*	m	1						**1**
Cnephasia agg. (Tortrix agg.)	*Cnephasia agg.*	m		1		3	3	3	**10**
Coastal Buff (Coastal Flat-body)	*Agonopterix yeatiana*	m						2	**2**
Cocksfoot Moth	*Glyphipterix simpliciella*	m						1	**1**
Codling Moth	*Cydia pomonella*						1		**1**
Coleophora sp. (Case-bearer)	*Coleophora sp.*	m		1		27	1	5	**34**
Common Brindled Brown/ Banded Brindled Brown	*Agonopterix heracliana/ ciliella*	m			1				**1**
Common Carpet	*Epirrhoe alternata*		23		2	1	4	3	**33**
Common Emerald	*Hemithea aestivaria*		16		1	2	1	1	**21**
Common Footman	*Eilema lurideola*		173	7	35	34	74	31	**354**
Common Gorse Moth	*Cydia ulicetana*	m				2		1	**3**
Common Grass-moth	*Agriphila tristella*	m	1	2		16	4	2	**25**
Common Lance	*Bactra lancealana*	m				1			**1**
Common Lance/ Sedge Lance	*Bactra lancealana/ lacteana ag.*	m			1				**1**
Common Lutestring	*Ochropacha duplaris*					1	2	1	**4**
Common Marble	*Celypha lacunana*	m		2	4	8	6	9	**29**
Common Marbled Carpet	*Dysstroma truncata*		7		8	5	7	6	**33**
Common Marbled Straw	*Aethes smeathmanniana*	m				1			**1**
Common Masoner	*Blastobasis adustella*	m			12	49	37	4	**102**

Common Plume	*Emmelina monodactyla*	m				1		4	**5**
Common Pug	*Eupithecia vulgata*		4			4	4	1	**13**
Common Purple & Gold	*Pyrausta purpuralis*	m			1		1		**2**
Common Quaker	*Orthosia cerasi*		50		58	151	31	73	**363**
Common Rustic agg.	*Mesapamea secalis agg.*		128	2	8	36	71	29	**274**
Common Spring Jewel	*Dyseriocrania subpurpurella*	m				1		1	**2**
Common Swift	*Korscheltellus lupulina*		152		3	1	16	18	**190**
Common Thistle Miner	*Scrobipalpa acuminatella*	m		1					**1**
Common Wainscot	*Mythimna pallens*		200		13	7	27	1	**248**
Common Wave	*Cabera exanthemata*		16			2	4	5	**27**
Common White Wave	*Cabera pusaria*		3			4	1		**8**
Common Zebra Moth (Orange Crest)	*Helcystogramma rufescens*	m						1	**1**
Convolvulus Hawk-moth	*Agrius convolvuli*						1		**1**
Copper Underwing	*Amphipyra pyramidea*		24				1		**25**
Copper Underwing agg.	*Amphipyra pyramidea agg.*			1	7	4	2	4	**18**
Copper-fringed Drab (Little Ermine)	*Swammerdamia pyrella*	m						1	**1**
Coronet	*Craniophora ligustri*		1		1	20			**22**
Coxcomb Prominent	*Ptilodon capucina*					1			**1**
Cream Wave	*Scopula floslactata*		1						**1**
Cream-bordered Green Pea	*Earias clorana*							1	**1**
Cream-spot Tiger	*Arctia villica*		1						**1**
Crescent	*Helotropha leucostigma*				1				**1**
Crescent Striped	*Apamea oblonga*		15						**15**
Crescent Tortrix	*Epinotia bilunana*	m			1				**1**
Cyclamen Tortrix	*Clepsis spectrana*	m				1		2	**3**
Cypress Carpet	*Thera cupressata*		2				1	2	**5**
Cypress Pug	*Eupithecia phoeniceata*						1		**1**
Dark Arches	*Apamea monoglypha*		96	2	26	76	69	20	**289**
Dark Brocade	*Mniotype adusta*		22						**22**
Dark Dagger	*Acronicta tridens*		21						**21**
Dark Fruit-tree Tortrix	*Pandemis heparana*	m		1	1	1		1	**4**

Dark Spectacle	*Abrostola triplasia*		1		1			3	**5**
Dark Sword-grass	*Agrotis ipsilon*		16		2	5	6	7	**36**
Dark-barred Tortrix	*Syndemis musculana*	m					1	1	**2**
Dark-bordered Pearl	*Evergestis limbata*	m				1	1		**2**
Dark-dotted Longhorn	*Nematopogon metaxella*						3		**3**
Dark-marked Tortrix/ Strawberry Tortrix	*Acleris laterana/comariana*	m		1	7	2		1	**11**
December Moth	*Poecilocampa populi*		35		11				**46**
Deep-brown Dart	*Aporophyla lutulenta*		2				1		**3**
Delicate	*Mythimna vitellina*					1			**1**
Diamond-back Moth	*Plutella xylostella*	m	6	1	2	4	3	1	**17**
Dingy Footman	*Eilema griseola*		35		20	19	2	12	**88**
Dingy Shears	*Apterogenum ypsillon*		3						**3**
Dog's Tooth	*Lacanobia suasa*		3						**3**
Dot Moth	*Melanchra persicariae*		10			2			**12**
Dotted Border	*Agriopis marginaria*							1	**1**
Dotted Oak Knot-horn	*Phycita roborella*	m	1		1	9			**11**
Double Dart	*Graphiphora augur*		3						**3**
Double Lobed	*Lateroligia ophiogramma*					1			**1**
Double Square-spot	*Xestia triangulum*		18		10	16	18		**62**
Double-striped Knot-horn	*Cryptoblabes bistriga*	m				2			**2**
Double-striped Pug	*Gymnoscelis rufifasciata*		40	1	23	51	13	21	**149**
Double-striped Tabby	*Hypsopygia glaucinalis*	m	1		1	1	3		**6**
Drab Pine Knot-horn	*Dioryctria simplicella*	m	1						**1**
Drinker	*Euthrix potatoria*		7						**7**
Dun-bar	*Cosmia trapezina*		115		2	6	25	5	**153**
Dusky Brocade	*Apamea remissa*		5			1			**6**
Dusky Pearl	*Udea prunalis*	m				1			**1**
Dusky Thorn	*Ennomos fuscantaria*		5		2	7	9		**23**
Dwarf Cream Wave	*Idaea fuscovenosa*		5		2		6	4	**17**
Dwarf Pug	*Eupithecia tantillaria*		1					2	**3**
Ear moth agg.	*Amphipoea oculea agg.*		6		1	1			**8**
Early Grey	*Xylocampa areola*		1		6	2	2	5	**16**
Early Reveller	*Diurnea fagella*	m			1	2			**3**

Early Thorn	*Selenia dentaria*		11		2			1	**14**
Early Tooth-striped	*Trichopteryx carpinata*					1			**1**
Elder Pearl	*Anania coronata*						2	3	**5**
Elephant Hawk-moth	*Deilephila elpenor*		15		1	7		4	**27**
Engrailed	*Ectropis crepuscularia*		9						**9**
Ephestia sp.	*Ephestia sp.*	m				1	1		**2**
Ermine sp.	*Yponomeuta sp.*	m			7	4	5	42	**58**
European Corn-borer	*Ostrinia nubilalis*	m				3	1		**4**
Eyed Hawk-moth	*Smerinthus ocellata*							1	**1**
Eyed Rush Moth	*Glyphipterix thrasonella*	m			1	1	1		**3**
Fan-foot	*Herminia tarsipennalis*		3		4	8	1	5	**21**
Feathered Cutter	*Incurvaria masculella*						2		**2**
Feathered Gothic	*Tholera decimalis*		1						**1**
Feathered Thorn	*Colotois pennaria*		46		1		2	6	**55**
Fen Wainscot	*Arenostola phragmitidis*		1			1	2		**4**
Festoon	*Apoda limacodes*		3		1		1		**5**
Figure of Eighty	*Tethea ocularis*		5		3	2	2		**12**
Five-spot Burnet	*Zygaena trifolii*		5						**5**
Flame	*Axylia putris*		19		4	12	4	3	**42**
Flame Carpet	*Xanthorhoe designata*		1	1	14		3	6	**25**
Flame Shoulder	*Ochropleura plecta*		105		20	71	17	31	**244**
Flounced Rustic	*Luperina testacea*		107	3	8	13	3	1	**135**
Four-dotted Footman	*Cybosia mesomella*		42						**42**
Four-spotted Footman	*Lithosia quadra*					12		2	**14**
Fox Moth	*Macrothylacia rubi*		8						**8**
Foxglove Pug	*Eupithecia pulchellata*		1		2			2	**5**
Freyer's Pug	*Eupithecia intricata*					1		1	**2**
Frosted Green	*Polyploca ridens*		8		6	13	4		**31**
Frosted Orange	*Gortyna flavago*		13				1		**14**
Garden Carpet	*Xanthorhoe fluctuata*		7	2		2	1		**12**
Garden Grass-moth	*Chrysoteuchia culmella*	m	1	5	49	31	68	34	**188**
Garden Grey	*Eudonia mercurella*	m			3	3	3		**9**
Garden Pearl	*Udea olivalis*	m			1				**1**
Garden Pebble	*Evergestis forficalis*	m				1	1		**2**

Garden Rose Tortrix	*Acleris variegana*	m			1		1		**2**
Garden Straw	*Agapeta hamana*	m		1	1		1	1	**4**
Garden Tiger	*Arctia caja*		8						**8**
Goat Moth	*Cossus cossus*		1						**1**
Gold Spot	*Plusia festucae*		1						**1**
Gold W	*Argyresthia brockeella*	m	1		1				**2**
Gorse Wanderer	*Brachmia blandella*	m				1	3	2	**6**
Gothic	*Naenia typica*		14						**14**
Grass Emerald	*Pseudoterpna pruinata*		3						**3**
Great Prominent	*Peridea anceps*					1	5	6	**12**
Green Carpet	*Colostygia pectinataria*		21	3	13	2		1	**40**
Green Longhorn	*Adela reaumurella*	m						2	**2**
Green Oak Tortrix	*Tortrix viridana*	m	3		2		15	4	**24**
Green Pug	*Pasiphila rectangulata*		7		3	3			**13**
Green Silver-lines	*Pseudoips prasinana*		7		3				**10**
Green-brindled Crescent	*Allophyes oxyacanthae*				1		1	1	**3**
Grey Arches	*Polia nebulosa*		5			3			**8**
Grey Pine Carpet	*Thera obeliscata*		33	1	12	7	9	8	**70**
Grey Pug	*Eupithecia subfuscata*		2			1		1	**4**
Hawthorn Knot-horn	*Acrobasis advenella*	m			1		2	2	**5**
Hawthorn Moth	*Scythropia crataegella*	m				1	2		**3**
Hazel Slender	*Parornix devoniella*	m	1						**1**
Heart & Club	*Agrotis clavis*		14		1		3	1	**19**
Heart & Dart	*Agrotis exclamationis*		720		42	53	91	48	**954**
Heath Elder	*Aristotelia ericinella*	m		1					**1**
Heath Rustic	*Xestia agathina*		3	1					**4**
Heather Knot-horn	*Pempelia palumbella*						1		**1**
Hebrew Character	*Orthosia gothica*		25		38	37	20	33	**153**
Hedge Beauty	*Alabonia geoffrella*						1		**1**
Hedge Rustic	*Tholera cespitis*						1		**1**
Herald	*Scoliopteryx libatrix*		3		3	2		2	**10**
Hoary Tortrix	*Eucosma cana*	m			2	4		4	**10**
Holly Tortrix	*Rhopobota naevana*	m			1	4	1	1	**7**
Hollyhock Seed Moth	*Pexicopia malvella*	m				2			**2**

Hook-streak Grass-veneer	*Crambus lathoniellus*	m	1						**1**
Horse Chestnut	*Pachycnemia hippocastanaria*		1						**1**
Horse-chestnut Leaf-miner	*Cameraria ohridella*						4		**4**
House Moss-moth	*Bryotropha domestica*	m				1	1		**2**
Humming-bird Hawk-moth	*Macroglossum stellatarum*					1	1	1	**3**
Ilex Leaf-miner	*Phyllonorycter messaniella*						1		**1**
Ingrailed Clay	*Diarsia mendica*		20		1	6	3		**30**
Iron Prominent	*Notodonta dromedarius*		4			2		3	**9**
Italian Bark Moth	*Metalampra italica*						1		**1**
Jersey Tiger	*Euplagia quadripunctaria*				111	22	21	12	**166**
July Belle	*Scotopteryx luridata*						1		**1**
July Highflyer	*Hydriomena furcata*		14						**14**
Kent Black Arches	*Meganola albula*		1			2			**3**
Knot Grass	*Acronicta rumicis*		38		1	2		7	**48**
Lackey	*Malacosoma neustria*		7				1		**8**
L-album Wainscot	*Mythimna l-album*		4	1	4	8	8	8	**33**
Large Fruit-tree Tortrix	*Archips podana*	m	1		2				**3**
Large Ivy Tortrix	*Lozotaenia forsterana*	m			1				**1**
Large Longhorn	*Nematopogon swammerdamella*						2		**2**
Large Pale Masoner	*Blastobasis lacticolella*	m			4	3	10	1	**18**
Large Wainscot	*Rhizedra lutosa*		19	2		4	2	1	**28**
Large Yellow Underwing	*Noctua pronuba*		668	34	77	73	185	69	**1106**
Lead-coloured Tortrix	*Acleris sparsana*	m			2			1	**3**
Least Black Arches	*Nola confusalis*		1			2			**3**
Least Brown (Small Purple Flat-body)	*Agonopterix purpurea*	m						2	**2**
Least Yellow Underwing	*Noctua interjecta*		4	1	1		9		**15**
Leek Moth	*Acrolepiopsis assectella*	m				1			**1**
Leopard Moth	*Zeuzera pyrina*		1						**1**
Lesser Broad-bordered Yellow Underwing	*Noctua janthe*		89	8	42	80	49	16	**284**
Lesser Common Rustic	*Mesapamea didyma*		8						**8**

Lesser Swallow Prominent	*Pheosia gnoma*		10		1	1	4	1	**17**
Lesser Tawny Crescent	*Batia lunaris*						4		**4**
Lesser Wax Moth	*Achroia grisella*						1		**1**
Lesser Yellow Underwing	*Noctua comes*		30	6	6	4	16	7	**69**
Light Arches	*Apamea lithoxylaea*		2						**2**
Light Brocade	*Lacanobia w-latinum*		4		2	1	11	8	**26**
Light Brown Apple Moth	*Epiphyas postvittana*	m	1	4	6	7	11	7	**36**
Light Emerald	*Campaea margaritaria*		54	8	42	15	30	19	**168**
Lime Hawk-moth	*Mimas tiliae*		1						**1**
Lime-speck Pug	*Eupithecia centaureata*		13		2	3	1	4	**23**
Little Grey	*Eudonia lacustrata (Dipleurina lacustrata)*	m	1						**1**
Lobster Moth	*Stauropus fagi*		1				1		**2**
Long-legged Tabby	*Synaphe punctalis*	m			3	3	7	3	**16**
Lunar Marbled Brown	*Drymonia ruficornis*		3		3	3	5	5	**19**
Lunar Underwing	*Anchoscelis lunosa (Omphaloscelis lunosa)*		630	17	10	12	45	6	**720**
Lychnis	*Hadena bicruris*		1		2	2	1	1	**7**
Magpie	*Abraxas grossulariata*		3						**3**
Maiden's Blush	*Cyclophora punctaria*		16		10	21	8	5	**60**
Mallow Seed Moth	*Platyedra subcinerea*	m			1	1		1	**3**
Many-plumed Moth (Twenty-plume Moth)	*Alucita hexadactyla*	m			1		1	1	**3**
Maple Pug	*Eupithecia inturbata*					2			**2**
Marbled Brown	*Drymonia dodonaea*		6			2	2	2	**12**
Marbled Fern (Golden-Brown Fern Moth)	*Musotima nitidalis*							2	**2**
Marbled Minor agg.	*Oligia strigilis agg.*	m	19	1	5	33	40	15	**113**
Marbled Orchard Tortrix	*Hedya nubiferana*	m	2		1			1	**4**
Marbled Piercer	*Cydia splendana*	m	1		8	10	18	29	**66**
Marbled White Spot	*Protodeltote pygarga (Deltote pygarga)*		12		1	12	2	3	**30**
March Moth	*Alsophila aescularia*				2	8	1	1	**12**
Mathew's Wainscot	*Mythimna favicolor*		2						**2**

May Highflyer	*Hydriomena impluviata*					1	1	1	**3**
Merveille du Jour	*Griposia aprilina*		7		2	1	2	3	**15**
Middle-barred Minor	*Oligia fasciuncula*		10		1		4		**15**
Miller	*Acronicta leporina*		1		2	2			**5**
Mint Moth	*Pyrausta aurata*	m				1	1		**2**
Mother of Pearl	*Patania ruralis (Pleuroptya ruralis)*		18		17	8	6	15	**64**
Mother Shipton	*Callistege mi (Euclidia mi)*		6			4	5		**15**
Mottled Beauty	*Alcis repandata*		19		1	2	5	5	**32**
Mottled Oak Tortrix	*Zeiraphera isertana*	m			1			1	**2**
Mottled Rustic	*Caradrina morpheus*		78	4	14	11	11	21	**139**
Mottled Umber	*Erannis defoliaria*				1				**1**
Mouse Moth	*Amphipyra tragopoginis*							1	**1**
Mugwort Pearl	*Loxostege sticticalis*	m			1				**1**
Mullein	*Cucullia verbasci*		3						**3**
Mullein Wave	*Scopula marginepunctata*		11						**11**
Muslin Moth	*Diaphora mendica*		8		2	2	2	16	**30**
Narrow-winged Grey	*Eudonia angustea*	m		1	7		2		**10**
Narrow-winged Pug	*Eupithecia nanata*		2		2	5			**9**
Neglected Rustic	*Xestia castanea*		6						**6**
Netted Argent	*Argyresthia retinella*	m	1						**1**
Nettle-tap (Common Nettle-tap)	*Anthophila fabriciana*	m				1	1	1	**3**
November moth agg.	*Epirrita dilutata agg.*		12			2		21	**35**
Nutmeg	*Anarta trifolii*		6						**6**
Nut-tree Tussock	*Colocasia coryli*		1		1	10	1	8	**21**
Oak Beauty	*Biston strataria*				3	4	2	6	**15**
Oak Blotch-miner	*Tischeria ekebladella*	m					2		**2**
Oak Cloud	*Acrocercops brongniardella*	m					2		**2**
Oak Eggar	*Lasiocampa quercus*							1	**1**
Oak Hook-tip	*Watsonalla binaria*		51	2	7	7	8	7	**82**
Oak Longhorn	*Carcina quercana*	m	1	1		6	3	5	**16**
Oak Nycteoline	*Nycteola revayana*		7		1	3	2	1	**14**

Oak Stilt/ Shaded Oak Stilt	*Caloptilia alchimiella/ robustella*	m				2			**2**
Oak-tree Pug	*Eupithecia dodoneata*							5	**5**
Oblique Carpet	*Orthonama vittata*				1				**1**
Obscure Snout	*Anarsia spartiella*						1		**1**
Obscure Wainscot	*Leucania obsoleta*		3			1	2	1	**7**
Ochreous Pug	*Eupithecia indigata*						1		**1**
Oegoconia sp.	*Oegoconia sp.*							1	**1**
Olive	*Ipimorpha subtusa*		2			1			**3**
Olive-tree Pearl	*Palpita vitrealis*	m				1			**1**
Orange Footman	*Eilema sororcula*				12	23	3	12	**50**
Orange Sallow	*Tiliacea citrago*		1			1			**2**
Orange-tipped Nest Moth	*Tinea semifulvella*	m					1		**1**
Pale Brindled Beauty	*Phigalia pilosaria*						2		**2**
Pale Mottled Willow	*Caradrina clavipalpis*		11		1		2		**14**
Pale Pinion	*Lithophane socia*				1	1	2	3	**7**
Pale Prominent	*Pterostoma palpina*		7	1	3	1	3	1	**16**
Pale Tussock	*Calliteara pudibunda*		8		1	13	3	1	**26**
Pale-streaked Grass-moth	*Agriphila selasella*	m				1	1		**2**
Pea Moth	*Cydia nigricana*	m				1			**1**
Peach Blossom	*Thyatira batis*		1			3		1	**5**
Peacock Moth	*Macaria notata*		11						**11**
Pearl Grass-moth	*Catoptria pinella*	m				1	1	1	**3**
Pebble Hook-tip	*Drepana falcataria*		7		2	4		3	**16**
Pebble Prominent	*Notodonta ziczac*		5			1		7	**13**
Peppered Moth	*Biston betularia*		20		6	17	6	7	**56**
Phyllonorycter sp. (Leaf-Miner)	*Phyllonorycter sp.*	m					2		**2**
Pied Grey	*Eudonia delunella*	m	1		3	6	5	13	**28**
Pied Rabbit Moth	*Ypsolopha sequella*	m			1				**1**
Pied Tortrix	*Eucosma campoliliana*	m				1			**1**
Pine Beauty	*Panolis flammea*		1			1		1	**3**
Pine Carpet	*Pennithera firmata*		4				7	7	**18**

Pine Hawk-moth	*Sphinx pinastri (Hyloicus pinastri)*		2		1	1	1		**5**
Pine Knot-horn	*Dioryctria abietella*	m			1				**1**
Pine Leaf-mining Moth	*Clavigesta purdeyi*	m		1					**1**
Pinion-streaked Snout	*Schrankia costaestrigalis*		2				1	1	**4**
Pink-barred Sallow	*Xanthia togata*		12		2		1	1	**16**
Plain Wave	*Idaea straminata*		1			1			**2**
Poplar Grey	*Subacronicta megacephala*		4		3	5		3	**15**
Poplar Hawk-moth	*Laothoe populi*		27		9	4	3	2	**45**
Poplar Kitten	*Furcula bifida*							1	**1**
Poplar Needle-moth	*Batrachedra praeangusta*	m				1			**1**
Portland Ribbon Wave	*Idaea degeneraria*						1	2	**3**
Powdered Quaker	*Orthosia gracilis*				2	5			**7**
Privet Hawk-moth	*Sphinx ligustri*					6			**6**
Purple Clay	*Diarsia brunnea*		8			2			**10**
Purple Thorn	*Selenia tetralunaria*		6				1		**7**
Purple-shot Case-bearer	*Coleophora deauratella*	m					3		**3**
Puss Moth	*Cerura vinula*						1		**1**
Red Chestnut	*Cerastis rubricosa*				8				**8**
Red Twin-spot Carpet	*Xanthorhoe spadicearia*		12		2	1	4		**19**
Red Underwing	*Catocala nupta*		2						**2**
Red-barred Tortrix	*Ditula angustiorana*	m			1	4	18	5	**28**
Reddish Light Arches	*Apamea sublustris*		1						**1**
Red-green Carpet	*Chloroclysta siterata*				6	3	5	6	**20**
Red-line Quaker	*Leptologia lota (Agrochola lota)*		9			1		2	**12**
Reed Veneer	*Chilo phragmitella*	m						1	**1**
Riband Wave	*Idaea aversata*		92	1	17	15	26	38	**189**
Ringed China-mark	*Parapoynx stratiotata*	m			2		1	4	**7**
Rolled Grass-moth	*Pediasia contaminella*	m			1				**1**
Rose Shoot Moth	*Notocelia rosaecolana*	m				1			**1**
Rose Tortrix	*Archips rosana*	m				1			**1**
Rosy Footman	*Miltochrista miniata*		19	3	25	16	5	20	**88**

Rosy Knot-horn (Rosy-striped Knot-horn/ Rhubarb & Custard)	*Oncocera semirubella*	m		1		4	4	5	**14**
Rosy Marbled	*Elaphria venustula*					1			**1**
Rosy Rustic	*Hydraecia micacea*		91			2	3	1	**97**
Rosy Tabby	*Endotricha flammealis*	m		1		1	1	1	**4**
Rosy Wave	*Scopula emutaria*		1						**1**
Round-winged Muslin	*Thumatha senex*		1						**1**
Ruby Tiger	*Phragmatobia fuliginosa*		4			6		3	**13**
Rufous Minor	*Oligia versicolor*		16						**16**
Rufous Pearl	*Udea fulvalis*	m				2		1	**3**
Rufous Tortrix	*Clepsis consimilana*	m			1	2	4		**7**
Rugged Bryony Beauty (Rough-winged Conch)	*Phtheochroa rugosana*	m	1		3		1	1	**6**
Rush Veneer	*Nomophila noctuella*	m	2		1	72	2	1	**78**
Rustic Shoulder-knot	*Apamea sordens*		5			1	1		**7**
Rusty Acorn Piercer	*Cydia amplana*	m			2	1	3	3	**9**
Rusty-dot Pearl	*Udea ferrugalis*	m			5	3	5	3	**16**
Sallow	*Cirrhia icteritia*		27		10	10	1	1	**49**
Sallow Kitten	*Furcula furcula*		1						**1**
Saltern Ear	*Amphipoea fucosa*		4						**4**
Saltmarsh Knot-horn	*Ancylosis oblitella*	m				1			**1**
Saltmarsh Plume	*Agdistis bennetii*	m				3			**3**
Sandy Carpet	*Perizoma flavofasciata*						4	9	**13**
Satellite	*Eupsilia transversa*		4		1		1		**6**
Satin Beauty	*Deileptenia ribeata*		3						**3**
Satin Grass-moth	*Crambus perlella*	m			1				**1**
Satin Wave	*Idaea subsericeata*		13						**13**
Scalloped Hazel	*Odontopera bidentata*		1		1				**2**
Scalloped Hook-tip	*Falcaria lacertinaria*		3						**3**
Scalloped Oak	*Crocallis elinguaria*		20						**20**
Scarce Bordered Straw	*Helicoverpa armigera*				1				**1**
Scarce Footman	*Eilema complana*		103			9	20	6	**138**
Scarce Silver-lines	*Bena bicolorana*		2			1	1	1	**5**

Scarce Umber	*Agriopis aurantiaria*		3		1				**4**
Scorched Wing	*Plagodis dolabraria*		8		2	9	1	1	**21**
Sea-lavender Case-bearer	*Coleophora limoniella*	m				1			**1**
September Thorn	*Ennomos erosaria*		6		1				**7**
Seraphim	*Lobophora halterata*		1			2	3	3	**9**
Setaceous Hebrew Character	*Xestia c-nigrum*		119	4	15	50	39	15	**242**
Shaded Broad-bar	*Scotopteryx chenopodiata*		1						**1**
Shaded Oak Stilt	*Caloptilia robustella*	m	1						**1**
Shaded Tortrix	*Eucosma obumbratana*	m				1		1	**2**
Sharp-angled Carpet	*Euphyia unangulata*		1						**1**
Sharp-angled Peacock	*Macaria alternata*		4			2	2		**8**
Short-cloaked Moth	*Nola cucullatella*		4						**4**
Shoulder-striped Wainscot	*Leucania comma*		19				3		**22**
Shuttle-shaped Dart	*Agrotis puta*		178	2	9	38	27	5	**259**
Silky Wainscot	*Chilodes maritima*		1				1		**2**
Silver Y	*Autographa gamma*		37		17	8	54	30	**146**
Silver-ground Carpet	*Xanthorhoe montanata*		1						**1**
Single-dotted Wave	*Idaea dimidiata*		26			1	5	4	**36**
Six-spot Burnet	*Zygaena filipendulae*		11	1		415	28	29	**484**
Six-striped Rustic	*Xestia sexstrigata*		35		1	2		4	**42**
Slender Brindle	*Apamea scolopacina*				1				**1**
Small Angle Shades	*Euplexia lucipara*		2			3			**5**
Small Blood-vein	*Scopula imitaria*		4						**4**
Small Brindled Tortrix	*Gypsonoma minutana*	m				1			**1**
Small China-mark	*Cataclysta lemnata*	m			1	1			**2**
Small Clouded Brindle	*Apamea unanimis*					1			**1**
Small Dotted Buff	*Photedes minima*		27						**27**
Small Dusty Wave	*Idaea seriata*						2		**2**
Small Elephant Hawk-moth	*Deilephila porcellus*					1			**1**
Small Emerald	*Hemistola chrysoprasaria*		3						**3**
Small Fan-foot	*Herminia grisealis*		4			1	1	1	**7**
Small Fan-footed Wave	*Idaea biselata*		49		2	5	7	8	**71**
Small Magpie	*Anania hortulata*	m	1		3	2	1	1	**8**
Small Mottled Willow	*Spodoptera exigua*						1		**1**

Small Phoenix	*Ecliptopera silaceata*		1		4	7	1	3	**16**
Small Quaker	*Orthosia cruda*		2		20	33	9	13	**77**
Small Rufous	*Coenobia rufa*						1		**1**
Small Seraphim	*Pterapherapteryx sexalata*		2		1	1			**4**
Small Square-spot	*Diarsia rubi*		52		5	22	3	5	**87**
Small Wainscot	*Denticucullus pygmina*		9						**9**
Small Yellow Wave	*Hydrelia flammeolaria*		3				1		**4**
Smoky Wainscot	*Mythimna impura*		169	1		5	1	2	**178**
Snout	*Hypena proboscidalis*		12	1	13	5	9	9	**49**
Sombre Brocade	*Dichonioxa tenebrosa*					2	1		**3**
Southern Wainscot	*Mythimna straminea*						3	2	**5**
Spectacle	*Abrostola tripartita*		6	1	8	9	2	6	**32**
Spindle Knot-horn	*Nephopterix angustella*	m						1	**1**
Spotted Knot-horn	*Phycitodes binaevella*	m					2	1	**3**
Spruce Carpet	*Thera britannica*		4		5	1	2	1	**13**
Square-spot Rustic	*Xestia xanthographa*		424	1	14	11	30	9	**489**
Straw Dot	*Rivula sericealis*		40		13	12	7	21	**93**
Straw Grass-moth	*Agriphila straminella*	m	1	1	2	5	4	3	**16**
Straw Underwing	*Thalpophila matura*		4			1	1		**6**
Straw-barred Pearl	*Pyrausta despicata*	m					1		**1**
Streamer	*Anticlea derivata*							2	**2**
Striped Sorrel Moth	*Aroga velocella*	m					2		**2**
Striped Wainscot	*Mythimna pudorina*		3				1		**4**
Sulphur Bark Moth (Sulphur Tubic)	*Esperia sulphurella*	m					2		**2**
Svensson's Copper Underwing	*Amphipyra berbera*		5						**5**
Swallow Prominent	*Pheosia tremula*		8		6	1	4	6	**25**
Swallow-tailed Moth	*Ourapteryx sambucaria*		13						**13**
Sycamore	*Acronicta aceris*		4						**4**
Tawny Grey	*Eudonia lacustrata*	m			2	8	9	5	**24**
Tawny Marbled Minor	*Oligia latruncula*		19						**19**
Tawny Oak Tortrix/ Tawny Birch Tortrix	*Acleris ferrugana/notana*	m				1	2		**3**
Tawny Pinion	*Lithophane semibrunnea*					1		1	**2**

Tawny Speckled Pug	*Eupithecia icterata*		4		1				**5**
Tawny-barred Angle	*Macaria liturata*		5			7	3	1	**16**
Tawny-fronted Straw	*Neocochylis molliculana (Cochylis molliculana)*	m			1	3	2		**6**
Thistle Conch	*Aethes cnicana*	m	1						**1**
Thistle Ermine	*Myelois circumvoluta*	m				1			**1**
Treble Brown Spot	*Idaea trigeminata*		3		1		2		**6**
Treble Lines	*Charanyca trigrammica*		62		45	28	39	21	**195**
Treble-bar	*Aplocera plagiata*					2			**2**
Tree-lichen Beauty	*Cryphia algae*				1			1	**2**
Triangle-marked Roller	*Ancylis achatana*	m	2						**2**
Triple-spotted Clay	*Xestia ditrapezium*		1						**1**
Triple-spotted Nest Moth	*Tinea trinotella*	m			2				**2**
True Lover's Knot	*Lycophotia porphyrea*		9		1	4	3	19	**36**
Tufted Oak Knot-horn	*Acrobasis tumidana*						1		**1**
Turnip Moth	*Agrotis segetum*		45	2	1	4	1		**53**
Twin-barred Knot-horn	*Homoeosoma sinuella*	m			1		2	1	**4**
Twin-spotted Quaker	*Anorthoa munda (Orthosia munda)*				8	8	4	4	**24**
Uncertain	*Hoplodrina octogenaria*						13		**13**
Uncertain/Rustic agg.	*Hoplodrina octogenaria/blanda*		308	3	17	23	52	18	**421**
Vapourer	*Orgyia antiqua*		1						**1**
Varied Ochre	*Ypsolopha ustella*	m				1			**1**
Varied Tortrix	*Acleris hastiana*						1		**1**
Variegated Golden Tortrix	*Archips xylosteana*	m			4		1		**5**
Vestal	*Rhodometra sacraria*		1	1		2	6		**10**
Vine's Rustic	*Hoplodrina ambigua*		199	2	23	26	66	13	**329**
V-pug	*Chloroclystis v-ata*					1	1		**2**
Water-dropwort Brown (Dingy Flat-body)	*Depressaria daucella*	m						1	**1**
Water Veneer	*Acentria ephemerella*	m			3	1		1	**5**
Wax Moth	*Galleria mellonella*	m						1	**1**
White Cloaked Tortrix	*Gypsonoma aceriana*	m				1		2	**3**

White Crescent	*Teleiodes luculella*	m			1	3	4	3	**11**
White Ermine	*Spilosoma lubricipeda*		14		7	9	5	12	**47**
White Plume	*Pterophorus pentadactyla*	m	2		2	3	1		**8**
White Satin Moth	*Leucoma salicis*						2		**2**
White-banded Dot	*Ectoedemia albifasciella*	m					1		**1**
White-banded Grass-moth	*Crambus pascuella*	m	1	1					**2**
White-line Dart	*Euxoa tritici*		2						**2**
White-point	*Mythimna albipuncta*				7	10	22	5	**44**
White-shouldered House-moth	*Endrosis sarcitrella*	m			2		2		**4**
White-shouldered Marble	*Apotomis turbidana*	m	3						**3**
White-spotted Pug	*Eupithecia tripunctaria*					1			**1**
White-streaked Grass-moth	*Agriphila latistria*	m				1			**1**
Willow Beauty	*Peribatodes rhomboidaria*		52	7	35	16	27	16	**153**
Willow Ermine	*Yponomeuta rorrella*					2	1	19	**22**
Winter Moth	*Operophtera brumata*		9				1		**10**
Yellow Belle	*Aspitates ochrearia*		2			1		1	**4**
Yellow Horned	*Achlya flavicornis*				1		1		**2**
Yellow Oak Button	*Aleimma loeflingiana*	m	4						**4**
Yellow Shell	*Camptogramma bilineata*	m	3			2	1	5	**11**
Yellow-banded Longhorn	*Nemophora degeerella*						13	4	**17**
Yellow-line Quaker	*Leptologia macilenta (Agrochola macilenta)*		15		1			3	**19**
Yellow-spotted Tortrix	*Pseudargyrotoza conwagana*	m			1				**1**
Yellow-tail	*Euproctis similis*		7						**7**
Total No of Species: 554			**7864**	**240**	**1713**	**2819**	**2459**	**1615**	**16710**
Highlighting indicates Moth Species New for Site in 2024									
Former Names are shown in brackets m=macro									

DRAGONFLIES OF HOLES BAY AND UPTON COUNTRY PARK 2024

2024 was a patchy year for dragonflies, with poor weather in the spring and summer meaning visits and records were more limited.

There were, however, 3 new species recorded for the patch. The most exciting new record was of Willow Emerald Damselfly *Chalcolestes viridus* with 2 seen around Grove Pond on 18th September 2024.

Scarce Chaser
(*Libellula fulva)* ©Martin Adams

Willow Emerald Damselfly
(Chalcolestes viridus) ***©Martin Adams***

The species is a recent colonist to the UK that has been spreading rapidly. It was first recorded in Britain in 1979, and didn't become established until 2009 in East Anglia. This record is the first for this site; the first for Poole Harbour; the furthest West it has been recorded along the South Coast, and the first record for the historic vice county of Dorset, after recent records in Ebb Lake and Hengistbury Head from 2021.

Willow Emerald ©Martin Adams

There were 2 individuals recorded in suitable breeding habitat, so it is hoped that the species will colonise the site and breed. Eggs are laid in twigs overhanging water, resulting in distinctive oval galls. The larvae then hatch out in spring and develop to emerge as adults from June onwards, and they can be on the wing until November.

The other new records were of Keeled and Black-tailed Skimmer.

A female Keeled Skimmer *Orthetrum coerulescens* was recorded in Half-Moon Field on 6th June 2024 and a maturing male Black-tailed Skimmer *Orthetrum cancellatum* was recorded on 25th June 2024.

Keeled Skimmer
(*Orthetrum coerulescens*) **©Martin Adams**

Black-tailed Skimmer
(*Orthetrum cancellatum*) **©Nick Woods**

These are common breeding species on the nearby heaths, and it is usual for maturing individuals to disperse until they reach sexual maturity.

The Odonata patch list now stands at 23 species, 22 of which have been recorded in the 2020's. 15 Species were recorded in 2024.

The highest count of Beautiful Demoiselles was 10, compared to 31 recorded in 2023. The lower numbers are probably due to poor weather and the vegetation around Dead Man's Ditch becoming overgrown.

Beautiful Demoiselles, mating (*Calopteryx virgo*)**©Martin Adams**

Dead Man's Ditch, Upton Country Park

The team in Upton Country Park are looking to control the vegetation here, as they have with the Duck pond. They are also looking to get funding to dredge Grove Lakes and the Duck Pond to further improve the habitat, as the Duck Pond is relatively shallow and prone to drying out in hot summers.

They are also looking to improve the smaller ponds, to give them a variety of depths, in order to promote room for a variety of species, and work on the in-out pipes, with the goal of better aerating the water before it enters the pond and keeping a healthy water level.

These smaller ponds are under-surveyed for dragonflies, and along with the ‘upper reaches’ of Dead Man's Ditch, North of Grove Lake, they provide further opportunities for study.

Emperor Dragonfly, ovipositing
(*Anax imperator*) ©**Martin Adams**

Golden Ringed Dragonfly
(*Cordulegaster boltonii*) ©**Martin Adams**

Full Odonata List (Updated For 2024)

Common Name	**Scientific Name**
Willow Emerald Damselfly	*Chalcolestes viridus*
Beautiful Demoiselle	*Calopteryx virgo*
Banded Demoiselle	*Calopteryx spendens*
Azure Damselfly	*Coenagrion puella*
Common Blue Damselfly	*Enallagma cyathigerum*
Red-eyed Damselfly	*Erythromma najas*
Small Red-eyed Damselfly	*Erythromma viridulum*
Blue-tailed Damselfly	*Ischnura elegans*
Large Red Damselfly	*Pyrrhosoma nymphula*
Southern Hawker	*Aeshna cyanea*
Brown Hawker	*Aeshna grandis*
*Common Hawker	*Aeshna juncea*
Migrant Hawker	*Aeshna mixta*
Emperor Dragonfly	*Anax imperator*
Hairy Dragonfly	*Brachytron pratense*
Golden Ringed Dragonfly	*Cordulegaster boltonii*
Downy Emerald	*Cordulia aenea*
Broad-bodied Chaser	*Libellula depressa*
Scarce Chaser	*Libellula fulva*
Black-tailed Skimmer	*Orthetrum coerulescens*
Keeled Skimmer	*Orthetrum cancellatum*
Red-veined Darter	*Sympetrum fonscolombii*
Common Darter	*Sympetrum striolatum*
***Historic Record**	

Bibliography and Sources

Adrian Parr and Andrew Brown of the British Dragonfly Society, Rowan Booth of Upton Country Park *per Comms*

Britain's Dragonflies (2018) Dave Smallshire and Andy Swash

Dragonflies (2008) Philip Corbet and Stephen Brooksl

https://british-dragonflies.org.uk/

Common Darter
(*Sympetrum striolatum*) **©Martin Adams**

Beautiful Demoiselle
(*Calopteryx virgo*) **©Martin Adams**

THE UPTON HOUSE BAT SURVEY 2024

Nick Woods

SUMMARY

(i) Previous work in 2023[1] summarised historic records of the thirteen species of bat recorded in and around Upton Country Park, of which nine species had been recorded in Upton House itself, mainly at the west end of the basement. However, there had been very few recent records of bats in Upton House, and it was unclear if the basement was still being used by bats.

(ii) A static bat detector, trail cameras and monitoring of bat droppings (combined with some limited DNA analysis) was used to investigate the current level of use of the basement of Upton House, from 17th April to 17th December 2024.

(iii) Ultrasound files recorded by the bat detector were generally filtered via *Kaleidoscope Light* software to remove non-bat sounds and then analysed using the *Acoustic Pipeline* app provided by the British Trust for Ornithology. This produced 36,177 files thought to be due to bats, of which 81% were assessed to species level by the Acoustic Pipeline with a probability value of 0.5 or greater. Although the bat detector was not operational on every day during the study period (mainly due to battery failure), activity by bats was recorded on 100% of the days it was operational in May to October inclusive, and on approximately 50% of the days in April, November and December.

(iv) Activity by bats was confirmed in the four locations in the basement the detector was used at: the bat cave, the old bakehouse, the squash court and the coal store.

(v) DNA analysis of droppings collected in the study period confirmed the presence of four species of bat: Greater Horseshoe bat, Brown Long-eared bat, Natterer's bat and Common pipistrelle, with another two species regarded as being confirmed from detector files alone: Soprano and Nathusius's pipistrelles. It is likely that other species were also present but this could not be proved. The confirmation of six species of bat in 2024, compares well with the nine species previously identified over the four decades since the late 1970s. The maximum number of bats recorded at any one time (on a trail camera video clip) was five.

(vi) The likely occurrence of the six confirmed species varied through the year and between the different rooms investigated. The Greater Horseshoe bat was recorded in May-December, with an apparent peak of activity in July, and although recorded in each location investigated was particularly associated with the bat cave. The Common pipistrelle was also found throughout the study period and the Soprano pipistrelle nearly so, and both seemed to be most associated with the old bakehouse. Pipistrelle activity (in all species) peaked strongly in August, and the relatively few files identified as Nathusius's' pipistrelle were all recorded in a very short period (between 19th August and 1st September), possibly reflecting the migratory nature of this species. Natterer's bat and Brown Long-eared bat generated fewer files than most of the other species confirmed and the former was probably present all year, with the later present from April to at least October. Activity levels for these two species peaked in September, and the Brown Long-eared bat seemed to have a strong association with the squash court.

(vii) Additional protection of the areas used by bats was put in place by staff at Upton Country Park once the level of use was established and it is hoped the site's Conservation Management Plan will incorporate the results of the project when next reviewed.

(viii) The costs of the equipment and DNA testing used in the project were generously funded by the Friends of Upton Country Park.

1. INTRODUCTION

1.1 Historical records of bats in Upton House

1.1.1 Known records of bats in the Holes Bay Nature Park recording area were reviewed in 2023[1]. Those records, from the late 1970s to 2023, include thirteen species found in and around Upton Country Park, of which nine species had been recorded in Upton House itself (Greater Horseshoe bat, Serotine, Bechstein's bat, Daubenton's bat, Natterer's bat, Noctule, Brown Long-eared bat and Common and Soprano pipistrelles.) Most of the Upton House records were from the basement, mainly from two rooms in the western most part. However, only three records of bats within Upton House (two of Brown Long-eared bat and one of Soprano pipistrelle) could be traced for the five years up to and including 2023 with the last known records being from 2021.

1.2 Aims of the 2024 Upton House Bat Project

1.2.1 In order to establish if bats were still using Upton House, and if so when, how and what species might be involved, the building was investigated in 2024 using three methods – a static bat detector (which automatically records ultrasound generated by bats), two trail cameras (automatically triggered by movement) and the monitoring and DNA testing of collected bat droppings. The last technique can give accurate species identification including for those species which may difficult to separate purely on ultra-sound recordings. None of these methods involved the direct examination of bats, which would require specific licensing.

2. THE BASEMENT OF UPTON HOUSE

2.1 Upton House basement – general layout

2.1.1 The general layout of the basement of Upton House is shown in Fig.1.

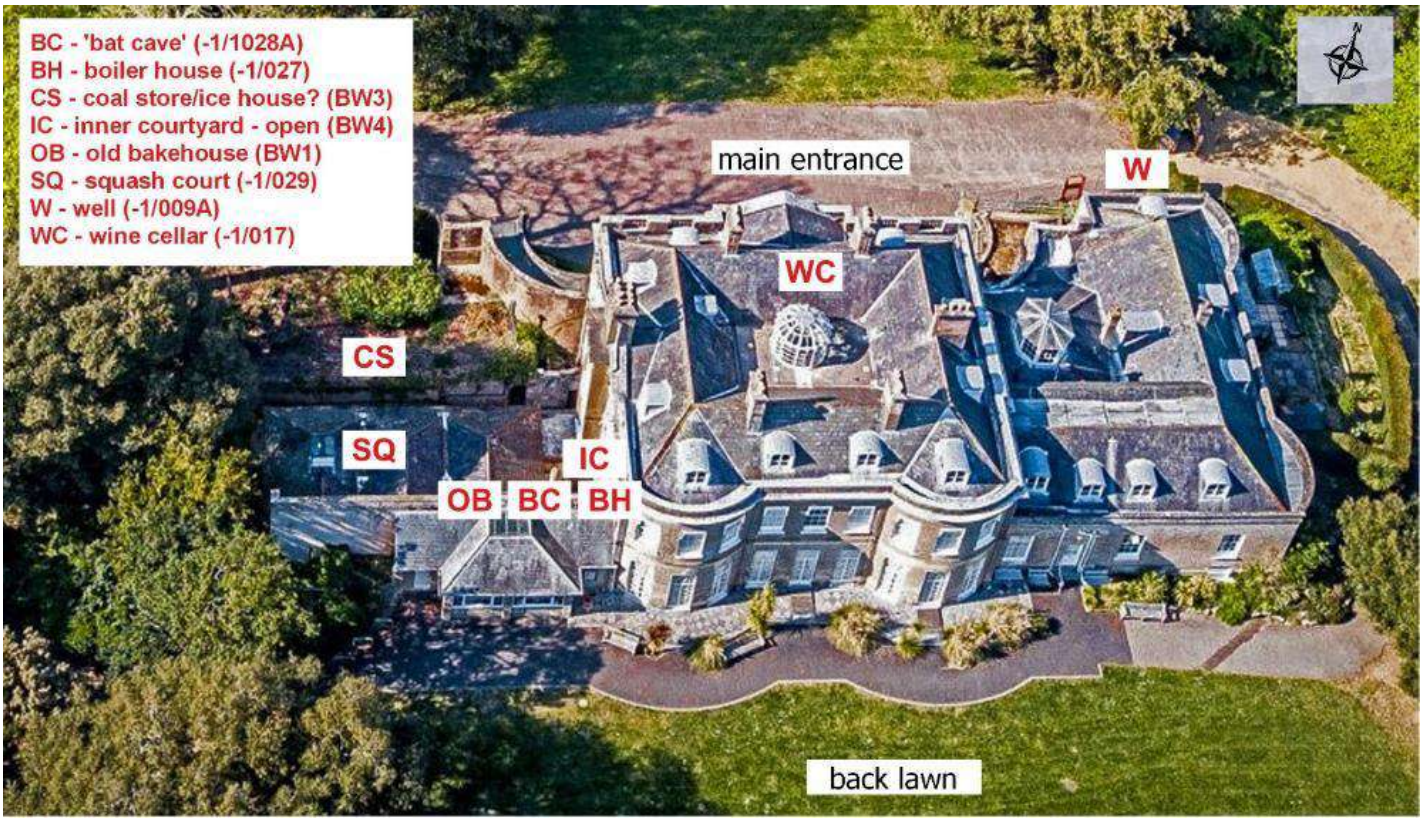

Fig. 1 – Upton House layout of basement with areas previously used by bats (photo by Lovesy Photography).

2.1.2 The majority of previous records of bats had been from the west end of the basement, principally from the 'bat cave' (the small room so nicknamed for obvious reasons in the 1980s) and

to a lesser degree from the old bakehouse, though this room is difficult to access and is rarely visited.

2.2 Locations investigated – the bat cave

2.2.1 The bat cave (see Fig. 2) is a small room roughly 3 m x 3 m with a domed ceiling in which there is a small recess. There are no windows or artificial light and access is via a slotted wooden gate (see Fig. 6). In the past this room was where bats were typically found – sometimes roosting in the ceiling recess, under which droppings would often collect. It is assumed bats access the room from an adjacent internal courtyard only accessible from within the basement. This access was deliberately created in 1982 for use by bats when the central heating boilers were installed.

Fig. 2 The bat cave: left – entrance from lobby (prior to fitting of wooden gate); top right - interior, of bat cave; bottom right - entrance from inside the bat cave,

2.3 Locations investigated – the old bakehouse

2.3.1 The old bakehouse (see Fig. 3) is of similar size to the bat cave but is isolated from all other parts of the basement, access being via a narrow path around the exterior of the squash court, obstructed by a low wall. The room contains what is thought to be an oven and heating copper (both features built in). It is thought that the room was separated from the main part of the building when a former kitchen was converted to a fives court (known as the squash court) early in the twentieth century. The difficult access means the room is rarely visited.

2.4 Locations investigated – the coal store

2.4.1 The coal store, like the old bakehouse is not directly accessed from the main part of the basement, but by an external passage way (see Fig. 4). It is a relatively long, narrow room (approximately 8 m x 2 m) with a barrel-vaulted ceiling. A cavity in the ceiling towards the west end

may have been a coal chute. The wall bordering the passage way is in poor condition and there are concerns as to its stability. Although referred to as a coal store its previous function is uncertain.

Fig. 3 (left) Interior of the Old Bakehouse (2023)

Fig 4 (right) Interior of the Coal Store (2024)

2.5 Locations investigated – the squash court

2.5.1 The squash court (see Fig. 5) is a large high-ceilinged space with fitted electrical lights and natural light provided by a single lantern towards the west end of the room. A viewing gallery (balcony) at the east of room is open to it and accessed by stairs the other side of the access door. It is thought that this room was converted from a kitchen to a fives court early in the twentieth century and in recent decades has been mainly used for storage and occasional events. The galley is accessed from the lobby to the bat cave (no intervening door) and the room itself via a door in a half-height wall between the squash court and the bat cave lobby.

Fig. 5 The squash court: view from gallery…

…and view towards gallery from south-west corner

3. EQUIPMENT AND METHODS

3.1 The static bat detector – type and locations used

3.1.1 A Titley *Ranger* static bat detector was positioned in the basement in four different locations from 17th April 2024 and will continue to monitor bat activity into 2025, though this report uses data recorded up to the 17th December 2024. Settings within the detector allow it to switch on at dusk/dawn only, night time only or continually. Such settings rely on the inbuilt GPS being able to find a fix and using its inbuilt calendar to calculate sunrise and sunset times. Given that the detector was often to be used within the basement where GPS reception is poor, after some initial

experimentation the detector was mainly used in continuous mode. This also had the advantage of detecting bats flying in daytime, something which did occur during the survey period.

3.1.2 On several occasions, the detector stopped working. This was mainly due to batteries running out and on one occasion, possibly due to a memory card failing. The detector was usually checked every few weeks and care taken to minimise disturbance in case bats were present. The location and dates the detector was operational are shown in Table 1.

From	To	Location	Notes e.g. recording mode
17th April	28th April	bat cave	dusk and dawn mode
28th April	16th May		detector failed
16th May	5th June	bat cave	dusk and dawn mode
5th June	3rd July	bat cave	night mode
3rd July	15th August	bat cave	continuous mode
15th August	19th August		detector failed
19th August	26th August	old bakehouse	continuous mode
26th August	3rd September	coal store	continuous mode
4th September	6th September		detector failed
6th September	23rd September	squash court	continuous mode
23rd September	8th October	bat cave	continuous mode
8th October	25th October		detector failed
25th October	2nd November	bat cave	continuous mode
2nd November	17th November		detector failed
17th November	17th December	bat cave	continuous mode

Table 1. Dates and locations when the static bat detector was operational.

3.1.3 The position of the detector when monitoring the bat cave is shown in Fig. 6. It is likely that any bats entering the squash court would also be picked up by the detector when in this position. The bat detector was positioned outside the old bakehouse and outside the coal store when monitoring those two rooms. In the squash court the bat detector was placed on a tripod approximately 2m from the west wall and a similar distance from the north wall, facing into the room.

3.2 Static bat detector – file analysis

3.2.1. Detectors such as this, especially when operating continually, can record large numbers of files which it would be difficult to check individually for possible bats; other creatures and sources of sound (even rain, for example[2] can produce ultrasound that will be recorded.) To reduce the number of files to be examined, the recorded files were processed by ***Kaleidoscope Light*** software when file numbers were high, and those not recognised as bats discarded[3]. The remaining files were processed via the ***Acoustic Pipeline*** app provided by the British Trust for Ornithology. This allocates to an individual species of bat, and distinguishes between echolocation, social calls and feeding buzzes. It also provides a probability value for each identification.

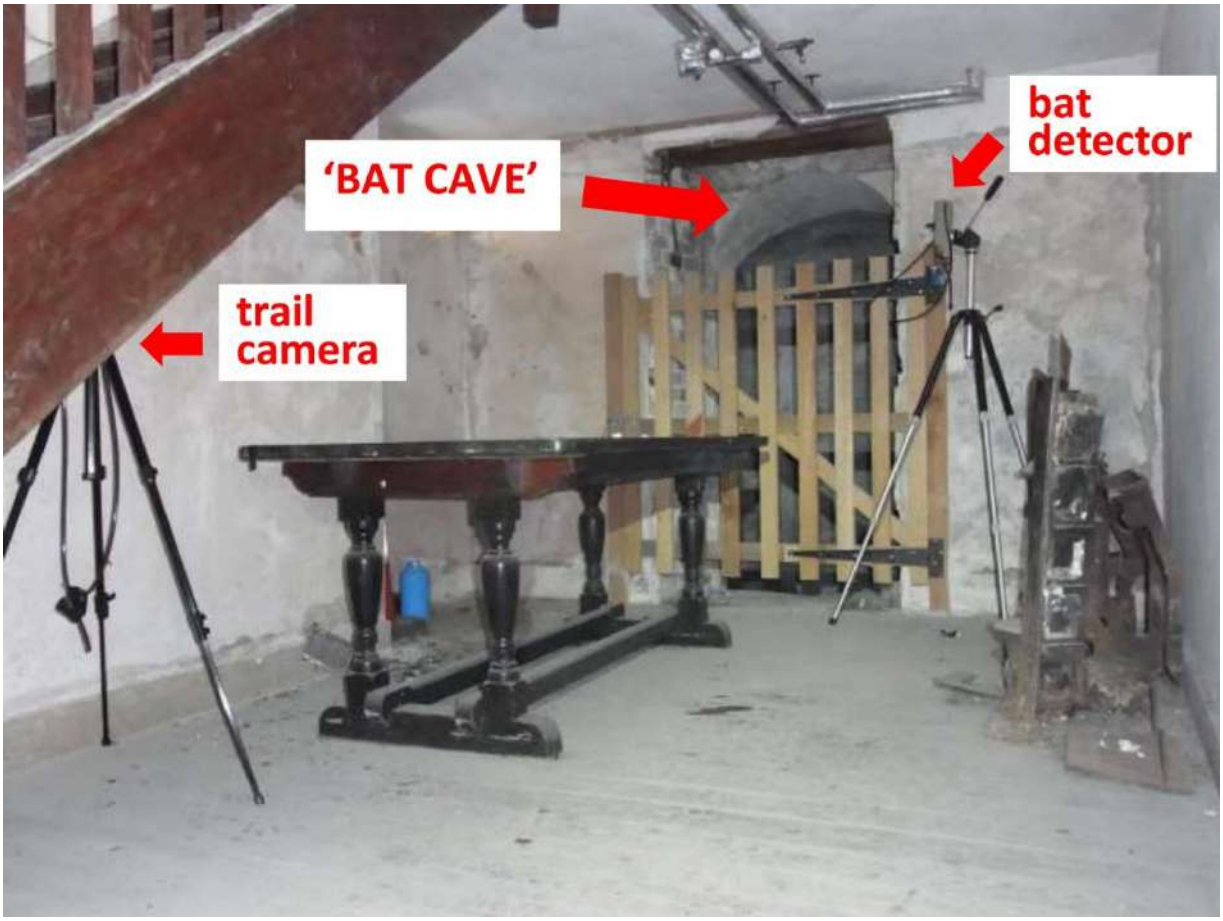

Fig. 6 Typical positions of bat detector and trail camera when monitoring the bat cave.

3.2.2 However, it is recognised that auto-identification is not always reliable and is more difficult for some species than for others. Successful identification also depends on the quality of the recorded file. The user manual for the Acoustic Pipeline[4] recommends that detector microphones are placed at least 1.5 m away from flat surfaces or vegetation and, if recording at a bat roost, sited 10-15m away from the point at which bats emerge and that, if possible, recordings are not made inside a roost itself. The physical layout of the building and the desire to establish what bats were entering and using different parts of the basement made it impossible to adhere to these recommendations. As a result, it is recognised that the results of Acoustic Pipeline need to be looked at carefully prior to drawing conclusions on the bats present. The developers of the Acoustic Pipeline recommend that recordings with a probability of less than 0.5 are discarded when analysing data, though in some cases such recordings should be checked. Unless otherwise stated the analysis below omits identifications with a probability value (referred to here as a p value) less than 0.5.

3.2.3 It should also be noted that the Acoustic Pipeline breaks files down into segments, each a maximum of five seconds long and will also identify more than one species and/or call type to a single file (saving each as a separate file). Hence, the number of files is likely to increase after processing by the Acoustic Pipeline. It is also possible for a single bat to produce more than one file when flying around in range of the detector (for example, a single bat flying around for one minute could generate twelve five-second files). The number of files produced is taken as a measure of bat *activity*, but does not necessarily correlate with the number of individual bats present.

3.3 Type and use of trail cameras

3.3.1 One or two Browning Spec Ops Elite HP5 **Trail cameras** (SKU WV-BR-BTC-8E-HP5) were used from 26th June 2024, once it was clear (from the static bat detector) that bats were regularly using the basement, see Table 2 for dates and locations. It was hoped that the trail cameras would provide additional information on the number of bats present and their behaviour and provide footage that could be used to demonstrate that bats were using the building.

Cam.	From	To	Location	Notes e.g. exact location
A	26th June	3rd July	bat cave	courtyard by boiler house
A	3rd July	16th July	bat cave	courtyard by boiler house
A	16th July	17th December	bat cave	Inside lobby to bat cave
B	16th July	31st July	old bakehouse	outside entrance
B	7th August	6th September	coal store	at entrance doorway
B	6th September	17th December	Squash court	on gallery overlooking squash court

Table 2 – Dates and locations for the use of trail cameras

3.3.2 The initial use of one of the trail cameras in the inner court yard from which bats are presumed to access the bat cave from 26/27 June to 2/3 July 2024 (7 nights), resulted in no bats being recorded, although the bat detector generated 1,015 files identified as particular species of bat (p value > or equal to 0.5) by the Acoustic Pipeline, clearly showing bats were present. Moving the camera closer to the bat cave for the period 3/4 July to 15/16 July 2024 generated 8 video clips of bats; the bat detector producing 2,230 files identified as bats in this period. This suggested that, depending on its position, a trail camera would not necessarily record bats when present, especially if the bats were not flying close to the camera.

3.3.3 Temporarily installing the trail cameras at the old bakehouse, coal store and squash court did establish that bats were using these areas and indicate that it would be worth moving the bat detector to those locations. The trail cameras also recorded some behaviour of bats e.g. multiple bats flying and bats entering crevices. The trail cameras also confirmed that bats were using the access created in 1982. Although this has always been assumed and was likely, as far as is known, this is the first time that use of this access by bats has been confirmed.

3.3.4 It was not uncommon for there to be no obvious trigger for a recording made by the trail cameras, or for bats to appear mid-way through a recording. It is likely that that the initial passage of a bat past the camera may be too quick for it to be caught by the camera.

3.4 Monitoring and DNA analysis of bat droppings

3.4.1 Monitoring of bat droppings was carried out by placing an A1 sheet of paper beneath the recess in the ceiling of the bat cave when the bat detector was installed (17th April) and another sheet was placed inside the old bakehouse. At the time the sheets were placed there was no obvious accumulation of bat droppings in either location, though scattered individual droppings may not have been noticed. The intention was to check the sheets regularly for droppings and new sheets were placed over the earlier sheets in the bat cave on 26th June and 31st July. However, when it became apparent that bats were regularly using the bat cave, close checks of the sheets were not carried out to avoid disturbing any bats present. The sheets were finally removed from the bat cave on 17th December 2024. The sheet placed in the old bakehouse, soon became damp and was replaced with a white board on 16th July 2024. Once it became apparent that bats were using this area as well, no further close inspections were made.

3.4.2 With the help of two experienced and licensed bat workers (Jan Freeborn and Jez Martin) small samples of droppings were selected (see Table 3) to be tested for bat DNA by Swift Ecology

Ltd. These tests can identify with a high degree of accuracy the species of bat present, including distinguishing closely related species that might be difficult to identify from sound files alone.

Date collected	Location	Notes
27th August	squash court including gallery	from scattered droppings
17th December	squash court including gallery	from scattered droppings
17th December	bat cave	from sheet placed below roof cavity; many droppings broken up and difficult to collect
Table 3 DNA testing of bat droppings: dates and locations of collected droppings		

4. RESULTS

4.1 Bat Detector – general level of bat activity

4.1.1 Taking all four locations where the bat detector was deployed, disregarding those files classified as noise by Kaleidoscope Light, 36,177 files were assessed as likely to be bats by Acoustic Pipeline (at any probability level), with 29,207 (81%) files allocated to a particular bat species with p > or equal to 0.5. The number of files allocated to each species per month are shown in Table 4, together with how many days within each month the detector was operational.

	Alcathoe Bat	Barbastelle	Bechstein's Bat	Brown Long-eared Bat	Common Pipistrelle	Daubenton's Bat	Greater Horseshoe Bat	Grey Long-eared Bat	Leisler's Bat	Lesser Horseshoe Bat	Nathusius' Pipistrelle	Natterer's Bat	Noctule	Serotine	Soprano Pipistrelle	Whiskered Bat	Total	Number of species	Survey days	Days detector not	Days detector operating	Days bats recorded	% of days bats recorded	FILES PER DAY
Apr				6	40			6	3			2	2		2		61	7	13	4	9	8	89%	8
May	11			72	123		908	63	72			5	5		4		1263	9	31	15	16	16	100%	79
Jun	13		1	58	146		4045	83	114			87	8		10		4565	10	30	0	30	30	100%	152
Jul	8			57	803		6710	38	246	2		18	72	4	17		7975	11	31	0	31	31	100%	257
Aug	11	2	52	15	3065	15	2736	15	154		35	20	112	4	2392	2	8630	15	31	3	28	28	100%	308
Sep	55			294	858		954	135	80		1	106	9	4	29		2525	11	30	2	28	28	100%	90
Oct	5			39	289		3628	19	33			30		1	9	1	4054	10	31	16	15	15	100%	270
Nov					19		54		2			18			1		94	5	30	14	16	11	69%	9
Dec	1				7		18					14					40	4	17	0	17	10	59%	4
Total	104	2	53	541	5350	15	19053	359	704	2	36	300	208	13	2464	3	29207	16	244	54	190	177		

Table 4 - Number of files with p > or equal to 0.5 or more allocated to species by the Acoustic Pipeline app.

4.1.2 Fig. 7 shows the proportion of days that bats were recorded (as a percentage of the days the detector was operational in each month) and the mean number per day the detector was operational for each month. Essentially bats were detected every day that the detector was operational in May-October inclusive, and almost every day in April, dropping off in November to December but still over 50% of the days. The number of files increases to a peak In August, but drops dramatically in September to recover in October and decline steeply to November and December. However, the explanation for this may reflect that the detector was moved to the different rooms investigated from 19th August to 23rd September 2024 and it must also be born in mind that there were periods when the detector was not operational (see Table 1). The reduction in file numbers in September, probably reflects the relatively low numbers of Greater Horseshoe bat files recorded in that month, though this in turn may be linked to the detector being moved away from the bat cave (see section 5.2.3) – it was only operational for seven days at the bat cave in September.

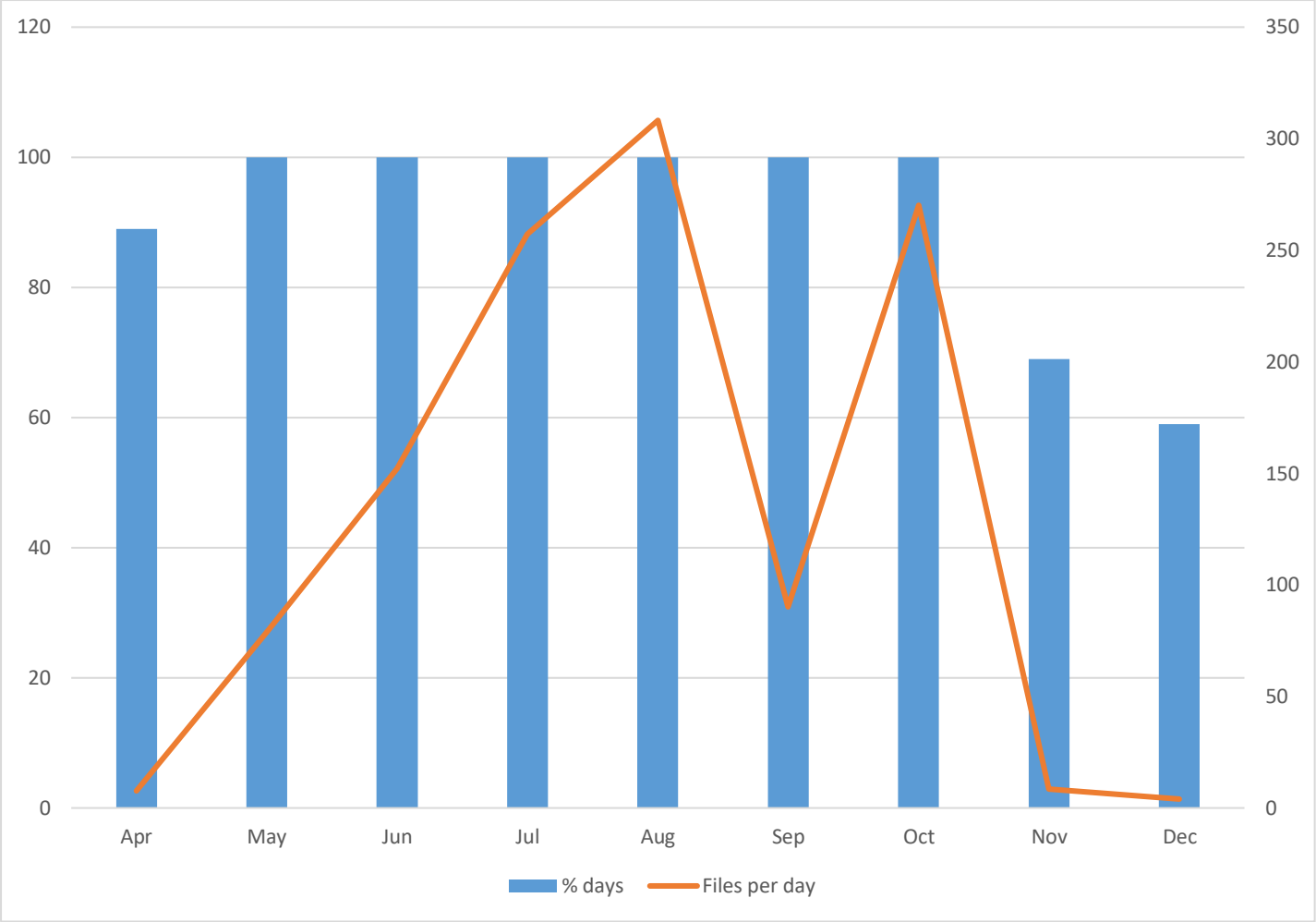

Fig. 7 Monthly percentage of days when bats were recorded (left hand y-axis) and the mean number of files recorded per day by month (right hand y – axis). Data refers to files with p > or equal to 0.5 and is based on days when the detector was operational.

4.2 Bat Detector - activity at each location

4.2.1 The bat detector detected bats on all days it was operational in August and September when used at the old bakehouse, coal store and squash court – indicating daily use of those areas at the times in question. Table 5 shows the number of files recorded in these locations for the period July to October, and the number of files per day for each location in each month. These figures suggest that the level of activity was highest at the bat cave, then at the old bakehouse (in August), then equally at the coal store (in August) and squash court (in September) and lowest at the coal store (in September). However, it should be remembered that the detector was being moved between the locations and that the position of the detector at the bat cave (see Figs. 1 and 6) means that it would probably record bats entering the building to use either the bat cave or the squash court.

	July			August			September			October		
	Files	Days	Files per day	Files	Days	Files per day	Files	Days	Files per day	Files	Days	Files per day
Bat cave	6710	31	216	2198	12	183	566	7	81	3628	15	242
Old bakehouse	-	-	-	373	8	47	-	-	-	-	-	-
Coal store	-	-	-	165	8	21	18	3	6	-	-	-
Squash court	-	-	-	-	-	-	370	18	21	-	-	-

Table 5 – Number of files identified as bats (p > or equal to 0.5) in different recording locations for July-September.

4.3 Bat Detector – species identified likely to be present

4.3.1 The number of files (at various probability levels) produced by the Acoustic Pipeline are summarised in Table 6. This suggests a very wide range of bats could be present (up to 17 species). However, Acoustic Pipeline recommends that those files with a p value <0.5 should be discarded from any analysis. The output from the pipeline also recommends caution when "rare or unexpected species" are identified – including, in these results, Alcathoe bat, Bechstein's bat and Grey Long-eared bat, although Bechstein's bat has previously been recorded in Upton House.

4.3.2 It should also be remembered that siting of the detector was less than ideal (see section 3.2.2). In addition, it is widely recognised that some species, e.g. those of the *Myotis* genus, are harder to identify than others from sound files[5]. This last factor is probably reflected in that the average p value varied widely (from 20% for the Serotine to 88% for the Common pipistrelle) and that the proportion of files with a p value of > or equal to 0.9 also varied widely (from 0% for several species to 75% for the Greater Horseshoe bat).

4.3.2 The Acoustic Pipeline user manual gives specific detail on the probability value it generates. This is based on an estimated 'false positive rate' – i.e. the probability that the app will assign an identification to the wrong species, hence a p value of 0.9 still means that there is a 10% chance that the identification is wrong. The user manual also recommends the use of an additional app (R shiny app) to support an auditing process and the direct checking of a random sample of files (of perhaps 1,000 recordings for each species) to avoid potential misidentifications. Time and other constraints meant it has not been possible to follow this process in preparing this report. A selection of files has been looked at (with sonagrams displayed by Kaleidoscope Light) and compared with published data on individual species[6] but this has not been quantified. As a result, those species whose presence is regarded as definite are limited to those producing more easily identified calls (e.g. Greater Horseshoe bat and some pipistrelle species) and those confirmed by DNA analysis of droppings (see section 4.5). These species are shown in bold in Table 6.

SPECIES	No of files	Mean P value	No. of files with P ≥ 0.5 or more	% of files with P ≥ 0.5 or more	No. of files with P ≥ 0.9 or more	% of files with P ≥ 0.9 or more
Alcathoe bat	407	35%	104	26%	10	2%
Barbastelle	10	38%	2	20%	2	20%
Bechstein's bat	90	59%	53	59%	23	26%
Brandt's bat	5	35%	0	0%	0	0%
Brown Long-eared bat	**1512**	**44%**	**541**	**36%**	**236**	**16%**
Common pipistrelle	**5622**	**88%**	**5350**	**95%**	**3842**	**68%**
Daubenton's bat	49	41%	15	31%	0	0%
Greater Horseshoe bat	**21525**	**84%**	**19053**	**89%**	**16168**	**75%**
Grey Long-eared bat	1071	41%	359	34%	152	14%
Leisler's bat	1547	49%	704	46%	121	8%
Lesser Horseshoe bat	5	53%	2	40%	0	0%
Nathusius's' pipistrelle	**56**	**53%**	**36**	**64%**	**0**	**0%**
Natterer's bat	**465**	**59%**	**300**	**65%**	**81**	**17%**
Noctule	351	56%	208	59%	33	9%
Serotine	621	20%	13	2%	0	0%
Soprano pipistrelle	**2824**	**73%**	**2464**	**87%**	**403**	**14%**
Whiskered bat	17	33%	3	18%	0	0%
Grand Total	36177	77%	29207	81%	21071	58%

Table 6 – Results of the Acoustic Pipeline analysis of all files likely to be bats from all locations sampled

4.3.4 Single examples of the files allocated to each of these six species are shown in Fig. 8. These sonagrams (produced by Kaleidoscope Light) display time on the x-axis (each sonagram showing approximately one second) and frequency of the sound on the y-axis in kHz. The intensity (the energy level of the call) being indicated by the colour: green-yellow-red showing progressive increases in energy.The shape of the call depicted on the sonagram depends on the frequency (and changes in frequency in individual calls). Hence, calls (or parts of calls) may be **constant frequency (CF)** or **frequency modulated (FM)**, typically with a rapid change in frequency. In some cases, a call or part of call, may vary only slightly in frequency, this being referred to as **a quasi-constant frequency (QCF)** call. Combining these terms allows a simple description of the shape of the call as displayed on a sonagram. Other important characteristics of calls are the **frequency of maximum energy (FmaxE), call duration**, **inter-pulse interval** and **start** and **end frequencies**. These parameters can be measured or estimated from sonagrams and used to separate different species. The key features for each species are briefly described below.

4.3.5 The typical echo-location calls of Horseshoe bats are FM-CF-FM, producing a characteristic 'staple-like' shaped call (see Fig. 8-a). The FmaxE for the **Greater Horseshoe bat** is around 80 Khz, whilst that the Lesser Horseshoe bat is around 110 kHz. In some cases, a weaker call with a FmaxE around 40 kHz may also be visible. The lower calls represent the call produced in the bat's larynx, with the higher call being a harmonic emitted through the specialised structure of the nose of the bat[6] (hence the name, *Horseshoe* bats).

4.3.6 The echo-location calls of pipistrelles typically have FM-QCF calls, giving a 'hockey-stick' shape appearance in a sonagram. The **Common pipistrelle** usually has a FmaxE of around 45 kHz as shown in Fig. 8-b. This species accounted for the second highest number (5,622) of files positively identified by the Acoustic Pipeline (after those for the Greater Horseshoe bat with 21,525 files). This species also had the highest mean p value (0.88) with 5,351 (95%) of the files with a p

value > or equal to 0.5 and 3,842 (68%) with a p value > or equal to 0.9. In addition to echo-location calls 1,341 of the calls allocated to the Common pipistrelle were regarded by Acoustic Pipeline as social calls.

4.3.7 The typical echolocation calls of the **Soprano pipistrelle** are also FM-QCF calls with FmaxE usually around 55 kHz, i.e. around 10 kHz higher than for the Common pipistrelle (see Fig. 8-c). Although such calls may overlap with those of the Common pipistrelle peak frequency of a series of calls is often distinctly higher than that species. The 2,824 calls allocated to Soprano pipistrelle had a mean p value of 0.73 with 2,464 (87%) having a p value > or equal to of 0.5 and 403 (14%) having a p value > or equal to 0.9 or above. In some cases, the Acoustic Pipeline allocated calls to both species in a single recording, see Fig. 10.

4.3.8 The echolocation calls of the **Nathusius's pipistrelle** are typically of a lower FmaxE than the Common pipistrelle at just below 40 kHz (see Fig. 8-d). The allocation of calls to this species by the Acoustic Pipeline was accompanied by lower p values than for those calls allocated to Common and Soprano pipistrelles, with a mean p value of 53%, 64% of the 56 files having a p value > or equal to 0.5 and none having a p value > or equal to 0.9. However, a subjective assessment of the recorded files, all of which were recorded between 19th August and 1st September 2024, suggested that this identification was reliable for what is known to be a migratory species likely to be present at this time of the year.

4.3.9 The two species of Long-eared bats are known to produce relatively quiet echolocation calls, with individual calls often showing up as two separate features ('harmonics') on a sonagram (see Fig 9-e). In the echolocation calls of the **Brown Long-eared bat** the lower harmonic typically contains the FmaxE at around 34 kHz, with the start and end frequencies around 55 and 23 kHz respectively[6]. However, calls of the closely related, but much rarer, Grey Long-eared bat can be quite similar and it may be difficult to separate the two species purely on recorded calls. The Acoustic Pipeline suggested both species might be present with 1,512 files allocated to the Brown Long-eared bat, with 541 of these (36%) having a p value > or equal to of 0.5. Of 1,071 files allocated by the Acoustic Pipeline to the Grey Long-eared bat, 359 (34%) had a p value > or equal to 0.5 or more. The Brown Long-eared bat has been previously recorded in Upton House[1] and its presence in 2024 was confirmed by DNA analysis of droppings (see section 4.5.2). Given the above, further consideration of Long-eared bats in the study will focus on the data likely to relate to the Brown Long-eared bat, though it is possible that the other species was also present and that files allocated to either species may have been mis-identified.

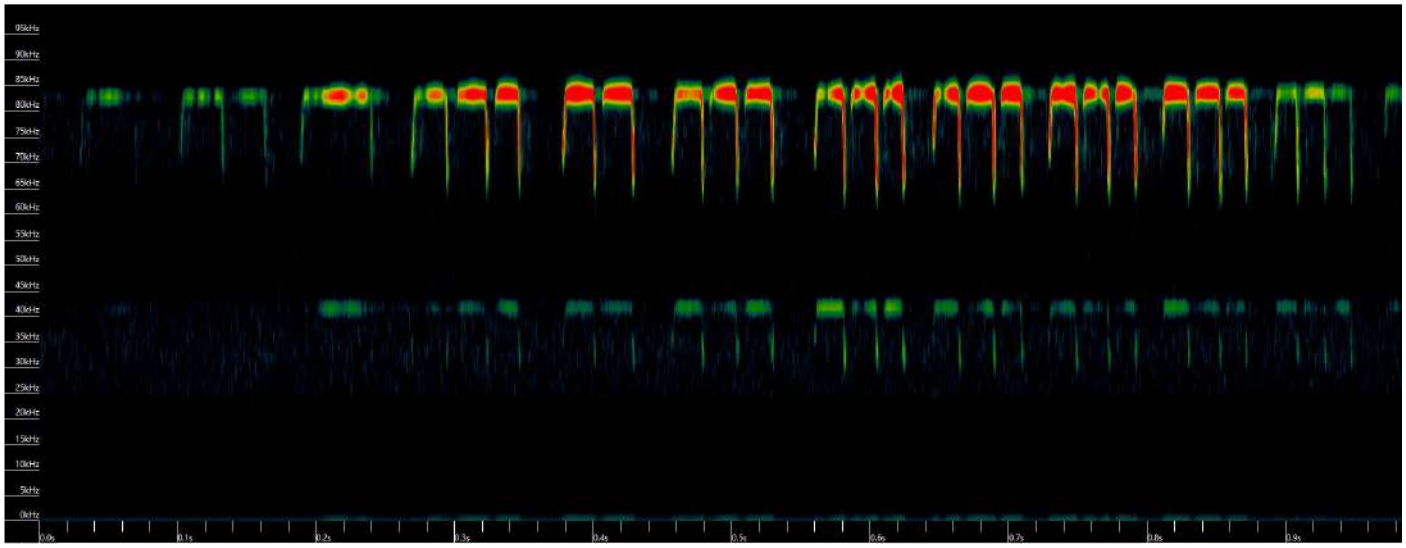

Fig. 8-a Greater Horseshoe bat, p=0.96, bat cave Upton House,23/05/2024 (file us_2024-05-23_23-29-11_p1)

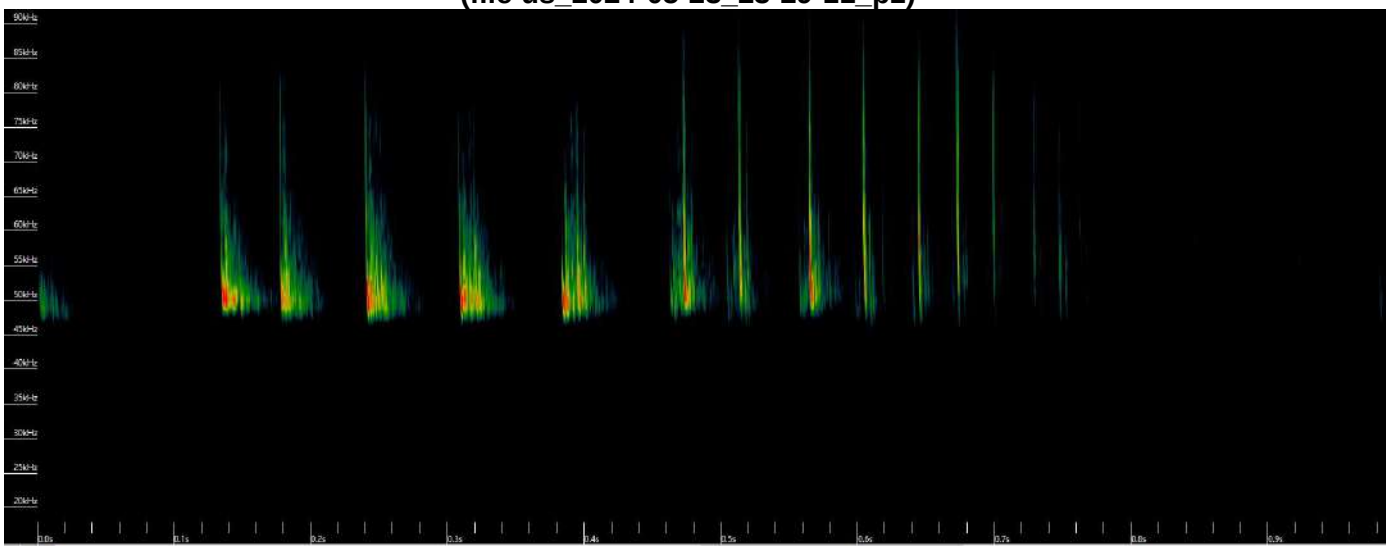

Fig. 8-b Common pipistrelle, p=0.99, bat cave Upton House, 19/07/2024 (file us_2024-07-19_02-01-39_00000_000_p1)

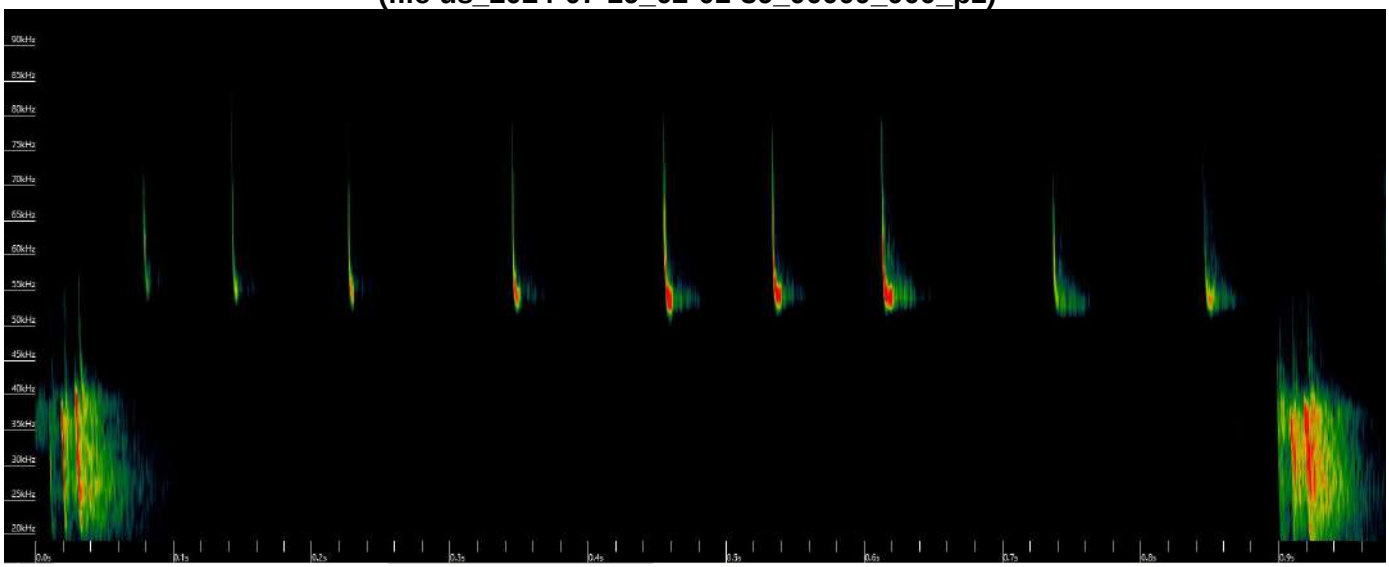

Fig. 8-c Soprano pipistrelle, p=0.95, bat cave, Upton House, (file us_2024-08-21_21-32-00_00000_000_p2)

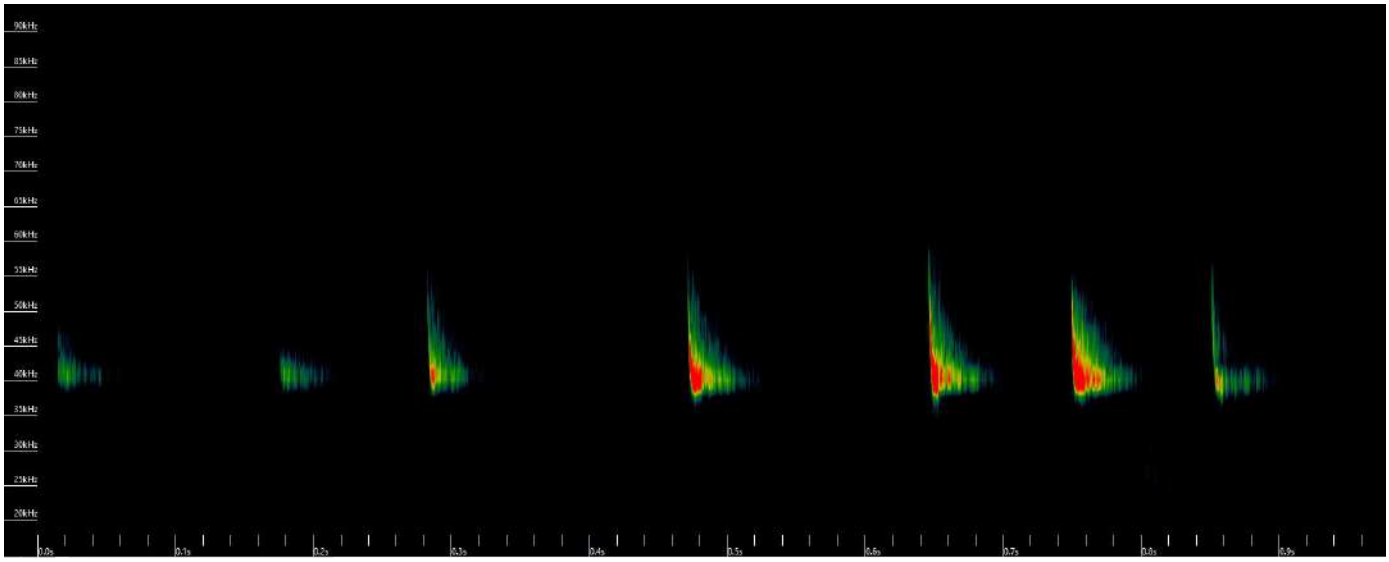

Fig. 8-d Nathusius's' pipistrelle, p=0.80, old bakehouse, 21/08/2024 Upton House, (file us_2024-08-21_23-49-09_00000_000_p1)

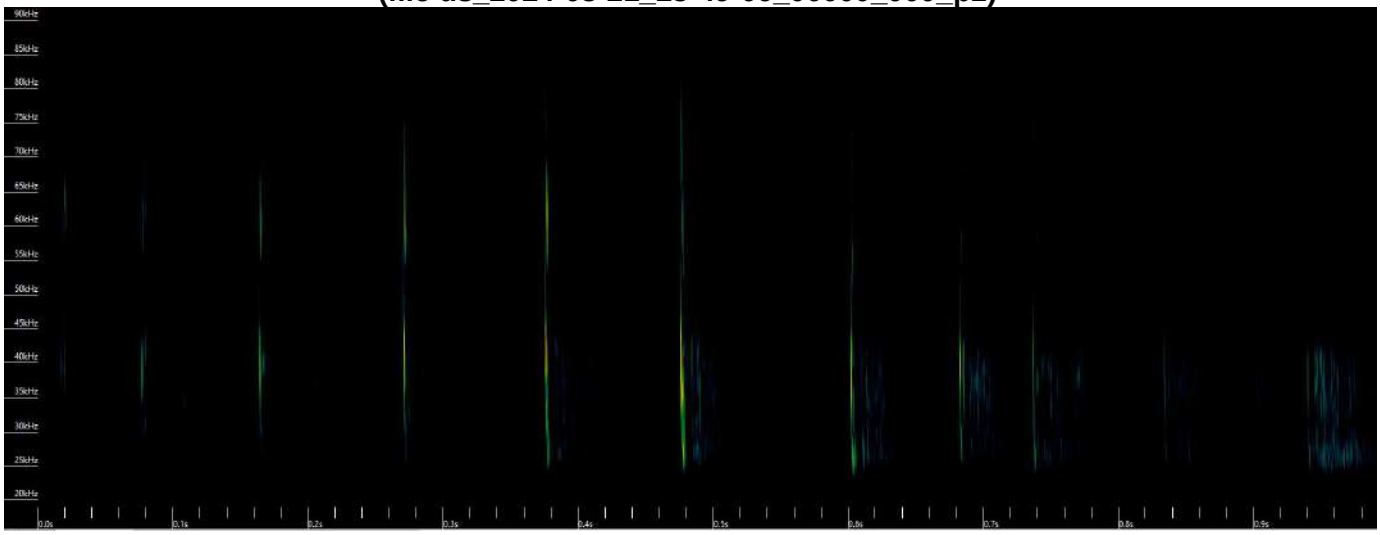

Fig. 8-e Probable Brown Long-eared bat, p= 0.96, bat cave Upton House, 28/05/2024 (file us_2024-05-28_21-30-16)

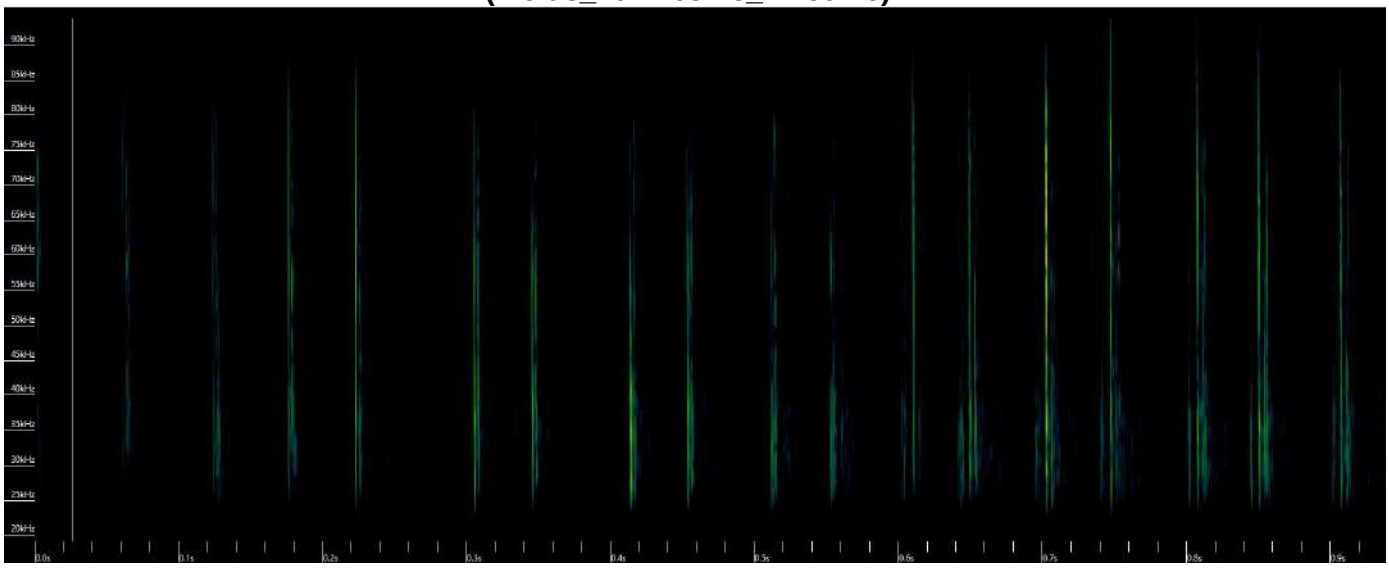

Fig. 8-f Probable Natterer's bat, p=0.93, bat cave, Upton House, 14/06/2024 (file us_2024-06-14_22-54-29)

4.3.10 Bats in the genus *Myotis* generally produce FM echolocation calls, showing in a sonagram as a thin, almost vertical line (see Fig. 8-f), with FmaxE being less obvious and minimum and maximum frequencies and call duration being the most useful parameters to distinguish individual

species. **Natterer's bat** is known to produce calls of short duration and a wide range between maximum and minimum frequencies, with a very high maximum frequency, though such high frequencies may be difficult to detect. Fig. 9 shows the same call as Fig. 8-f, but with the view zoomed out and other adjustments made to display higher frequencies. This shows the maximum frequency as high as 124 kHz and the minimum as low as approximately 21 kHz. Although, this would fit in the ranges associated with Natterer's bat, it is difficult to be certain of such an identification. The Acoustic Pipeline suggested that up to six species of *Myotis* bats could be present (see Table 6). Of the 475 files allocated to Myotis species with a p value > or equal to 0.5 300 (63%) were identified as Natterer's bat, and this species was confirmed by DNA analysis of droppings (see section 4.5.2). Further discussion on the occurrence of Natterer's bat is given below, however it should be remembered that other *Myotis* species could be present and the allocation of files to this species may be less reliable than for other species.

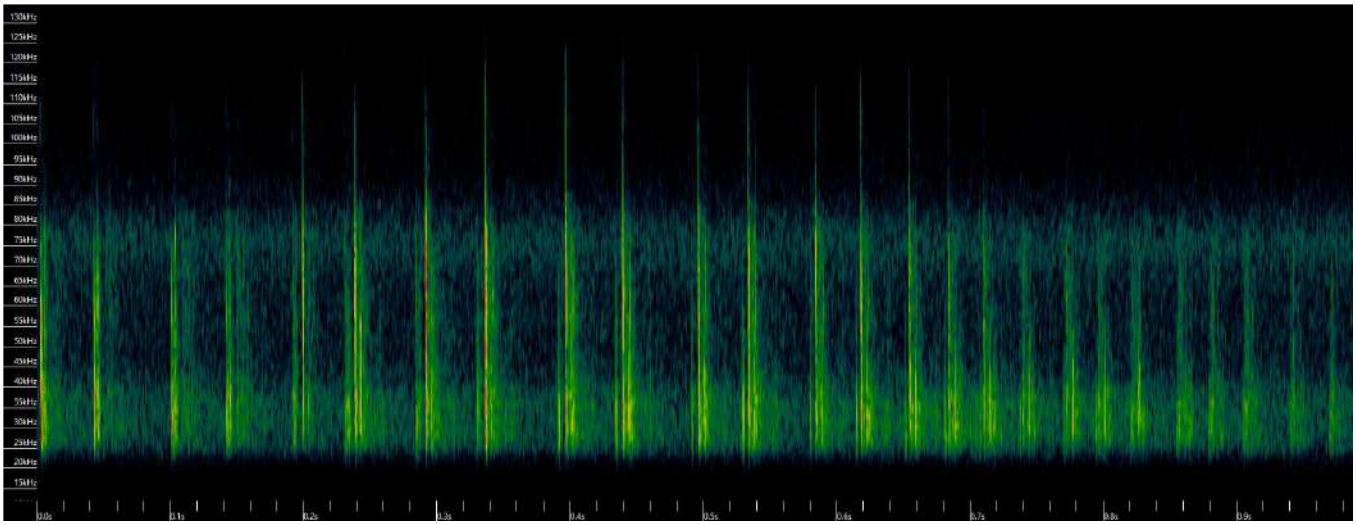

Fig. 9 Probable Natterer's bat echolocation call. This is the same call as shown in Fig. 9-f, with some adjustment made to display parameters and showing high maximum frequency.

4.3.11 Despite the difficulties in identifying some bats from sonagrams, the distinctions between some are clear. Fig. 10 shows the simultaneous recording of Common and Soprano pipistrelles and the differences between the two species can be clearly seen.

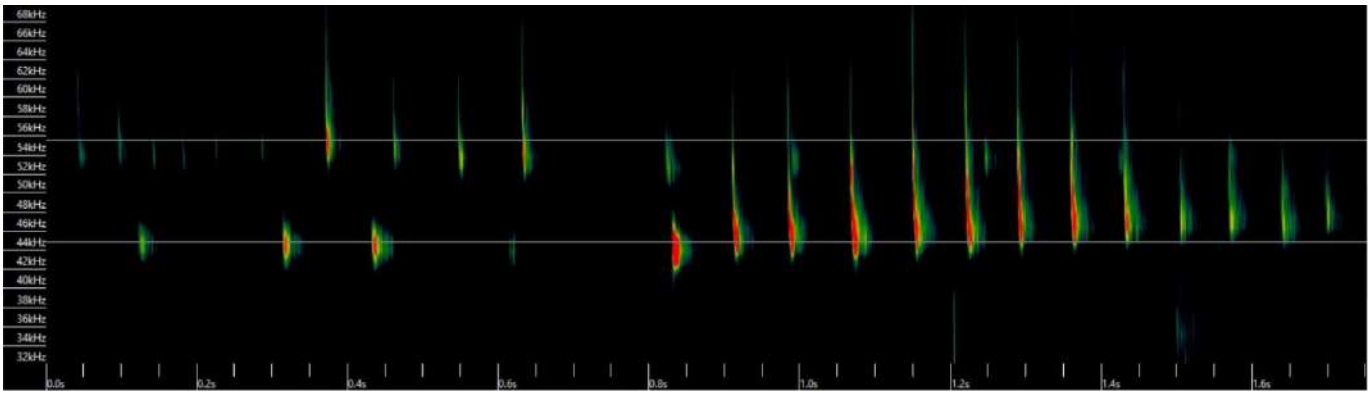

Fig. 10 Common and Soprano pipistrelle calls together; lower calls c 45 kHz, Common pipistrelle, upper line c 55 kHz, Soprano pipistrelle. Recorded at the old bakhehouse on 19/08/2024 (file us_2024-08-19_21-21-57_p1 CPIP P99 SPIP P92 bakeh)

4.3.12 This is not to say that the ‘discarded’ species were absent, indeed of these ten species, five (Barbastelle, Bechstein’s bat, Daubenton's bat, Serotine and Whiskered bat) have been previously recorded in the Holes Bay / Upton Country Park area and three (Bechstein’s bat, Daubenton's bat and Serotine) have previously been recorded in Upton House itself[1]. Further examination of the files allocated to such species by the Acoustic Pipeline may allow additional species to be confirmed but the resources for this have not been available prior to the preparation of this report.

4.4 Trail camera results

4.4.1 The early experience with the trail camera sited at the access to the bat cave showed that trail cameras are probably less reliable at picking up bat activity than the bat detector, however over the survey period the trail cameras recorded 959 video clips of bats (recording video was found to show bats more clearly than setting the cameras to take still photos). When sited at the old bakehouse or coal store, the cameras were occasionally triggered by birds but this did not appear to happen when the cameras were used at the bat cave and squash court where an additional 187 video files for which there was no obvious trigger were recorded. It was noted that on many video clips bats were not initially visible, but appeared a few seconds into the recording – the probable explanation being that a bat had triggered the camera but was out of shot in the split second it took for the camera to start recording.

4.4.2 The number of video clips for each part of the basement investigated is shown in Table 7. It can be seen that the number of video clips in total (and expressed in terms of video clips per day the camera(s) were recording) peaked in October.

	bat cave			squash court			coal store			old bakehouse			**Grand Total**		
	video clips	camera days	clips per day	video clips	camera days	clips per day	video clips	camera days	clips per day	video clips	camera days	clips per day	**video clips**	**camera days**	**clips per day**
Jul*	13	15	0.87							20	15	1.33	**33**	**15**	**2.20**
Aug	47	31	1.52				16	24	0.67				**63**	**55**	**1.15**
Sep	35	30	1.17	78	24	3.25							**113**	**54**	**2.09**
Oct	599	31	19.32	90	31	2.90							**689**	**62**	**11.11**
Nov	47	30	1.57	6	30	0.20							**53**	**60**	**0.88**
Dec	39	17	2.29	2	17	0.12							**41**	**34**	**1.21**
TOTAL	**780**	**154**	**5.06**	**176**	**102**	**1.73**	**16**	**24**	**0.67**	**20**	**15**	**1.33**	**992**	**280**	**3.54**

Table 7 – Video clips with bats recorded (*July data from 16/07/2024 when camera was moved to the lobby of the bat cave)

4.4.3 The majority (76%) of video clips which included bats showed only a single individual at any point in the clip. However, this assumes that when a bat moved out of camera shot and (later) another one flew in, these were the same individuals. The numbers of bat seen per video clip are shown in Table 8. The maximum number of bats in single clip was 5 (see Fig. 11) and there were 50 clips with 3 or more bats shown, of which 39 (78%) were recorded in October.

	Maximum number of bats visible in each video clip					
	1	2	3	4	5	**Total**
Jul	32	1				33
Aug	57	5	1			63
Sep	77	29	5	2		113
Oct	500	150	27	11	1	689
Nov	51	2				53
Dec	36	2	3			41
Total	**753**	**189**	**36**	**13**	**1**	**992**

Table 8 – Maximum number of bats seen in individual video clips.

4.4.4 It was generally difficult to identify the bat species captured in the video clips, although on some occasions the bats could be tentatively identified as one of the Long-eared bats (Fig. 12) or Greater Horseshoe bats (Fig. 13).

Fig. 11 – Still from trail camera footage showing five individual bats in the squash court on 5th October 2024.

4.4.5 Where multiple bats were seen in a video clip, there often seemed to be an element of the bats flying together (one 'shadowing another') suggesting some kind of social interaction between the individuals. There were at least 15 video clips of bats flying in daylight, with 9 of these probably showing Greater Horseshoe bats, possibly the same individual, recorded between 12:27 and 13:57 on 26th October 2024. On several occasions bats (believed to be Long-eared bats) were seen to enter cracks where the door frame to the bat cave would once have been. In at least one case the bat failed to emerge for the remainder of the video clip (around ten seconds), so it is possible the bat was roosting in this location or using the crack in the door frame to access another area.

4.5 Monitoring of droppings and DNA analysis of droppings

4.5.1 Initially it was hoped that it would be possible to regularly remove droppings from a sheet placed beneath the recess in the ceiling of the bat cave as this was an area known to have been used by roosting bats in the past. However, once the level of bat use became clear it was felt this would not be possible without a licenced bat worker being present as there was a risk of disturbance to any bats roosting in the recess (a single Greater Horseshoe bat was seen roosting in the recess on 27th August 2024).

Fig. 12 – Probable Long-eared bat in doorway to bat cave 15th October 2024 (note: date/time stamp incorrect due to battery failure in trail camera).

Fig. 13 – Probable Greater Horseshoe bat in doorway to bat cave 26th October 2024 (note: date/time stamp incorrect due to battery failure in trail camera).

4.5.2 Fig. 14 shows the monitoring sheet put down on the 17th April 2024 photographed on 26th June 2024. Whilst it is not always easy to distinguish individual droppings or (in a photograph) to separate bat droppings from other material, it is estimated that approximately 290 bat droppings are on the sheet and these must have accumulated over the 70 days from the sheet first being put down (an average rate of approximately 4 droppings per day). New sheets were put down (over the existing sheets on 26th June and 31st July 2024. The sheets were finally removed on 17th December 2024. By then many of the droppings on the sheet had degraded such as it was difficult to identify individual droppings; this was possibly due to urine as well as droppings being deposited on the sheet and soaking into the paper (see Fig. 15).

Fig. 14 -Dropping monitoring sheet under ceiling recess in the bat cave on 26th June 2024 (sheet placed on 17th April 2024).

Fig. 15 – bat monitoring sheets from the bat cave at time of removal (17th December 2024)

4.5.3 Samples of droppings were collected and sent for DNA analysis to Swift Ecology, the dates, location of droppings and results from this are shown in Table 9. The samples were collected with the help of Jez Martin and Jan Freeborn, two experienced bat workers with the aim of targeting droppings representing the range of species present. The presence of a Greater Horseshoe bat in the ceiling recess of the bat cave on 27th August 2024, meant that droppings were only collected from the squash court area (including the gallery). At that date small numbers of droppings were widely scattered (perhaps deposited by flying bats rather than roosting bats) in this area. Droppings were collected in a similar way on 17th December 2024 when the sheets were finally retrieved from the bat cave. However, the most of these droppings had degraded by then and it was difficult to select a suitable sample for DNA testing.

4.5.4 Despite the problems of sample collection, four species were confirmed by DNA analysis: Greater Horseshoe bat, Common pipistrelle, Brown Long-eared bat and Natterer's bat. Samples for testing usually contain relatively few droppings, it is recommended that 5-10 are collected. Given that the estimated rate of dropping deposition in the bat cave was c 4 per day between 17th April and 26th June 2024 and there was a high level of bat use until 17th December, a period of 244 days, it is likely that around 1,000 droppings could have accumulated in the bat cave and other areas. Seven samples were sent for testing, probably constituting 70 or less individual droppings. This probably represents, less than 10% of the droppings deposited over the study period. It is

possible therefore that other species were present but would not have been represented in the samples collected.

Date collected	Location	Species identified	Notes
27th August	squash court including gallery	Common pipistrelle, Brown Long-eared bat, Natterer's bat	from scattered droppings
17th December	squash court including gallery	Brown Long-eared bat, Greater Horseshoe bat, Natterer's bat	from scattered droppings
17th December	bat cave	Greater Horseshoe bat	from sheet placed below roof cavity; many droppings broken up and difficult to collect

Table 9 – Results of DNA analysis of droppings

4.6 Bat species selected for further discussion

4.6.1 The analysis of bat detector files suggested a very wide range of species could be present. However, given the uncertainty over some of the identifications and the limited resources available to analyse sound files, further discussion of the pattern of occurrence of species has been restricted to six species (shown in bold in Table 6), selected on one or more of the following criteria:

(a) Analysis by the Acoustic Pipeline producing 100 or more files with a p value > or equal to 0.9

(b) Species presence confirmed by the DNA analysis of droppings (see section 4.3)

(c) Species with distinctive echolocation calls, such that it was felt that the identification from sound files was reliable

On this basis the following species have been selected for further discussion (see section 5.2 onwards):

Greater Horseshoe bat (criteria a, b and c)

Common pipistrelle (criteria a, b and c)

Soprano pipistrelle (criterion c)

Nathusius's pipistrelle (criterion c)

Natterer's bat (criterion b)

Brown Long-eared bat (criterion b) – note Acoustic Pipeline also suggested that the much rarer Grey Long-eared bat could also be present.

5. DISCUSSION

5.1 Bat activity, species present and numbers

5.1.1 The bat detector (and to a lesser extent) the trail cameras clearly showed that bats were present (and active) in the basement with bats being recorded on 100% of the days which the detector was operational from May-October inclusive, and regularly at other times during the survey period. As indicated above, it is believed that at least six species were present during this time and the patterns of occurrence for these species are discussed below. It seems likely that other species were also present.

5.2.2 It is more difficult to be certain about the number of individual bats present. The maximum number of bats recorded at any one time on a trail camera video clip was five, and there were a further thirteen clips recorded where at least four bats were present. However, trail camera recordings may not include all bats present at a particular time.

5.2 Patterns of occurrence – Greater Horseshoe bat (criteria a, b and c)

5.2.1 The Greater Horseshoe bat had by far the largest number of files allocated to it by the Acoustic Pipeline (see Table 4) and the p value for these files were particularly high. Its presence was also confirmed by DNA analysis of droppings. The number of files allocated to this species in each month, for each location sampled and the number of files per day the recorder was operational is shown in Table 9.

Greater Horseshoe Bat - Acoustic Pipeline results with p greater or equal to 0.5															
	ALL LOCATIONS			BAT CAVE			OLD BAKEHOUSE			COAL ST			SQUASH COURT		
Month	no. files	days	mean files per day	no files	days	mean files per day	files	days	mean files per day	files	days	mean files per day	files	days	mean files per day
Apr	0	12	0	0	12	0	-	-	-	-	-	-	-	-	-
May	908	16	57	908	16	57	-	-	-	-	-	-	-	-	-
Jun	4045	30	135	4045	30	135	-	-	-	-	-	-	-	-	-
Jul	6710	31	216	6710	31	216	-	-	-	-	-	-	-	-	-
Aug	2736	25	109	2198	9	244	373	8	47	165	5	33	-	-	-
Sep	954	28	34	566	7	81		n/a	n/a	18	3	6	370	18	21
Oct	3628	15	242	3628	15	242		-	-		-	-	-	-	-
Nov	54	20	3	54	20	3		-	-		-	-	-	-	-
Dec	18	17	1	18	17	1		-	-		-	-	-	-	-
total	19053	194	98	18127				8	0				368	18	20

Table 9 – Greater Horseshoe bat: estimated activity levels, showing the number of detector files recorded, the days the recorder was in operation and the number of files per recorder day.

5.2.2 Table 9 shows that, whilst this species was not recorded in April (the detector was installed on the 17th); the first record was on 23rd May. Subsequently, activity levels built up peaking in July, with a secondary peak in October. It needs to be remembered that the bat detector was moved away from the bat cave lobby for parts of August and September. The last record (with a p value of 0.5 or more) was on 17th December 2024, when data collection for this report ceased. The trail cameras recorded several video clips when bats believed to be this species rested, at least briefly. Some activity also took place in daylight.

5.2.3 The detector files per day figures suggest that high levels of activity are quite strongly associated with the bat cave rather than the other locations, though all three other locations were visited by this species, in the brief periods the detector was moved away from the bat cave. The species was recorded on 6 out of the 9 whole or part days in August/September that the detector was placed in the coal store, 9 out of 9 whole or part days in August that the bat detector was

placed in the old bakehouse and 15 out of 18 whole or part days the detector was placed in the squash court, suggesting that these locations are regularly visited by Greater Horseshoe bats.

5.2.4 Overall, approximately 1% of the calls with a p value of 0.5 or greater were classified as social calls by the Acoustic Pipeline, these all occurred in the months from July to October inclusive, with a peak of 2% of calls in August.

5.3 Patterns of occurrence – Common pipistrelle

5.3.1 The Common pipistrelle had the second highest number of files allocated to it by the Acoustic Pipeline and these files also had high p values (see Table 4). Its presence was also confirmed by DNA analysis of droppings. The number of sound files allocated to this species in each month, for each location sampled and the number of files per day the recorder was operational is shown in Table 10.

Common pipistrelle - Acoustic Pipeline results with p greater or equal to 0.5															
	ALL LOCATIONS			BAT CAVE			OLD BAKEHOUSE			COAL ST			SQUASH COURT		
Month	no. files	days	mean files per day	no files	days	mean files per day	files	days	mean files per day	files	days	mean files per day	files	days	mean files per day
Apr	40	12	3	40	12	3	-	-	-	-	-	-	-	-	-
May	123	16	8	123	16	8	-	-	-	-	-	-	-	-	-
Jun	146	30	5	146	30	5	-	-	-	-	-	-	-	-	-
Jul	803	31	26	803	31	26	-	-	-	-	-	-	-	-	-
Aug	3065	25	123	752	9	84	1626	8	203	687	5	137	-	-	-
Sep	858	28	31	70	7	10	-	-	-	258	3	86	530	18	29
Oct	289	15	19	289	15	19	-	-	-		-	-	-	-	-
Nov	19	20	1	19	20	1	-	-	-		-	-	-	-	-
Dec	7	17	0	7	17	0	-	-	-		-	-	-	-	-
total	5350	194	28	2249	157	14	1626	8	203				368	18	20

Table 10 – Common pipistrelle: estimated activity levels, showing the number of detector files recorded, the days the recorder was in operation and the number of files per recorder day.

5.3.2 Table 10 shows that this species was recorded in all months (with the first record on 18th April 2024, the day after the detector was installed), but with a very strong peak of activity in August, but declining rapidly after that month.

5.3.3 The highest number of sound files per day (203) occurred over the eight days in August when the detector was placed in the old bakehouse, and the second highest (137) over the five days in August the detector was placed in the coal store, with the third highest (86) being for the three days the detector was operating in the coal store in September. These figures compare with the 84 files per day for the nine days in August the detector was operating in the bat cave. Whilst some of this variation may reflect seasonal differences in activity, it also seems likely this species was particularly associated with the old bakehouse and coal store.

5.3.4 Overall approximately 21% of the calls with a p value > or equal to 0.5 were classified as social calls by the Acoustic Pipeline, with the highest proportions of such calls recorded in October (35%) and 20% or more in July, August and September. The coal store had a particularly high number of social calls, with 45% of the 523 calls recorded there over eight days in August.

5.4 Patterns of occurrence – Soprano pipistrelle

5.4.1 The Soprano pipistrelle had the third highest number of files allocated to it by the Acoustic Pipeline, after the Greater Horseshoe bat and Common pipistrelle, and, as with those species p values were generally high (see Table 4), though its presence was not confirmed by DNA analysis of droppings. The number of sound files allocated to this species in each month, for each location sampled and the number of files per day the recorder was operational is shown in table 10.

Soprano pipistrelle - Acoustic Pipeline results with p greater or equal to 0.5															
	ALL LOCATIONS			BAT CAVE			OLD BAKEHOUSE			COAL ST			SQUASH COURT		
Month	no. files	days	mean files per day	no files	days	mean files per day	files	days	mean files per day	files	days	mean files per day	files	days	mean files per day
Apr	2	12	< 1	2	12	< 1	-	-	-	-	-	-	-	-	-
May	4	16	< 1	4	16	< 1	-	-	-	-	-	-	-	-	-
Jun	10	30	< 1	10	30	< 1	-	-	-	-	-	-	-	-	-
Jul	17	31	1	17	31	1	-	-	-	-	-	-	-	-	-
Aug	2392	25	96	19	9	2	2305	8	288	68	5	14	-	-	-
Sep	29	28	1	2	7	< 1	-	-	-	24	3	8	3	18	< 1
Oct	9	15	1	9	15	1	-	-	-		-	-	-	-	-
Nov	1	20	< 1	1	20	< 1	-	-	-		-	-	-	-	-
Dec	0	17	0	0	17	0	-	-	-		-	-	-	-	-
total	2464	194	13	64	157	< 1	2305	8	288	92			368	18	20

Table 11 – Soprano pipistrelle: recorded activity levels, showing the number of detector files recorded, the days the recorder was in operation and the number of files per operational day.

5.4.2 Table 11 show that Soprano pipistrelles were recorded in all months from April to November, with a very marked peak in activity in August, which accounted for 2,392 of 2,464 files (97%) of files with a p value > or equal to 0.5. It was in this period that the detector was moved to the old bakehouse and coal store, however the large proportion of files recorded at the old bakehouse suggests, not only a peak of activity in August but also a concentration of activity at that location.

5.4.3 Overall a high proportion of calls (42%) were classed as social calls (at a p > or equal to 0.5); with 41% of the calls in August being classified in this way. It is difficult to assess the significance when relatively few calls were recorded in other months. However, this may suggest a high level of interaction between bats in the brief period that activity was most concentrated (which was when the detector was placed at the old bake house).

5.5 Patterns of occurrence – Nathusius's pipistrelle

5.5.1 Only 56 files were classified as Nathusius's' pipistrelle (of which 36 had a p value > or equal to 0.5). These were all recorded between 19th August 2024 and 1st September 2024, the majority (54) when the detector was positioned at the entrance to the 'old bakehouse' with two files recorded at the entrance to the coal store. This pattern contrasts very strongly with the thousands of files classified as Common pipistrelle (regularly recorded in all months April-December) and Soprano pipistrelle (recorded in all months April-November) and would fit with this species being migratory, particularly passing through the area in the Autumn.

5.5.2 Of the 56 files, 17 were recorded on 22nd August with the latest file in the morning at 05:39 (i.e. c 30 mins before sunrise) and the earliest in the evening at 21:06 (i.e. c 53 minutes after sunset). Given that the detector was at the entrance to the old bakehouse, but not inside it, we cannot be sure that any of the bats recorded there actually entered the room - though we do have trail camera footage of (unidentified) bats entering and flying around within the old bakehouse.

5.5.3 As far as is known, this is the first time this species has been recorded at Upton House itself, though both Jan Freeborn and I have recorded it in the grounds nearby. In the autumn of 2024, two visits to the Fleetsbridge /PCW channel (approximately 0.9 miles east of Upton House) using an Echometer Touch 2 Pro detector and processing the resultant files via the Acoustic Pipeline produced the following numbers of files identified as Nathusius's' pipistrelle with a p value > or equal to 0.5:

20th September 2024 – 152 files in 49 minutes of recording

24th October 2024 – 73 files in 95 minutes of recording

Given the level and timing of Nathusius's' pipistrelle activity in the local area, it may be significant that no further records were made once the detector had been moved from the coal store to the

squash court on 6th September – perhaps because this species is especially associated with the old bakehouse and/or that migration had declined.

5.6 Patterns of occurrence – Natterer's bat

5.6.1 The possible presence of five species of *Myotis* bat were indicated by the Acoustic Pipeline with a p value > or equal to 0.5 (see Table 4). However, it is recognised that distinguishing individual species of this genus purely on sound recordings is particularly difficult. However, as Natterer's bat accounted for 300 out of 475 (63%) of such files and this species was confirmed by DNA analysis, it is regarded as reasonable to consider the likely pattern of occurrence of this species, though it is accepted that the identifications of calls for it may be less reliable than for other species and the pattern of occurrence described here is less certain than for some other species.

5.6.2 Table 12 shows the number of files allocated to this species (at a p value > or equal to 0.5) through the survey period and from different locations. The number of files identified for this species is much less than for the other species discussed in this section, suggesting the presence of fewer individual bats or a different pattern of behaviour. It is likely that the species was present throughout the survey period, though perhaps with less marked seasonal peaks – peak file numbers were in June and September.

Natterer's bat - Acoustic Pipeline results with p greater or equal to 0.5															
	ALL LOCATIONS			BAT CAVE			OLD BAKEHOUSE			COAL ST			SQUASH COURT		
Month	no. files	days	mean files per day	no files	days	mean files per day	files	days	mean files per day	files	days	mean files per day	files	days	mean files per day
Apr	2	12	< 1	2	12	< 1	-	-	-	-	-	-	-	-	-
May	5	16	< 1	5	16	< 1	-	-	-	-	-	-	-	-	-
Jun	87	30	3	87	30	3	-	-	-	-	-	-	-	-	-
Jul	18	31	1	18	31	1	-	-	-	-	-	-	-	-	-
Aug	20	25	1	7	9	1	9	8	1	4	5	1	-	-	-
Sep	106	28	4	28	7	4	-	-	-	10	3	3	68	18	4
Oct	30	15	2	30	15	2	-	-	-		-	-	-	-	-
Nov	18	20	1	18	20	1	-	-	-		-	-	-	-	-
Dec	14	17	1	14	17	1	-	-	-		-	-	-	-	-
total	300	194	2	209	157	1	9	8	1	14			68	18	4

Table 12 – Natterer's bat: recorded activity levels, showing the number of files recorded, the days the recorder was in operation and the number of files per recorder day.

5.6.3 The species was recorded in all four locations, and although the number of files was relatively low, the level of activity seemed to be consistent across the different locations in the basement – a pattern different to that shown by the Greater Horseshoe bat and the three pipistrelle species.

5.7 Patterns of occurrence - Brown Long-eared bat

5.7.1 The number of files allocated to the Brown Long-eared bat at the p values > or equal to 0.5 was 541, this was the fourth highest number, after the Greater Horseshoe bat and the Common and Soprano pipistrelles, all of which generated far more files (see Table 6). The Acoustic Pipeline also identified 359 files (at p values > or equal to 0.5) as the much rarer Grey Long-eared bat. However, only Brown Long-eared bat was identified by DNA analysis of droppings. Given this and the difficulty of distinguishing the two species from sound files, detailed discussion here is restricted to the files allocated by the Acoustic Pipeline to the commoner species (but see paragraph 5.7.4 below).

5.7.2 The distribution of these calls through the survey period and the different locations is shown in Table 13. The data suggests this species was present from April to October only (though there were 6 files allocated to this species at a p value below 0.5 on 1st November 2024).

Brown Long-eared bat - Acoustic Pipeline results with p greater or equal to 0.5															
	ALL LOCATIONS			BAT CAVE			OLD BAKEHOUSE			COAL ST			SQUASH COURT		
Month	no. files	days	mean files per day	no files	days	mean files per day	files	days	mean files per day	files	days	mean files per day	files	days	mean files per day
Apr	6	12	1	6	12	1	-	-	-	-	-	-	-	-	-
May	72	16	5	72	16	5	-	-	-	-	-	-	-	-	-
Jun	58	30	2	58	30	2	-	-	-	-	-	-	-	-	-
Jul	57	31	2	57	31	2	-	-	-	-	-	-	-	-	-
Aug	15	25	1	7	9	1	7	8	1	1	5	< 1	-	-	-
Sep	294	28	11	24	7	3	-	-	-	0	3	0	270	18	15
Oct	39	15	3	39	15	3	-	-	-		-	-	-	-	-
Nov	0	20	0	0	20	0	-	-	-		-	-	-	-	-
Dec	0	17	0	0	17	0	-	-	-		-	-	-	-	-
total	541	194	3	263	157	2	9	8	1	14			68	18	4

Table 13 – Brown Long-eared bat: recorded activity levels, showing the number of detector files recorded, the days the recorder was in operation and the number of files per recorder day.

5.7.3 This species was identified from all four locations where the bat detector was placed. However, the number of files per day figure (15) for the squash court (where the detector was placed from the 6th to the 23rd September 2024 was three times greater than that for any other location/period, and this suggests a high level of use by this species of this area, though it needs to be remembered that since a single detector was moved between the rooms being investigated, only one location could be monitored at one time. In addition, the squash court is a relatively large room and the detector is effectively covering a larger area when placed there. On several occasions bats, believed to be one of the Long-eared species, were seen entering gaps at the side of the doorway to the bat cave. It was not clear whether the bats were resting in the gap (close to the surface) or moving into other areas via the gaps.

5.7.4 The possibility of Grey Long-eared bats also being present, though unlikely, means that the allocation of files between the two species may not be accurate and this could affect the patterns discussed above. However, the patterns shown through the survey period for these species (at a p value > or equal to of 0.5) are shown in Fig. 16 and are very similar for both species. Given that the presence of Brown Long-eared bats was demonstrated by DNA analysis of droppings, it seems likely that the broad patterns described above are accurate for the Brown Long-eared bat.

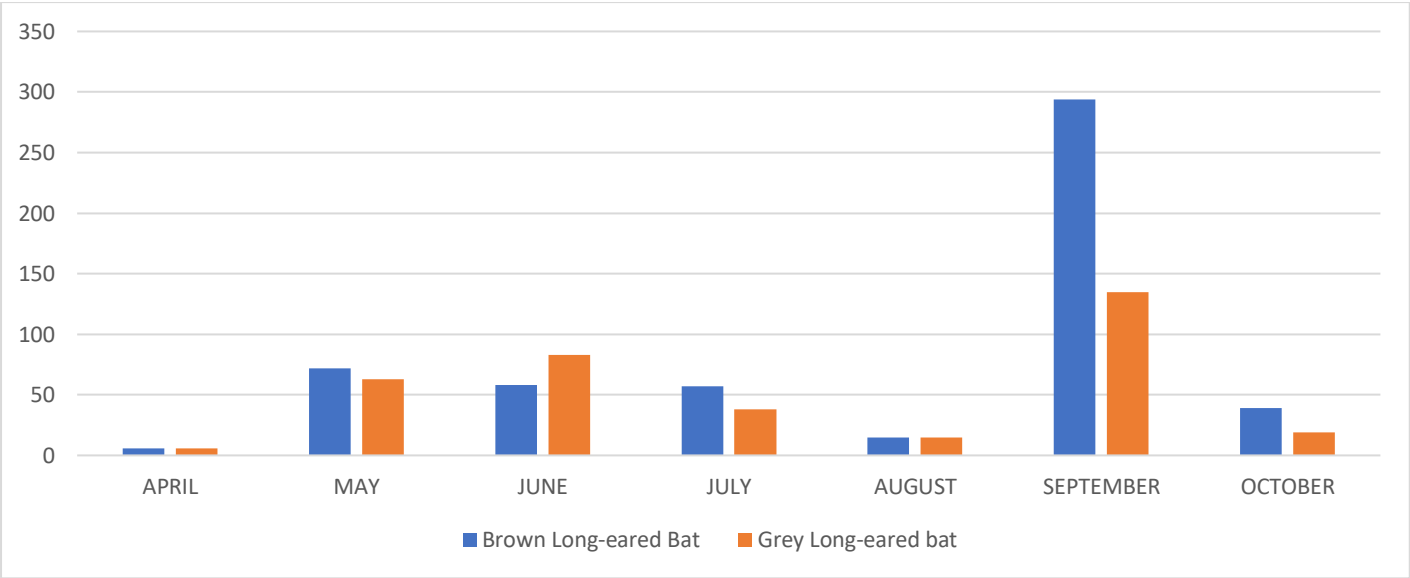

Fig. 16. Number of files per month allocated for the two species of Long-eared bat by the Acoustic Pipeline (p value >or equal to 0.5).

6. CONCLUSIONS

6.1 Current levels of use by bats of Upton House

6.1.1 The study has shown that bats were present in Upton House on most days during the survey period (with the detector recording bats on 100% of the days it was operational in the months of May to October inclusive, and bats present, though perhaps less active for the remainder of the survey period (17th April to 17th December). The survey also showed that all four locations investigated: the bat cave, old bakehouse, squash court and coal store were used by a variety of bat species, although the detector was mostly used at the entrance to the bat cave.

6.1.2 The presence of at least six species of bat has been shown by the project: with Greater Horseshoe bat, Common pipistrelle, Brown Long-eared bat and Natterers bat evidenced both by sound recordings and DNA analysis of droppings, with Soprano pipistrelle and Nathusius's pipistrelle identified solely by sound recordings. Given the range of species found historically in the building and the other species suggested by the Acoustic Pipeline analysis, it is likely that other species are also present.

6.1.3 The data collected suggests that the level of activity by different species varies through the year (see Fig 17) with Greater Horseshoe bat and Natterer's bat present for most of the year but pipistrelle activity (especially Soprano and Nathusius's) activity being very concentrated in a relatively short period in late August to September. In the case of the Nathusius's pipistrelle perhaps reflecting the migratory nature of this species. The number of files recorded is not necessarily a measure of the number of individual bats present as the behaviour of the bats will also influence the number of files; one or a few bats flying around for a period could generate many files. However, it is known that some bats, especially *Myotis* species visit certain sites in autumn in large numbers, a phenomenon known as 'swarming'[8]. Though the maximum number of bats visible in a trail camera video clip was five – there could be many more individuals present.

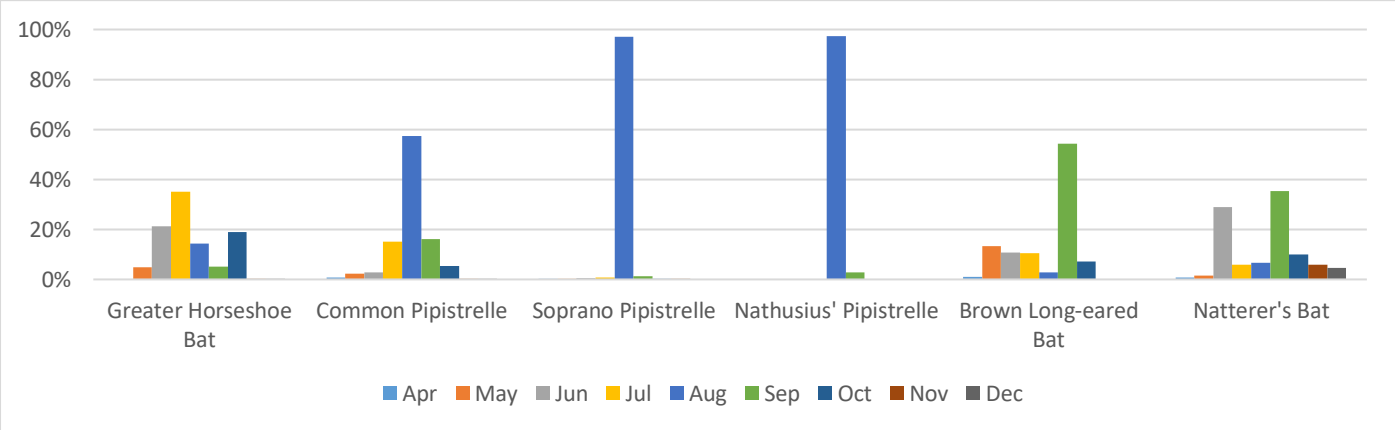

Fig. 17. Percentage of total files recorded by month for selected species (at p > or equal to 0.5)

6.1.4 Similarly, the study suggests there was some difference in the use of the various parts of the basement, with Greater Horseshoe bat activity focussed on the bat cave and the pipistrelle species more strongly associated with the old bakehouse. There also seemed to be a peak in Brown Long-eared bat activity in September, and a particular association with the squash court. Given that five of the six species positively identified were picked up on the detector in all four locations where the detector was used, the site should perhaps be considered as a complex of rooms with varying use. Of course, bats may also be using other parts of the basement or the building more generally.

6.2 Implications of the project

6.2.1 The most recent detailed study of Upton House, the Conservation Management Plan (CMP) prepared in 2010[7], notes that many bats had been "sighted within Upton House itself" and that Upton House has a "high potential for the presence of bats". However, the description of the bat cave states that "allegedly the room has been recently occupied by bats, but [there is] no evidence of current occupation" and also lists altering the access to the bat cave as "a desirable work" though "subject to bat advice." The trail cameras demonstrated that the access is regularly used by bats to enter and leave the building. Although the access was constructed specifically for this purpose in 1982, it is thought that the trail camera footage is the first time such use has been 'witnessed'. The study also demonstrates the general high level of use by bats of the basement.

6.2.2 The detailed descriptions of the old bakehouse, squash court and coal store in the CMP do not indicate the possible use by bats, which has now been confirmed. However, the Plan also recommends five-yearly reviews to take account of (amongst other things) the results of new ecological surveys. So hopefully, the results of this study can be incorporated into the Plan in due course.

6.2.3 It should also be membered that this study only involved one part of the basement, though this was the part historically most associated with use by bats. It is possible that bats are present in other parts of the basement, and on other floors of the House.

6.3 Future work

6.3.1 The study generated a huge amount of data and provides evidence that at least six species of bat are using the basement. This compares with nine species of bat known to have been found in Upton House in the forty or so years between the late 1970s and 2023. Given the likely occurrence of additional species, more in depth analysis of the detector files is desirable as is further DNA analysis of droppings. At the end of 2024 a system was devised that, hopefully, will allow the withdrawal of the paper used to collect droppings from the bat cave without having to enter the room (and potentially disturb any roosting bats). It is hoped that this may enable collection of droppings in good condition at intervals through the year in 2025.

6.3.2 Investigating the variation in activity by different species through the year was hampered by the decision to move the detector amongst the various locations during August and September, which seemed to be the peak activity time for some of the species. However, it did allow use of the other locations to be investigated. It is intended to keep the detector in the current location in the lobby of the bat cave for 2025, but to consider placing detectors in other locations if additional resources become available, or in future years.

6.3.3 It is also recognised that there is still much to be found out about the numbers of each species involved and their patterns of behaviour. For example, although it is known that bats visit all the rooms investigated, the only apparent roost site remains the bat cave. Bats were seen (on trail camera videos) entering cracks in the door way to the bat cave, though it was unclear if they using these to move to other roost sites, or just resting briefly in the cracks.

7. ACKNOWLDGEMENTS

7.1 The help of the following is gratefully acknowledged in carrying out this project. Jan Freeborn and Jez Martin (Ecologist/Biodiversity Officer, BCP Council), both licensed bat workers, assisted with all aspects of the survey, including collection of droppings for DNA analysis. Jan Freeborn also supervised my work as her agent to confirm with licensing regulations. Adrian Bicker helped with identification of some of the sound files. Dr. Stuart Newson (British Trust for Ornithology) assisted with issues arising from file processing via the Acoustic Pipeline. Roger Brewer (Upton Country Park Team Leader, BCP Council) and his staff facilitated access to Upton House and, when the high level of bat use became apparent, acted promptly to protect the site from any undue disturbance. Swift Ecology Ltd carried out the DNA analysis charging a discounted fee as a volunteer project. Bat detector data was analysed using Kaleidoscope Lite software (provide free by Wildlife Acoustics Ltd) and the Acoustic Pipeline (provided free by the British Trust for Ornithology). The Friends of Upton Country Park generously funded the bat detector, trail cameras and DNA analysis – without their funding, this survey would not have been possible.

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