
Tyttenhanger Gravel Pits Bird Report for 2021



**Edited and produced by
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Introduction

This report is the seventeenth we have produced for the site known locally as Tyttenhanger Gravel Pits since the current series of reports started in 2004. The first Tyttenhanger Report was produced for 1996 (Brew, 1997) and since taking the reins in 2004 we have tried to follow the same general format as that used in the original report. As more and more data have become available, we have expanded our analyses and presentation options while trying to maintain the spirit of 1996 and our earlier reports. We hope that the similar layout and content helps making comparisons across the span of years and the previous reports but we are also able to reflect the ever-changing nature of Tyttenhanger GP's birds.

The core of this report is undoubtedly the Systematic List of bird observations for 2021 and the analysis that goes with these observations and along with the full Systematic List we have continued to provide details of the recording area, public access to the site and a short review of the year covered by the report. The latter includes ornithological highlights along with summaries of physical and structural changes and any notable meteorological events.

Previously we have found that around 10 years of data is the upper limit for many types of presentation and so we have been continuing to look for different ways of summarising the data. An outline and explanation of some of these methodologies can be found in more detail in the section "*Data Collection, Analysis and Presentation*". This year continues the trend from last year where we have continued to trial the use of different ways to present the available data through the usual tables, but continue to use a greater number of charts and figures. The latter has given the report a slightly different appearance than past reports but hopefully without breaking the link to those reports that have gone before.

It would be remiss of us not to mention that this release of this report is a little delayed from that of the previous few years – for which we apologise. However, there is a good reason for this... which is, that after many years of “creative inactivity” we have at last made major in-roads into the compilation of a “Breeding Birds of Tyttenhanger GPs”. This has involved more re-coding of data, extensive scouring of potential sources of additional data and extracting and analysing these data in a different context to the annual reports. We have no completing date for this report at the present time – but are hoping that it will be ready for release some time this year.

Finally, as in previous years we hope you enjoy reading the report and if you do, then we encourage you to let us know either *via* the email addresses below or even directly if you bump into us in the field! Likewise, if you did not enjoy reading it, or can think of ways of improving your enjoyment, then please let us know.

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Recording Area and Access

The area covered by the current report is shown in Figure 1. As indicated previously, this is an attempt to update the excellent map produced in the 1996 report and to show the current status of the area. While there are undoubtedly inaccuracies in this map it shows the general boundaries of the area considered in the report, namely, that bounded by the A414 to the west, White Horse Lane and the London Colney by-pass to the south, Coursers Road to the east and Colney Heath High Street to the north.

Access can be gained from several public footpaths that lead onto the site (see OS Explorer Map No. 182). For those arriving by car a number of access options are available. One option is to enter *via* Church Lane in Colney Heath – parking around the entrance to the Water Works. The model railway club usually meets on Sunday mornings and space can be restricted at this time. Alternatively, park at St Peter’s Church in London Colney and walk along the Colne, under the London Colney by-pass and on past the Fishing Lakes and Willows Farm. The third option is to enter on the access road for the Gravel Quarry just before the Garage on the A414 (coming from the Hatfield direction) and park at the end of this road before the entrance to the fishing lakes. Once on-site there is an extensive network of footpaths and tracks which cover much of the recording area. Observers are requested to keep to the marked footpaths to minimise disturbance to the birds, the land-owners and the quarrying operations. This is particularly so around the Main Pit and it should be noted that the workings access track is not a public right of way and that there are a number of remotely controlled security cameras along the conveyor belt with speaker’s that will tell you that you are in a restricted area! We have also been informed that if people are seen on the access track that security will notify the police. The current OS map (OS Explorer Map No. 182) should be consulted for some of the older paths that may not be shown on the map presented in Figure 1. However, please bear in mind that due to the active mineral extraction operations - on and around the site - there are frequent changes to the footpaths and rights of way.

Review of the Year - 2021

Physical features

Most of the major physical features on-site are still much as they have been in the past, however, there have been changes to the extent and nature of these features as time has gone by. First, the water level in the Min Pit is constantly fluctuating, but for the last few years has remained consistently high. The result of the latter is that the sand-spit in the Main Pit has been virtually absent for the last few years and consequently the numbers and occurrence of many species has been affected. As previously noted, the vegetation around the main pit has also continued to grow and, in the absence of any management, visibility of many areas of the pit has been affected. The reedbed on the Main Pit continues to grow and is now a significant feature providing both increased breeding opportunities in the summer and roost sites in the winter.

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Median 2001-21 ¹
Annual Rain (mm)	1004.0	805.7	1014.7	740.1	727.7	726.5	776.3	857.4	900.2	805.7	805.7
Air frost (days)	46.6	55.6	24.4	29.5	43.0	40.0	37.1	37.7	26.9	51.0	43.0

Weather

Overall, in many ways the weather in 2021 was typical of most years since 2001. However, there were a few notable observations this year with respect to rainfall and air-frost duration that are worth mentioning. First, this year’s rainfall was actually the median point for the period 2001-21 - with April and November being drier than normal, but most other months

¹ Data were extracted for the period 2001-21 from the following site <https://www.metoffice.gov.uk/research/climate/maps-and-Other-Resources/data/uk-and-regional-series>. The latter site is no longer available and so the data for the south of England from <https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-and-regional-series> was used for 2021. These data were compared to the data for the period 2001-21 and found to differ only slightly, therefore, data from previous analyses were retained for those years

being relatively typical.² Air-frost duration for the year was higher than in most years – due in part to a particularly large number of days in April (11.7) and May (1.4), but otherwise there was nothing else of note for the year.

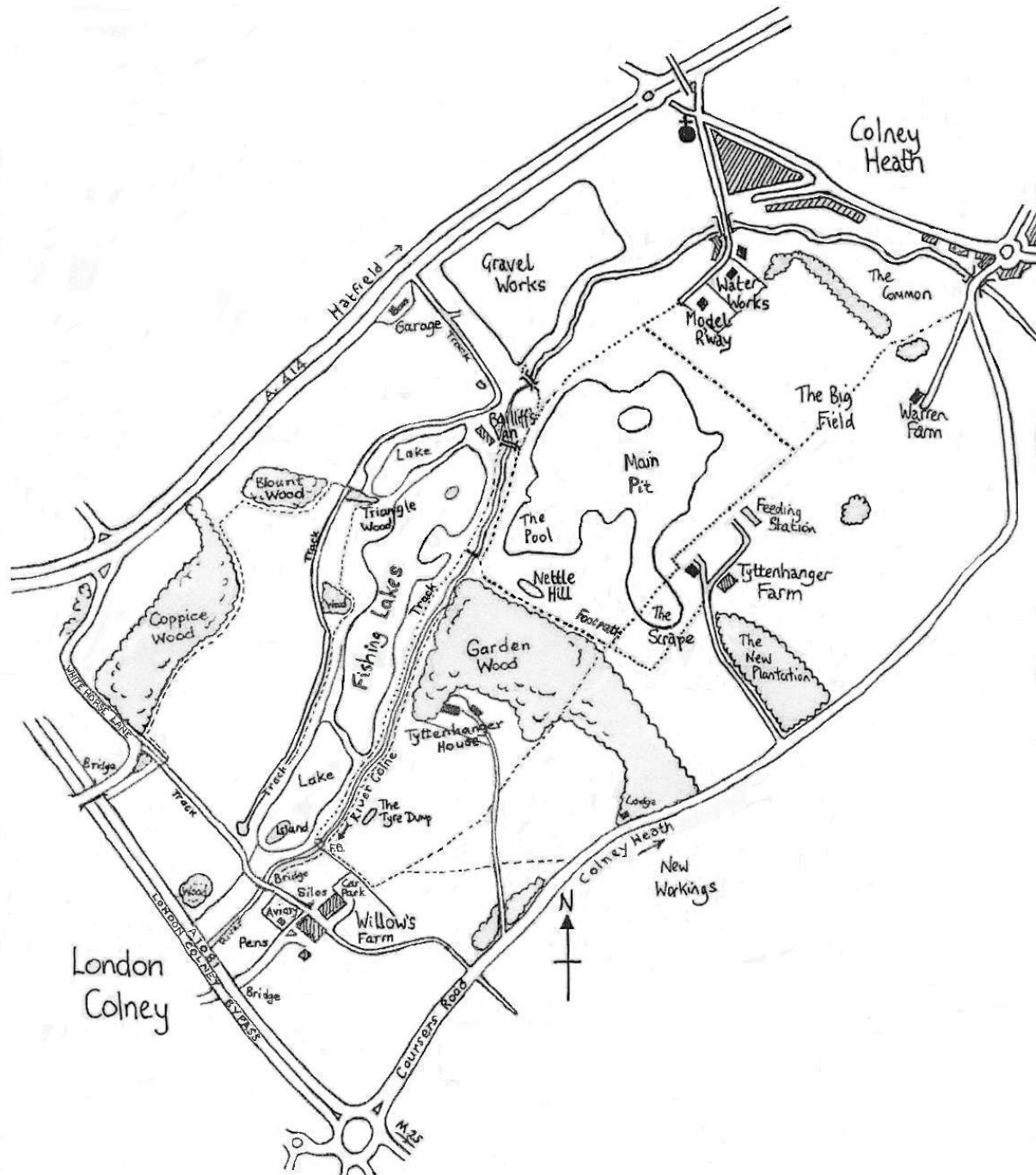


Figure 1. Map of the recording area covered in the current report. This map is a revised version of that shown in Brew (1997) and is the best representation of the situation in 2013, since when, relatively little has changed. A previous version of the map with a superimposed grid is available in earlier reports. Scale approximately 1.5 cm = 250 metres.

Coverage

Coverage of the site in 2021 was just 246 days - the lowest since 2004! Unsurprisingly, there were no months that received full coverage this year and although coverage in each month was generally lower than the long-term median (2004-21) it was the latter part of the year – from July onwards – when the coverage was especially poor. This heterogenous and generally low coverage has several points to note:

- July, August, November and December all produced record low days of coverage while previous low-days in September and October had both been just 16 days i.e., September and October were very low also.
- The percentage coverage of the long-term mean for each of the four quarters of the year were 98.0% (Jan-Mar), 99.4% (9.4% - June being 108.3% of the long-term mean!), 77.4% (Jul-Sep) and 66.0% (Oct-Dec).

² Months are considered "dry" if rainfall was <50% of the long-term median for the month and wet if >200% of that median.

- The overall effect on the year is that coverage was around 85% of the long-term mean – but over 30% lower than the best year in the period 2004-21 i.e., 2018 with 324 days of coverage. As corrections for the coverage are based around the maximum rather than the mean (see “Data Collection”) this year was much poorer than may be indicated by the mean value!

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2021	21	20	27	26	25	23	21	22	17	17	12	15	246
Median ⁽¹⁾	23	21	26	28	25	23	26	28	24	24	23	21	283
% Mean ⁽²⁾	93.2	95.5	104.3	93.1	98.8	108.3	81.9	79.7	70.0	71.9	54.4	71.4	

⁽¹⁾ The Median for each month is calculated from the period 2004-2021 ⁽²⁾ Days of coverage in 2021 expressed as a percentage of the mean coverage for the period 2004-21.

It is tempting to speculate on the reason(s) behind this significant drop and, while most phenomena such as this are invariably the result of a number of factors, it would be fair to say in this case that on-going water levels in the Main Pit, consequent lack of waders (see *Figure 3*), visibility issues on the Main Pit and changes in the Fishing Lakes management, have all resulted in the site becoming generally less attractive from a birding perspective.

Review of 2021 - Birding

January; the year got off to a busy start with several observers braving the elements and producing some good birds, best of the bunch was probably an adult **Yellow-legged Gull** (also present on the 2nd) but with a supporting cast of **Tawny Owls** (two calling at first light) **Cetti's Warbler**, **Egyptian Goose**, 2 **Great Black-backed Gull**, **Stonechat** (both also present on the 2nd), three **Water Rails**, two **Tree Sparrows**, seven **Wigeon** and five **Siskin** flying over it was a pretty good day. The 3rd saw a **Firecrest** in Garden Wood, which was also seen on the 6th and 22nd and a **Raven** flying over low while the 5th saw a male **Lesser Spotted Woodpecker** in Garden Wood – also present on the 29th. There was an overwintering **Chiffchaff** on the 8th and 31st, a **Peregrine** on the 15th and 22nd with twenty **Crossbills** seen to fly over Coursers Road and alight in trees near Lawsons on 17th. The end of the month produced another **Stonechat** on the 27th and 20 **Lesser Redpolls** in Garden Wood on the 31st. All-in-all a pretty good start to the year!

February; the **Cetti's Warbler** was heard/seen in the reedbed on the Main Pit on 2nd and 20th, while there were two **Stonechat** in the Maize Field on 2nd and 26th. There were further records of **Great Black-backed Gull** with 2 on the 13th and one on the 20th. The ten **Tree Sparrows** on 14th was the best count of the year while other records mid-month involved two **Egyptian Geese** and a **Peregrine** on the 19th, a **Wigeon** on the 20th and 26th, and a **Barn Owl** and 600 **Fieldfare** on the 21st. A **Chiffchaff** (and the first **Oystercatcher** of the year were seen on the 26th, while the **Lesser Spotted Woodpecker** was heard drumming in Coppice Wood on 27th (presumably the same bird as seen/heard in January). The month ended with a **Red-crested Pochard** on the back scrape on the Main Pit on 28th.

The beginning of **March** saw three **Oystercatchers** on the 1st (also 3 birds on the 17th) but the presumed pair produced the majority of records for the month. There was another **Yellow-legged Gull** on the 2nd, and the 8th provided records of a **Cetti's Warbler** (heard and seen) two **Firecrest** in Garden Wood, a **Redshank** on Willow's Farm Lake and ten **Wigeon** on the Main Pit. There were 150 **Golden Plover** flying over in two flocks on the 11th along with the first of 2 **Great White Egret**. Other notable records for the month were a **Mandarin** and an early **White Wagtail** the 15th (with three other records this month) a distant flock of 21 **Golden Plover** the 21st, a **Raven** on the 27th, and **Peregrine** and **Green Sandpiper** the 29th. There were also a few arriving migrants this month with **Chiffchaff** on the 3rd (or could this be an overwintering bird?), **Blackcap** and **Sand Martin** on the 18th, **Wheatear** on the 26th, **Willow Warbler** on the 30th and ten **House Martins** on the 31st.

April; saw the bulk of the summer migrants arriving with the first **Swallow** (1st), **Yellow Wagtail** (12th) **Reed Warbler** and **Sedge Warbler** (16th) **Common Tern**, **Lesser Whitethroat** and **Garden Warbler** (23rd) **Swift** (25th) **Hobby** (26th) **Common Sandpiper** and **Cuckoo** (30th). This month also saw the last of the winter's **Redwing** (3rd), **Water Rail** (7th), **Fieldfare** (9th) and **Green Sandpiper** (16th April). Other notable records this month were of 150 **Golden Plover** flying high and distant on 2nd, **Shelduck** on the 2nd and 3rd, while the 9th produced an **Osprey** circling the Main Pit and the first of three **Wheatear** records for the month (also on the 11th and 23rd). The 10th recorded 3 **Egyptian Geese**, 2 **Siskin** flying over and a **Tawny Owl** while there was a male **Redstart** in the hedge in the middle of the field



Two of the local Tree Sparrows *Passer montanus*, inspecting the local facilities. Photo courtesy of Simon West

between the main pit and the model railway the 11th. Bird-of-the-month was undoubtedly a male **Pied Flycatcher** on the 12th – on the causeway briefly before flying off. Surprisingly the latter is only the 4th record for the site and the first since 2013. The latter part of the month saw a **Yellow-legged Gull** on the 14th, **Lesser Redpoll** over on the 16th, an adult **Peregrine** the 17th, a **Green Sandpiper** and fly over **Tree Pipit** on the 23rd, 2 fly-over **Curlew** on the 29th and finally, 2 **Raven** over on the 30th.

May saw the first (and only spring) **Spotted Flycatcher** with a single bird seen in Garden Wood on the 7th. The 9th saw 4 pairs of **Yellow Wagtail** counted on-site on the 9th along with 2 female **Wheatear** and two **Raven** over Colney Heath Common the 9th. **Swifts** were obvious on the 11th and 16th with 100 birds present on both days while the 14th produced a female **Marsh Harrier** flying over to the east. There were two **Shelduck** flying over on the 21st while the **Oystercatchers** paraded a half-grown youngster on the 28th. The month finished nicely with a pair of **Black-necked Grebes** gracing the main pit on 31st while a screaming **Water Rail** indicated a possible addition to the breeding list.

The beginning of **June** saw the pair of **Black-necked Grebes** from the end of May still present on the 1st with a single bird seen on the 2nd and 3rd. Two **Shelduck** flew over again on the 4th with a **Water Rail** heard on the same date. There was a **Peregrine** on the 13th but other notable records for the month invariably involved breeding birds with young **Great Spotted Woodpecker** seen in a nest hole on the 1st, recently fledge **Tree Sparrows** seen on the 4th, three **Mute Swan** cygnets appeared on the 6th, and a recently fledged **Little Owl** was seen on the 14th and 17th. Finally, the **Oystercatchers** introduced the rest of the family on the 22nd and 27th when a second youngster (now almost full-grown) was seen along with the first.

Breeding Summary 2021

There were a number of early breeding records this year with **Grey Herons** seen on occupied nests (5) by the 24th February, **Blue Tit**, **Jackdaw**, **Tree Sparrows** and **Stock Dove** were all seen inspecting nest-sites during February while a **Long-tailed Tit** was reported nest-building on the 24th February

March saw further reports of **Tree Sparrow**, this time involved with nest-building activities while **Great Crested Grebes** were seen displaying. A **Mute Swan** was reported on an Occupied Nest on the 2nd while the number of nests in the heronry on the Main Pit increased to 7. The 25th March also saw a report of a **Cormorant** on an Occupied Nest (ON) - there were no further reports this year of this species being present in the heronry, but maybe this is a hint of things to come!

By the 12th **April** the number of **Grey Heron** nests had risen to 10 (the final figure for the year) and the first Recently Fledged (FL) young were reported on the 14th with **Gadwall** confirmed to be breeding on-site again. The latter was the first of at least 4 broods this year – which makes it far-and-away its best breeding season ever at Tyttenhanger! **Tree Sparrows** were reported with occupied nests (ON) on the 12th and a **Song Thrush** was seen carrying food/faecal sac (FF) on the 18th. Occupied nests (ON) were recorded for **Long-tailed Tit** (25th) and **Oystercatcher** (30th) – the latter again picking a spot on the islands in the Fishing Lakes on which to nest.

May saw breeding activity pick-up - as it does in most years – with the first fledged young (FL) of **Canada Goose** and **Grey Wagtail** being seen on the 1st followed by the first **Coot**, **Moorhen** and **Mute Swan** young on the 7th, and the first **Grey Heron** young were also noted on this date (NY). The first young (FL) of the year were reported for **Magpie** on the 17th, **Robin** on the 29th and **Long-tailed Tit** and **Song Thrush** on the 30th. Nests with young (NY) were also recorded this month for **Treecreeper** (23rd) and **Great Spotted Woodpecker** with a nest in Garden Wood on the 23rd. Other Confirmed Breeding records this month included **House Sparrow** and **Kingfisher** seen carrying food/faecal sac (FF). The end of the month saw the first **Tree Sparrow** young (FL) of the year on the 25th, **Long-tailed Tit** on the 30th and a young **Oystercatcher** reported with its parents on the 28th.

June is usually the peak month for Confirmed Breeding records and this year proved no exception. **Great Spotted Woodpecker** young were seen in a nest in Church Lane on the 1st (second brood on-site for the year) and the first **Mallard** young were seen on the relatively late date of the 3rd (the median date for first young in the period 2004-21 is the 2nd May). There were two records of breeding **Jackdaw** this year with a nest with young (NY reported on the 3rd and recently fledged young seen at Colney Heath Common on the 13th. The first **Blue Tit** young (FL) were seen on the 13th, **Little Owl** young were heard at Willows farm from the 14th through until the 30th **Reed Bunting** (FL) were seen on the 19th and recently fledged **Goldfinch** were reported on the 20th. Also notable this month were further records of **Tree Sparrow** (FL) young - from the 1st through till the 16th - and the first **Whitethroat** young (FL) on the 24th.

July a **Kingfisher** was seen carrying food/faecal sac (FF) on the 3rd - the second such record for the year indicating that breeding took place either on-site or close-by. The first **Blackcap** young (FL) were seen on the 7th with **Great Tit** young (FL) on the 8th along with reports of **Green Woodpecker** young (FL) from both the Main Pit and Willows Farm. The 8th saw the first of 5 broods of **Tufted Duck** young (FL) for the year. After the earlier records of young **Little Owls** around Willows farm in June, what was presumably a second nest with young was reported from the same location from the 8th through until August. Other notable records from the month include the only **Swallow** record from the 23rd – an adult carrying food/faecal sac (FF)

August while there had been reports of an occupied nest as early as April this year, the first (and one of only two broods) of **Great Crested Grebe** were reported on the 14th of this month. Otherwise, the month saw just the second

brood of **Moorhen** for the year on the 8th, several reports **Tufted Duck** broods along with two broods of **Gadwall** noted on the 14th.

September surprisingly saw a group of 2 adult and 3 young **Great Crested Grebe** reported on the 8th and 12th from Willows Farm Lake – probably the same young that were also reported to still be present on the 23rd October!

The year was finally rounded out by a **December** breeding record in which a nest containing eggs (UN) was reported for **Carrion Crow**. This presumably relates to a nest being found that had fallen from its original location but is one of the few records of this breeding code that we have encountered in the last 17 years!

The total number of Confirmed Breeding records this year (140) was considerably lower than the previous two years (255 in 2019 and 387 in 2020) as were the number of species involved, 32, compared to 38 in 2019 and 51 in 2020. Part of this may well have been due to the low coverage in 2021 compared to the previous 2 years, although there does also appear to be an element of changes in recording behaviour. While the overall numbers were undoubtedly low, there were still a number of highlights this year:

- Four broods of **Gadwall** - a year's-best for the site and indicative of the strengthening presence of this species locally.
- **Oystercatcher** again breeding on-site and appearing to get two birds through to fledging.
- **Tufted Duck** had a good year with 5 broods – continuing the good showing of the previous 5 years
- Confirmed breeding for **Little Owl**, possibly with 2 pairs (or the same pair trying for two broods?). This is the 4th year in a row that the species has probably bred on-site.
- **Great Spotted Woodpecker** – nests with young seen in two separate locations (Garden Wood and Church Lane).

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total*
Records - confirmed breeding	1	8	19	31	41	33	21	3	140
Breeding species recorded	1	3	8	19	16	11	9	1	32

* Total includes the December record of a Carrion Crow "Used nest or eggshell" (UN) from December but does not include the record for Cormorant - "Occupied Nest" (ON) - from March.

July; the month got off to a very good start with another pair of **Black-necked Grebes** on the 4th, although this time they only stayed for the day. There was a **Raven** flying over on the 2nd and 23rd, three **Egyptian Geese** on the 4th, a male **Tawny Owl** heard on the 8th, and a **Peregrine** on the 16th and 23rd. The first returning **Common Sandpipers** were seen on the 16th and 25th with other notable records involving recently fledged young of **Blackcap**, **Whitethroat** and **Tufted Duck** (4 broods).

August; **Green Sandpiper** and **Common Sandpiper** were noted on a few days throughout the month but with a maximum of just two each they were much thinner on-the-ground than in previous years. There was a single **Wigeon** seen on the 14th, a single **Wheatear** on the silage pile (Maize field) on the 13th, 14th and 15th and a single **Peregrine** on the 16th and 19th. A nice find for one observer was an adult winter **Mediterranean Gull** on the Main Pit briefly on the 18th while another two **Raven** were also seen on the 18th - heading west over Willow's Farm. A juvenile **Marsh Harrier** (the second bird of the year) circled over the high viewpoint on the 19th while being mobbed by a **Hobby**. A **Water Rail** was heard again on the 20th while single **Spotted Flycatcher** were seen on the 23rd and 27th. The month ended with 10 **Mistle Thrush** on the 29th – a typical date for post-breeding flocks, but smaller in number than in the past – with this day also producing the first record for the year of adult and juvenile **Hobby** feeding together. Finally, the month also produced a tantalising record of a probable **Wood Warbler** on the 23rd – but again not enough detail to be clinched!

September; is often a great month for birding at Tyttenhanger GPs but not this year... Scouring the records for the month we have noted two **Spotted Flycatcher** on the 5th rising to four on the 6th, several **Wigeon** records with a maximum of 3 on the 5th, **Common Sandpiper** on the 12th, a **Wheatear** on the silage pile on the 15th and a single **Stonechat** in the maize field on the 17th and 19th. The low coverage this month (just 17 days) did not help with this being the lowest since 2004. Nevertheless, there was still a surprise at the end of the month with the 30th producing the bird-of-the-month - a male **Firecrest** in Garden Wood.

October, like the previous month, suffered from low coverage (just 17 days again) although the 1st did manage to produce 10 **Chiffchaff** (equalling the previous best count for the month) 50 **House Martins**, a male **Wheatear**, and the **Firecrest** in Garden Wood – seen again on the 6th. A few hardy regulars did some visible migration watching on the 8th and turned up 2 **Brambling**, a **Greenshank** (heard but not seen), 53 **Redwing**, 8 **Siskin**, and 4 **Yellowhammer**. The 9th saw a further 11 **Brambling** flyover with 23 **Lapwing**, and a **Peregrine**. Later in the month there were two **Wigeon** the 13th, 16 **Siskin** flying over the 15th, a **Great White Egret** over on the 23rd five **Egyptian Geese** over on the 24th then a **Lesser Redpoll** over on the 27th; clearly Tyttenhanger GPs is becoming a place to fly over without stopping!

November managed to reach a new low in terms of coverage with visits on just 12 days – the lowest since January 2004! Under such circumstances good birds were obviously going to be difficult to come by with the month's most notable records being as follows. The 5th saw 2 **Chiffchaff**, 450 **Fieldfare**, 20 **Lapwing**, 2 **Lesser Redpoll**, 10 **Siskin** and a

Yellowhammer. There was a **Brambling** heard flying over and a pair of **Wigeon** on the Main Pit on the 12th. Best bird for the month was the **Woodcock** seen in the field by the model railway on the 25th with the last notable bird of the month being a **Raven** flying over north the 28th. **Siskin** on Colney Heath Common provided some further bright spots in the month with flocks of 30 on the 14th, 25 on the 26th and 30 on the 28th. Coverage failed to improve much in **December** (just 15 days) and so it is no surprise that this was another quiet month. Probably worth mention were 2 **Siskin** over on the 3rd along with 4 **Water Rail** (3 of them calling from the main reed bed) followed by 3 **Wigeon**, 2 **Egyptian Geese**, 7 **Mistle Thrush** and a **Snipe** on the 17th. The year ended with 2 **Wigeon** on the 24th, 8 **Yellowhammer** the 27th, and finally 3 **Egyptian Geese** and a **Peregrine** on the 30th and 31st respectively.

Unsurprisingly, with low coverage and high water-levels the total number of species recorded was low

and at 126 species is the lowest in the period 2004-21 - the previous lowest being 129 in 2015. Waders were again conspicuous in their absence and the total number of species recorded dropped to just 10 (see Figure 3). Species that dropped off the radar this year when compared to 2020 were **Goldeneye**, **Goosander**, **Grey Partridge**, **Common Crane**, **Little Ringed Plover**, **Black-tailed Godwit**, **Spotted Redshank**, **Wood Sandpiper**, **Short-eared Owl**, **Rock Pipit**, **Whinchat** (the first blank in the period 2004-21), **Cetti's Warbler**, **Mealy Redpoll** and **Hawfinch**. All was not doom-and-gloom though and there were several species not recorded in 2020 that turned-up this year: **Shelduck**, **Osprey**, **Curlew**, **Mediterranean Gull**, **Tree Pipit**, **Redstart** and **Pied Flycatcher** in addition to **White Wagtail** also making it back onto the year-list.

Taxonomy and Nomenclature

The systematic order used is similar to that used in previous reports, with the nomenclature for common names following that used in the Hertfordshire Bird Report. While the taxonomic order is slightly out of keeping with current thinking and that of other reports (most notably the Hertfordshire Bird Report) we have decided to keep close to what we have used for the last 17 years so that cross-referencing between reports is a little easier. Scientific names have been updated in this report to concur with the BOU's 10th edition of the *Checklist of British Birds*.

Submission of Records

Observers are encouraged to submit their records for the site (and for Hertfordshire generally) via the Herts Bird Club (HBC) website (<http://www.hertsbirdclub.org.uk/>) Such reporting will ensure that records are passed to the County Recorder and disseminated quickly to the local birding community. Records submitted to the BTO's BirdTrack system also flow through to the County Recorder as do those from eBird; data from both these sources flow through the HBC for inclusion in the report. However, it should be noted that submission of observations through more than one of the above sources does result in duplication. Nevertheless, whatever platform(s) people choose to use we strongly encourage everybody to submit their records. Updates and the latest bird news from Tyttenhanger can also be found on the Twitter page at @TyttGP.

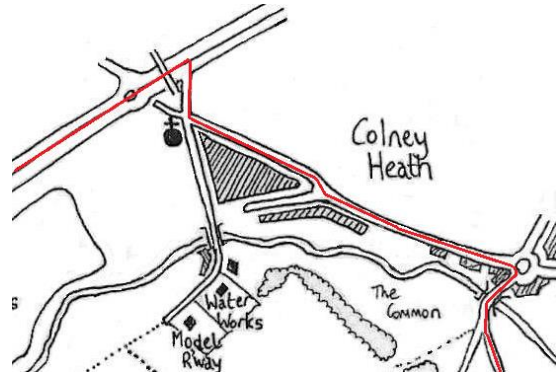
Colney Heath Common

Also, a note about Colney Heath Common and Colney Heath. Part of Colney Heath i.e., the Common up to the High Street and bordered by the bypass to the NW and Coursers Road to the SE, has always been included in the recording area for Tyttenhanger Gravel Pits. The extent of the site is shown on the map in Figure 1 – with a detail from that map and the site boundary (in red) shown below. Further analysis of past records is on-going and we are slowly updating our core databases

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Oystercatcher																			18
Golden Plover																			18
Lapwing																			18
Snipe																			18
Redshank																			18
Greenshank																			18
Green Sandpiper																			18
Common Sandpiper																			18
Little Ringed Plover																			17
Black-tailed Godwit																			16
Ringed Plover																			15
Dunlin																			15
Woodcock																			15
Curlew																			15
Sanderling																			11
Ruff																			11
Jack Snipe																			10
Whimbrel																			10
Avocet																			9
Bar-tailed Godwit																			7
Wood Sandpiper																			7
Knot																			6
Turnstone																			5
Spotted Redshank																			4
Grey Plover																			3
Little Stint																			3
Temminck's Stint																			2
Curlew Sandpiper																			2
Stone Curlew																			1
TOTAL	21	20	22	20	20	19	17	19	19	20	20	18	16	22	20	12	13	10	

Figure 2. Distribution (by year) of wader species at Tyttenhanger GPs for the period 2004-21.

to include all of the relevant records from the northern section of the common i.e., between the High Street and the river – and the section north of the river, west of Church Lane over to the by-pass. Certainly, the inclusion of the OS grid reference in some records submitted through the Herts Bird Club website has made this task a little easier than in the past – but these data have only been included for the last couple of years and so capture of records prior to the middle 2017 will be slightly more problematic. However, hopefully we will be able to capture all of the records for this area - traditionally monitored as part of the Tyttenhanger GPs complex - if observers are able to add a little bit more information when submitting records. As indicated last year, it would be very helpful if recorders could note in the comments when submitting records for Colney Heath, if they are from Colney Heath Common i.e., includes all of the area shown above south of the marked (red boundary). Alternatively, if records are submitted under the name Colney Heath Common, then we should be able to find a way of capturing those data as well. The other option is to enter data as Tyttenhanger GPs – but to include the note “Colney Heath Common” in the comments.



Coursers Road Gravel Pits

The recent past has seen several queries regarding the inclusion of the records from Coursers Road Gravel Pits in the Tyttenhanger report. Where appropriate, we do reference records from that site but to include them in with the Tyttenhanger records would introduce an additional level of complexity into the analysis and production of this report that we do not feel able to undertake at the present time. If anybody is interested in the records from that site and/or compiling a summary for the year in future reports then they should contact the editors.

In addition, it has become apparent during the compilation of the current report that there is also “leakage” of data from Coursers Road records into the records for the core Tyttenhanger GPs site. The primary cause of this appears to be the use of eBird Hotspots (especially the one called “Main Pit”) that have been set-up with metadata that is better applied to the core recording area. While it is possible in several cases to ascribe certain records as being from the Coursers Road site, there are many for which there are no other sources of information (e.g., the Herts Bird Club Database) that allow us to exclude the records from our current analysis. Our approach has been to only eliminate records for which there is a high likelihood they refer to Coursers Road rather than “**may** be from Coursers Road”. As a result of this approach there may well be still some records retained that refer to Coursers Road rather than the current recording site. Obviously if anybody notices records that have been wrongly ascribed to either site, then we would be more than happy to hear from you to correct the error in future reports.

Data Collection, Analysis and Presentation

Data Collection

The current report has utilised data from the Herts Bird Club database, Bird Track, eBird and from the personal records of some regular visitors. As shown in the table below, the numbers of recorders and observers has varied quite considerably over the years - with little obvious relationship between the two.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
No. of Records	7,105	5,548	7,087	8,783	9,734	10,814	15,284	15,217	20,844	21,747	9,820
No. of Recorders	72	58	60	55	55	67	72	72	77	80	80
Days of Coverage	289	275	271	289	296	303	321	324	321	323	246

However, it is notable that this year saw a dramatic fall in the number of records despite the number of recorders staying the same as in 2020. Part of the decrease is undoubtedly due to the fall in the number of days covered (see section on Coverage above), but this is not the complete explanation i.e., coverage was down by nearly 24% whereas the number of records was down by over 55%. There does also appear to be a slight reduction in the number of duplicated records – for which we are eternally grateful – but again, this would probably not fully explain the remainder of the difference. For data cited from prior to 2004 we have primarily used the Hertfordshire Bird Reports from the period 1983-2003³ as the primary source of data. These data have come from the main body of the text in those reports and also from the included WeBs counts (which we have continued to use from reports published after 2003). It is worth noting that the WeBs records between 1987 and 1997 were supplemented by additional counts from the same month - if these counts were greater than those made during the WeBs survey we have made use of these data where available. Note for some records prior to 2004 reference has also been made to the Birds of Hertfordshire (Smith *et al.*, 2012). It is also noted that since the publication of the 2020 Tyttenhanger Report that on-going work on “The Breeding Birds of Tyttenhanger” has made some

³ The Hertfordshire Bird Report started as a stand-alone publication in 1980, however, 1983 includes the first reference we can find to Tyttenhanger Gravel Pits. We are always interested in old records from the current recording area and would encourage anybody with such records to contact the editors.

other sources of data available – most notably from the archive database of the Herts Bird Club. We are still in the process of assimilating and standardising the format for all of the available data for the site, but have made reference to it where appropriate in the current report.

Description Species and Other Notable Records

With some of the changes in the data provided to us for the compilation of the Tyttenhanger GPs bird reports, along with some of the changes in other sources of information, we thought it timely we include a brief summary of how we deal with Description Species and other Notable Records. Firstly, we note that after the hiatus of a couple of years, the “*Rare Bird Decisions*” page of the Herts Bird Club is now up to date and meshes with the “Herts Rare Bird Panel (HRBP) Report” in the Hertfordshire Bird Report including the section of “Records not Assessed”. This allows us access to all of the records for Tyttenhanger along with the outcomes of any rarity decisions. So, with access to the relevant data the current process for dealing with Description Species and other Notable Records is as follows:

- Firstly, if the bird is a National or Herts Description Species then the first port-of-call is the “Rarer birds in Herts” page on the Herts Bird Club website or the Hertfordshire Bird Report. The decision on a particular record is usually posted on the former prior to the report being published and the Report is always taken as the final reference point. Records of Description Species that have not been assessed by the HRBP are listed in the “*Corrections and Additions to Previous Reports*” section of the report.
- Second, not all Notable Records necessarily relate to Description Species. Examples of such exceptions would be unusual dates and/or exceptional counts– especially if these also happen to be a record on-site count for those species. Again, the first reference point would be the Hertfordshire Bird Report, but in a broader, County-context, these records may not necessarily be included in the report. In such cases it has generally been the case that we contact the observer to verify that the date/number/comments are correct. This will continue as far as practicable - although contact may need to be made through the Herts Bird Club.

Finally, in previous reports the names of contributors have been included with records of Description Species and Other Notable Records. In the future this practice will not continue without the explicit consent of the observer.

Analysis

As the data made available to us comes from different sources there is a certain amount of duplication. Initial analysis for each species involves the removal of duplicated data, re-ordering and in some instances re-coding. The basic unit for most species is the Daily Maximum Count i.e., the maximum count for a particular species on a given day. Depending on the species, calculation of parameters such as number of days-recorded, monthly maxima, maximum counts and bird-days (see below for an explanation of some of these terms) are then made from the sorted data and the relevant tables and figures constructed. In some instances, we also calculate the number of unique entries that have been generated for a particular species. When this is done, entries from the same day are not removed unless they are an obvious duplication (which can occur with data entered through two different routes i.e., the Herts Bird Club website and/or BirdTrack/eBird) and entries ascribed to different observers are retained. We refer to this statistic as the Total Entry Number.

Statistics used.

As indicated above, the basic unit from which we work for each species is the Daily Maximum Count. The parameters calculated from the Daily Maximum Count and used in our analyses are outlined below:

Days-recorded – the number of days that a species is recorded in a given period (month, year etc.). This measure is independent of the number of individuals recorded and is used primarily for species that show little variation in the Daily Maximum Count e.g., resident species such as Grey Wagtail and Kingfisher, and those species that occur less frequently.

Bird-days – Bird-days are the sum of the Daily Maximum Count in a given period. This measure is therefore a function of not only days-recorded but also the (maximum) number of individuals recorded in a given period and is used for species that can show a large variation in Daily Maximum Count e.g., migrant species that can come through in variable numbers such as Yellow Wagtail or Dunlin. In the current report, for the analysis of some data prior to 2004 we have tended to use a conservative approach to the calculation of bird-days. This is because many of the records have been drawn directly from the Hertfordshire Bird Report where statements such as “two birds present between 19th and 29th March” are frequently encountered. In such a case, we have taken the approach that both birds were present on the 19th and 29th and at least one day in between i.e., as 10 days might warrant enough of gap to indicate separate birds/different records. Conservatively this would therefore be a minimum of 6 bird-days (2 birds, three dates) – but would only constitute a single record (if we believed all sightings had a high probability of being the same birds).

In addition to the above statistics generated from the Daily Maximum Count, we also occasionally calculate the following parameters – Records and Total Entry Number.

Records – this is a term we have tried to avoid over the last few years as there has been some confusion as to what a “record” may entail. For the purposes of this report we have used the term “record” to refer to any series of sightings for which we believe there is a high probability that the same bird(s) was/were involved in each sighting and/or was probably continuously present on-site, and/or frequently using the site during the period of observation. This definition sounds quite vague – and wordy - but rather than lose some records in any subsequent analysis, the above provides a convenient way of still using the data. For instance, a species may be referred to in the Hertfordshire Bird report as “2 birds present in April and May”, and so with the definition above we would still be able to show two birds present in both of these months even

though other details are lacking. Note, as outlined above under “Bird-days”, long-staying birds are treated as a single record – irrespective of the total number of days that they were present.

Total Entry Number – this is occasionally calculated for a given species/month etc and is generated from all individual entries for that species after the removal of obvious duplicates i.e., is effectively the number of independent entries into the database. While it is an overestimate of the relative abundance of a species, it sometimes offers insights into the way that species have (or have not) been reported through time.

Significant Counts. For most species it is useful to have an indication of not just the maximum/record count, but also of what constitutes a significant or notable count. For most species we have taken the 95th percentile of the Daily Maximum Counts as the lower boundary for determining significant counts⁴ i.e., the highest 5% of Daily Maximum Counts are generally considered to be significant. This information is included with the summary data for most species – which is more fully explained in the section below entitled “*Presentation*”.

Measures of Centrality, for some data e.g., spring arrival dates, monthly maxima or daily maximum count it is sometimes useful to have an estimate of the “average” or “middle” point for those data over the period of reporting/across all of the available data. The following are therefore used as indicators of the “middle” of the data:

Mean – the numerical average of the data available. We have generally tended to avoid this measure as it can be very susceptible to outliers e.g., a very late arrival date for one year or an exceptional count will skew the parameter significantly. However, in some instances it is a useful measure and so it is occasionally used.

Median - when the number of data points is small (and 18 years of data is still a relatively small amount of data!), the median is an alternative measure to the mean (or average) to indicate a measure of the centre-point of the data. The median is useful when there may be outliers in the data that can skew the mean and therefore bias the mid-point of the data. We have generally tended to use this measure in the current report in preference to the mean.

Arrival and Departure Dates – for the regular summer and winter visitors, arrival and departure dates are routinely presented in tabular form and in some instances, median dates are calculated from these data (see Appendix 1 for a summary of all species-data). The median is less sensitive to large differences in the data e.g., when there are no autumn records for a summer migrant then a late spring date is effectively shown as the “latest” departure date. However, to reduce the impact of such data these values are usually removed when calculating median arrival/departure dates. As a guide the following criteria are generally used to define the beginning and end of the migration periods for summer and winter migrants:

Summer Migrants - Spring Arrival - before June 30th.

Summer Migrants – Autumn Departure– after June 30th.

Winter Migrant – Spring Departure – before April 30th.

Winter Migrant – Autumn Arrival – after July 31st.

Where possible we have been back and analysed the available data to ensure that the above assumptions are not massively incorrect and/or unsupported by the data. Where such cases are identified the alternate dates/values are mentioned specifically in the text for that species and are included in the header-summary (see below under “*Presentation*”).

Standardization of Data.

For some analyses we have employed methods that attempt to standardise the data to take account of the many idiosyncrasies around the way that various observers do, or don't, record particular species, and for the natural variation that arises from large agglomerated datasets such as those available for Tyttenhanger. These standardisation methods are basically of two types;

Observer based – Originally developed for the common birds of prey, to provide standardisation between years and account for reporting biases, we have used the records from a frequent observer to calculate the reporting frequency for that species. We have extended this slightly over the years to other species e.g., Kingfisher and Bullfinch, and have continued to make use of this approach for several species.

In the more recent past we have also begun using a parameter termed Reporting Rate (%) i.e., number of days-recorded/total days of coverage – expressed as a percentage. This parameter has been used to try and gain further insights into patterns of occurrence - although this is the first year that we have used this value in the body of report. We have also



Photo courtesy of Simon West

⁴ Where the Daily Maximum Count has only indicated that the species is “present” i.e., no count was made, then these values (generally coded as zero) are not generally included in the analysis.

used this parameter further in the discussion that can be found on page 57 of the apparently exceptional 2020 – see Appendix 3 - “How Good was 2020... Really?”

Coverage Based – as can be seen in the table provided in the sections “Review of The Year” and “Data Collection” coverage is not consistent across years and/or through any given year. For this reason, we have occasionally used the relative coverage for each month to standardise the data. In this case the ratio of the coverage for a given month against the month with the lowest recording rate (February) is used to standardise the data. This type of correction has been used particularly for those analyses where at the relative number of days-recorded from each month of the year is of interest.

It is notable this year saw a significant reduction both the numbers of days of coverage and also in the total number of records submitted. Because of this we have been more cognisant of the possible effects this may appear to have on some species and have tried to highlight this where it appears to be a factor in the records/occurrence of those species. For the purposes of these analyses we have used the following correction factors for the years from 2004-21. The index year (for which a value of 1.00 is assigned) was 2018 i.e., the year with the best coverage in the period 2004-21 (324 days).

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014				
1.36	1.24	1.17	1.17	1.19	1.20	1.13	1.12	1.18	1.20	1.12				
								2015	2016	2017	2018	2019	2020	2021
								1.09	1.07	1.01	1.00	1.01	1.00	1.32

We realise that the above may not be appropriate for all species especially those that are only present at particular times of the year e.g., summer migrants or winter visitors that effectively disappear for half of the year. Nevertheless, in the current year where days of coverage were so much lower than the last few years, we have used the above corrections while we work on more refined versions for future reports. Nevertheless, it is worth noting (see “Coverage”) that:

- Coverage in the latter half of the year was much lower than in the first half of the year and so across the 4 correction factors of 1.21 (Jan-Mar), 1.14 (Apr-Jun), 1.48 (Jul-Sep) and 1.89 (Oct-Dec) could be applied,
- Alternatively factors of 1.16 and 1.63 could be used for the first and second halves of the year respectively.
- Further discussion of the low and heterogenous coverage in this year can also be found included in Appendix 3 “How Good was 2020...Really?”

Breeding Records.

Around 30 species undoubtedly breed, or attempt to breed on-site, each year - although in many cases there are few data to indicate their success. For the purposes of this report (and those of previous years) we have attempted to separate “Possible Breeding” from “Confirmed Breeding” – and have generally focussed our reporting on the latter term wherever possible. Towards this end the following criteria are used to designate “Confirmed Breeding:”

- Adult seen carrying food and/or faecal sac to/from a nest (FF)
- Young birds in the nest (NY)
- Adults and newly fledged birds seen together (FL)

The above also indicates the BTO codes (in brackets) for each of the criteria. It is worth noting that the BTO also include several other codes for confirmed breeding (Used nest/eggshells (UN), Distraction display (DD), evidence of an occupied nest (ON) and a nest with eggs (NE)) which we would consider on a case-by-case basis for demonstrating confirmed breeding. Finally, it should also be noted that with presence of newly fledged birds (FL) the possibility exists for many species that these birds may have bred off-site and so this caveat is applied to these observations - where appropriate.

Finally, a request regarding breeding records. It has become apparent in the last couple of years that there are some limitations around the way that breeding records are captured through BirdTrack and eBird and the codes that are available for noting the presence of young birds. In both instances the code that applies to young birds is FL i.e., recently fledged young (the full description of the application of the term as indicated in BirdTrack is shown below).

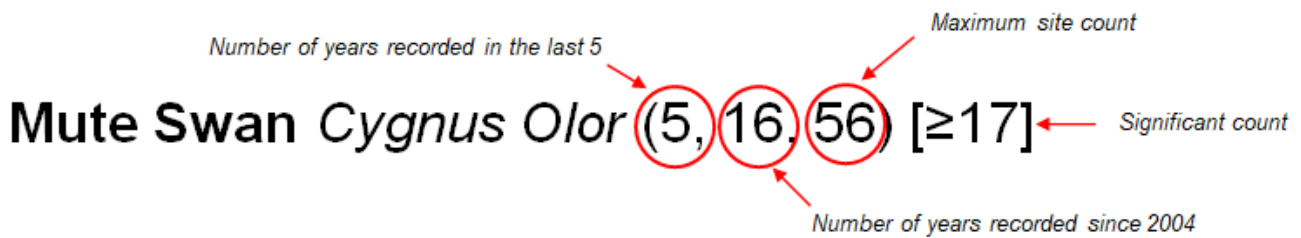
FL Recently FLedged young (nidicolous species) or downy young (nidifugous species). Careful consideration should be given to the likely provenance of any fledged juvenile capable of significant geographical movement. Evidence of dependency on adults (e.g., feeding) is helpful. Be cautious, even if the record comes from suitable habitat.

While a single code such as the above is useful for broad-scale mapping of breeding status, for smaller scale inferences such as “how many pairs bred at Tyttenhanger this year?” it can be very difficult to interpret those entries reported as FL. For this reason, we suggest that wherever possible observers also insert a comment with the entry to indicate if this is a newly hatched brood or a larger brood. It should also be mentioned here that it is also useful to indicate if the count includes young birds or not.

Presentation

Hyper-links. We have been using hyper-links to websites for several years now but this is the first year in which we have added hyper-links for navigation within the report itself.

Species Summaries. Further to previous years the systematic section of the report shows (as demonstrated below) the scientific name of each species followed by three numbers, with the addition this year of an additional element. The three numbers that follow the scientific name represent the “Number of years the species has occurred in the last 5 years”, “Number of years the species has occurred since 2004 and the” Maximum on-site count”.



The number/text shown in square brackets that indicates what constitutes a significant count (as described above in *Data Collection, Analysis and Presentation – Statistics used*). As there are insufficient records/counts for many species to make this statistic meaningful, other text may be included in this box – which is explained below:

- [≥17] – indicates that counts of 17 or more birds are considered statistically significant.
- [All] – all records of this species are considered notable.

Following the header line is a summary of the species’ status at Tyttenhanger. This summary is presented in italics and provides various information on the overall status of the species, expected patterns of occurrence and an indication of what records can be considered significant. Examples of this summary text is shown below for Common Tern and Bullfinch – with further clarification of those informational elements presented below the examples.

Common Tern *Sterna hirundo* (5, 15, 30) [≥17]

Regular summer visitor that has regularly attempted to breed in the past - but not always successfully. Median arrival date (2004-19) 11th April; median departure date (2004-19) 4th September; any breeding records are notable.

Bullfinch *Pyrrhula pyrrhula* (5, 15, 12) [≥4]

Resident, probably breeds in most years. Most commonly reported in the winter months, often in small flocks; only 42.6% of counts relate to single birds.

The first part of the summary (shaded in grey) describes the overall status of the species – including the breeding status. Resident species are described as such, and the initial statement about the relative abundance/frequency of occurrence for non-resident species can be summarised as follows:

- *Common visitor* – can be found on-site on most visits. Many species may also be described as “*Common resident/visitor*”.
- *Regular visitor* - occurs in all/most years.
- *Infrequent visitor* – has occurred more than three times but less than one record per year on average.
- *Irregular visitor* – occurs on average once or twice in most years.
- *Frequent visitor* – occurs more than twice a year on average – but still may not occur in some years.
- *Rare visitor* – has occurred on less than three occasions.

The second element of the summary (shaded in green – if present) indicates the median arrival and departures dates for migrants/visitors. Many of these arrival/departure data were previously included in the text-tables but have now been migrated to Appendix 1 where the raw data along with latest/earliest dates and the median values are presented.

The third element of the summary (shaded in purple above) indicates notable counts and/or records for the species. Note, this feature was added for the 2019 report – the first report for which fully digitised records were available for the period 2004-19. The availability of fully digitised records meant that values such as these, can be more readily calculated and updated.

Summary Tables. As previously mentioned, the data now available is more than the maximum “carrying capacity” for many of our tables and, in many instances, alternative approaches to summarising the data have been sought. As far as alternatives are concerned, we have previously focussed on updating tables to include at least 10 years of data along with the minimum, maximum and median values (where appropriate/relevant) for the period from 2004 to the present. We have continued to modify our approach to many of the “annual tables” that provide the following in various combinations:

- A summary column for the period 2004-09/10 (inclusive) as the amount of data no-longer allows for these years to be included separately this intermediate approach has been taken in a number of instances.
- Median and maximum and/or minimum data for the period 2004-21, along with data for as many years as possible.

The above approaches to summary tables were originally devised to keep the number of pages in the report to a minimum i.e., assuming that most people would print a hard-copy version. More recently we have also tried to standardise tables to achieve both an acceptable publication-size and some degree of continuity in the presentation. However, as printing hard-

copies appears to be happening less and less, the desire to keep the number of pages to a minimum is decreasing. So, while we would not wish to see the size of the report increase to much, we are also aware that the use of figures rather than tables provides a better summary of the data in many cases. However, this does increase the overall size of the report – which we hope is not more than most readers will find acceptable. We certainly hope that if you have any feedback on this issue you contact the editors and let them know your thoughts.

Corrections and Additions to Previous Reports

As mentioned elsewhere, the time since the completion of the 2020 report has been a busy time for the editors as they have dived into the archives, collating data for the long-intended “Breeding Birds of Tyttenhanger”. While at the time of writing, the latter is still some way off completion the vast majority of the data-mining has been completed ...which has also unearthed a number of interesting records besides those directly associated with breeding! Rather than include some of these records in the current position we have decided to incorporate any additions and changes into the body of the Systematic List. These are highlighted by the year of the record being shown in bold and are included at the end of the relevant 2021 text.

References

The following includes hyperlinks to previous reports - these are shown in bold where available. If you have any trouble obtaining any of these reports then please contact the editors of this report for copies and/or further information.

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<http://www.hnhs.org/uploads/file/Local%20reports/Tyttenhanger%202009%20Report%20v5.pdf>).

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<https://www.hnhs.org/sites/default/files/downloads/reports/Tyttenhanger%202014%20%20report.pdf>).

Flesher, R., Christian, P. and Knight, G. (2008). Tyttenhanger Gravel Pits Bird Report for 2006

<http://www.hnhs.org/uploads/file/Local%20reports/Tyttenhanger%20bird%20report%202006.pdf>

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The above was compiled from the names provided by the Herts Bird Club – which in turn were extracted from their own website and from BirdTrack and eBird. Apologies if you submitted records for 2021 and your name doesn't appear on the above list - but please let us know so we can try and ensure it doesn't happen in the future! Likewise, if you would prefer that your name not be included in future reports then we would encourage you to contact us and/or the Herts Bird Club.

Other Resources

The Tyttenhanger GPs site continues to have up-to-date information and news available through its web presence. Apart from the Herts Bird Club website (<http://www.hnhs.org/birds/index.php>) there are now other sources of recent information on Tyttenhanger's birds most notably the Tyttenhanger Twitter account at @TyttGP and the Friends of Tyttenhanger website at (<http://friendsofthgp.wixsite.com/ornithology>). We urge you to check all of these resources for up-to-date information and further site and bird information. There is also a more general Facebook page for all things relating to Tyttenhanger Gravel Pits (www.facebook.com/groups/tyttenhangergps).

For those of you that may be interested in older records and previous Bird Reports we would recommend the following sites:

Hertfordshire Bird Report - <https://www.hnhs.org/content/journals-archive> - Copies of all of the Hertfordshire Bird Reports from 1981 through until 2009 are currently available. Older reports are also accessible but a little trickier to find as they were not stand alone publications.

London Bird Report – <https://www.biodiversitylibrary.org/bibliography/174597> - Reports back to No. 1 (1922) are available through the Biodiversity Heritage Library – the last available being the 2015 report. It is worth noting that the term “Tyttenhanger GP” not in use before 1983 so older records for the site are difficult to find.

In addition to the above links to older bird reports, access to a limited number of older versions of the Herts Bird Club website are available through the Internet Library's “**Wayback Machine**”-

<https://web.archive.org/web/20020604150537/http://www.hertsbirdclub.org.uk:80/>

Finally, we are always interested in older records from the site – especially anything from before 1983 – and so would encourage anybody with records from this time to contact the editors ...please!

SYSTEMATIC LIST

Mute Swan *Cygnus olor* (5, 18, 56) [≥ 17]

Resident through much of the year and generally breeds in small numbers (1-2 pairs), the first recorded breeding was in 1996.

This year was a reasonable breeding year with two broods of 3 (Fishing Lakes) and 6 (The Scrape) with the first being noted on the 7th May – the earliest first hatching date in the period 2004-21. From the records submitted it appears that fledging-success was poor with just a single young bird reported after the 20th June and none after the 26th. Aside from breeding, numbers were relatively low this year with most months showing maxima below the median value for the period 2004-21 and the maximum for the year (11 on the 7th May and 12th September) being the lowest since 2016. A summary of monthly maxima data from the last 18 years is shown in the table below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	6	8	6	8	11*	7	4	7	11	8	7	6
Median 2004-21	8	6	5	7	10	9	9	9	11	12	10	13
Maximum 2004-21	18	23	25	15	18*	22*	20*	24	30	24	28	26

* Includes young birds

Greylag Goose *Anser anser* (5, 18, 70) [≥ 27]

Birds of presumed feral origin have become frequent visitors in the recent past; there have also been some associated records of confirmed breeding.

While there were a number of larger counts of this species in the final quarter of the year and a maximum of 30 birds on the 8th December – the only significant count of the year. However, the number of days recorded were less than half of that of 2020 and the numbers through the rest of the year were quite low. A summary of data from the period 2004-21 is shown in the table below.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.*	118	87	56	60	64	58	83	109	126	104	107	96	41
Counts ≥ 27	0	0	0	2	1	0	0	16	25	10	3	0	1
Count ≥ 10	50	43	7	21	28	19	23	60	75	70	40	22	13
Maximum	26	20	17	30	28	27	19	38	70	50	45	20	30

* The period from 2004-09 produced a total of 64 days-recorded, no counts of ≥ 27 , 11 counts of ≥ 10 and maximum of 23.

Canada Goose *Branta canadensis* (5, 18, 449) [≥ 151]

Common resident/visitor throughout the year with large moulting flocks generally present in the autumn. Breeds on-site in most years with three pairs being typical.

Four broods noted this year (five in 2020) with three broods in May and one in June. Breeding aside, monthly maximum counts were mixed, with eight months above the long-term median (2004-21) and the four months below the long-term median. The maximum count was of 150 birds on 23rd August. A summary of monthly maxima in the period 2004-21 is presented in the table below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	58	57	77	34	26	52	100	150	100	130	100	89
Median 2004-21	66	54	50	21	43	50	68	200	220	83	68	51
Maximum 2004-21	180	150	80	44	62*	106	100	449	400	315	250	150

* Includes young birds

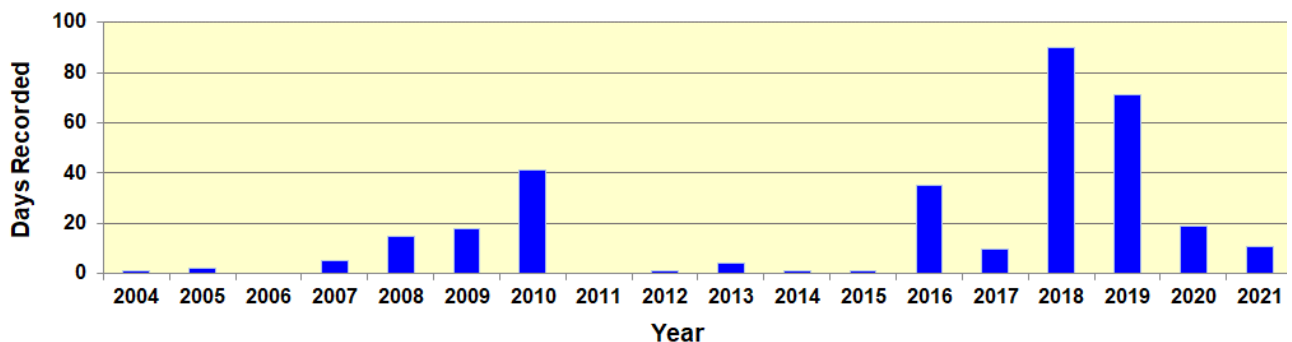


Figure 3. Days-recorded for Egyptian Goose *Alopochen aegyptica* in the period 2004-21.

Egyptian Goose *Alopochen aegyptiaca* (5, 16; 10) [≥ 4]

Infrequent visitor, becoming more regular. Can occur in all months of the year with counts of 4 or more birds being significant but all records are currently considered notable.

Once again days-recorded and bird-days (11 and 23 respectively) continued the downward trend from 2018- although with a maximum count of 5 birds on the 24th October and 5 other days with more than one bird present it wasn't really so bad. A summary of days-recorded for the period 2004-21 is shown in Figure 3.

Mandarin Aix *galericulata* (5, 13, 4) [All]

Irregular visitor, becoming more regular; all records are notable.

It was a fairly typical year for this species with just one report of a single bird (unsexed) on the 15th March on Willow's Farm Lake.

Shelduck *Tadorna tadorna* (4, 17, 12) [All]

Previously a regular visitor (in small numbers) that has also bred in several years. Historically counts of ≥ 4 are statistically significant but a recent decline in numbers means that all records are currently considered notable.

After drawing a complete blank in 2020 this year managed to produce six records (numbers in brackets): 2nd April, (1), 3rd April (1), 21st May (2), 24th May (1), 4th June (2) and finally 11th June (2). Although recorded across the road at Coursers Road pits on a number of occasions (14 days recorded) there was no evidence of breeding noted at the latter site but 2 records in January were notable as were the counts of up to 4 birds in June.

Mallard *Anas platyrhynchos* (5, 18, 250) [≥ 84]

Common breeding resident present throughout the year. Birds were also released for wildfowling in the past, but this practice has now ceased.

Breeding numbers were low this year with just 3 pairs appearing to produce young - although no estimate of fledging could be made from the available data. As with the last several years the limitations of BirdTrack and eBird in the coding for young birds means it is not possible to gauge the relative age of young birds and to therefore ascertain which "Recently Fledged" young are new and which are older. In such circumstances estimates of the number of broods are difficult to make and suggestions for solutions to this issue can be found on page 12 ("*Data Collection, Analysis and Presentation – Breeding Records*"). Maximum counts in all months of the year were way below the long-term (2004-21) median – with 8 months producing the lowest maximum counts for those months in the latter period, with that in September (10) being the lowest maximum count for any month! The maximum count for the year was just 27 birds on the 27th July. Summaries of monthly maxima data for the current year and the period 2004-21 are shown in the table below – those years that produced record low maximum-counts are highlighted in blue; breeding data for the period 2009-21 are shown in the lower table. A summary of the temporal distribution of significant counts is also provided in Figure 4.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	24	14	12	12	20	14	27	20	10	20	17	23
Median 2004-21	58	50	27	27	49	54	40	70	64	67	67	85
Maximum 2004-21	168	101	83	81	92	120	105	193	250	152	146	165

* Includes young birds.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
No. Broods	10	10	9	2	6	7	4	1	4	3	7	5	3

Gadwall *Mareca strepera* (5, 18, 117) [≥ 40]

Recorded all through the year - but breeding is irregular.

This was undoubtedly the best breeding year for this species on-site with at least 4 and possibly 5 broods of young noted between the 14th April and the 14th August – all seemingly on the Main Pit. Apart from the breeding successes of the year the overall numbers for the year were slightly down on the last couple of years – with a real tail-off in the last quarter. The maximum count for the year was of "just" 45 birds on the 8th July (also the only significant count - ≥ 40 birds - of the year). Summaries of monthly maximum data for the period 2004-21 are presented in the table below while the second table shows a range of other summary statistics for the period 2010-21. A summary of the temporal distribution of significant counts is also provided in Figure 4.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	28	30	20	6	4	13	45	24	15	20	6	16
Median 2004-21	21	14	18	9	7	16	13	22	16	17	10	16
Maximum 2004-21	64	64	61	50	14	52	75	62	100	117	107	66

* Includes young birds

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	121	109	73	94	119	128	127	168	139	158	206	106
Counts ≥40	0	0	0	0	0	0	1	48	42	24	13	1
Ave. count	6.24	7.02	4.97	5.13	7.34	8.27	8.45	26.16	27.73	17.01	15.83	8.39
Breeding*	No	No	No	Yes(1)	Yes(2)	No	Yes(1)	Yes(1)	No	Yes(1)	No	Yes(4)

* The number of breeding pairs that produced young are shown in brackets.

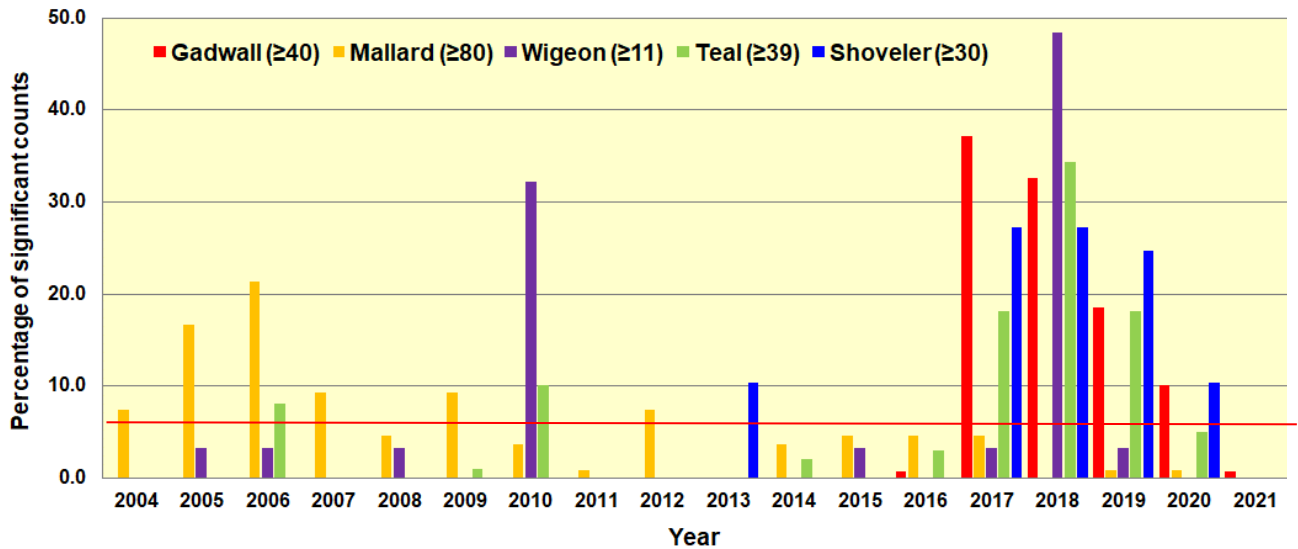


Figure 4. Distribution of significant counts - by year - for the five common species of dabbling ducks at Tyttenhanger GPs. To standardise the data the number of significant counts in each year for each species are shown as a percentage of the total number of significant counts.

Teal *Anas crecca* (5, 18, 120) [≥39]

Frequent visitor and passage migrant. Highest numbers usually observed in the first winter period/early spring and often absent in the period from May to July inclusive and all counts from this period considered highly significant.

With maximum counts for most months hovering around the long-term median (2004-21) the count of 29 birds on the 2nd July was well beyond the previous best for the month i.e., 6 birds in 2014 and 2018. In fact, although only recorded on four days that month, three of the counts (the 29 on the 2nd, 11 birds on the 19th and 23 on the 25th) broke the previous record! The July string of records aside and even accounting for the low overall coverage it was clear that numbers generally were down on the previous few years – as they seem to have been for all dabbling ducks.

Summaries of monthly maximum data for the period 2004-21 are presented in the table below while the second table shows a range of other summary statistics for the period 2010-21. A summary of the temporal distribution of significant counts is also provided in Figure 4.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	28	30	24	8	6	2	29	12	7	8	9	32
Median 2004-21	29	28	26	9	1	2	3	9	18	16	17	24
Maximum 2004-21	76	120	62	50	10	5	29	25	59	62	88	90

Record counts for a month are highlighted.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	101	79	74	77	99	96	108	125	134	128	142	84
Counts ≥39	9	0	0	0	2	0	3	17	34	18	9	0
Ave. count	11.3	4.9	6.8	9.6	10.7	5.6	11.4	17.9	24.0	16.8	10.4	6.7

Wigeon *Mareca penelope* (5, 18, 77) [≥11]

Usually occurs through the winter months in small numbers with additional passage migrants in spring and autumn. Generally absent between early April and late August - all records between 13th April and 15th August are considered significant.

With just 18 days-recorded for the year, overall (compensating for the relatively low coverage) this was the worst year for this species since 2012. However, there were a couple of bright spots in the year; 10 birds on the 8th March was the best ever count for this month (the previous best being 6 in 2014) and the lone bird on the 14th August was also significant. Numbers at the end of the year were particularly low (as they were for several duck species) and it remains to be seen if

this poor winter carries through into 2022. Summaries of monthly maximum data for the period 2004-21 are presented in the table below while a summary of the temporal distribution of significant counts can be found in Figure 4.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	7	1	10	0	0	0	0	1	3	2	2	3
Median 2004-21	5	2	2	0	0	0	0	0	6	7	4	5
Maximum 2004-21	44	7	10	4	3	6	6	10	16	21	12	33

Shoveler *Spatula clypeata* (5, 18, 62) [≥ 30]

Commonly encountered spring migrant and winter visitor; has bred once on-site (2007) in the period 2004-21 despite the regular presence of birds in the summer months.

With 97 days-recorded and a total of 530 bird-days and a maximum count of 21 birds (19th February) this was a relatively poor year in the context of the last several years. However, the last several years (2016-20) have been remarkable for the species i.e., see Figure 4, and this year was still good in the context of the years 2004-15 producing counts above or equal to the long-term median (2004-21) in nine of the twelve months! Sadly, despite reasonable numbers and the presence of birds through the summer months there were no record of breeding activity again this year. Summaries of monthly maximum data for the period 2004-21 are presented in the table below while the second table shows a range of other summary statistics for the period 2010-21. A summary of the temporal distribution of significant counts is also provided in Figure 4.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	20	21	14	8	2	1	3	6	12	12	16	8
Median 2004-21	12	10	14	14	2	3	2	5	5	7	13	14
Maximum 2004-21	62	53	60	28	4	9	14	11	29	40	61	40

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	71	58	59	72	102	103	108	109	102	121	157	97
Bird-days	245	134	343	763	622	452	1164	1652	1628	1656	1461	530
Counts ≥ 30	0	0	0	8	0	0	9	21	21	19	8	0

Tufted Duck *Aythya fuligula* (5, 18, 95) [≥ 37]

Relatively common resident and winter visitor that breeds in most years. Most significant counts are generally made in the first quarter of the year (January-March).

Another good breeding year with the first young seen on the 8th July, a total of five broods that produced 3,4,5,6 and 9 young, with the last brood seen on the 3rd August; this species has now bred in 13 of the 18 years since 2004. Breeding aside, maximum monthly counts were generally higher than the long-term (2004-21) median with the best count of the year being 52 birds on the 30th December. A summary of monthly maxima for the period 2004-21 is shown in the table below; and a summary of breeding since 2010 is shown below that.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	40	40	40	34	32	16	32*	40	26	40	20	52
Median 2004-21	40	42	40	32	20	14	20	19	15	20	26	32
Maximum 2004-21	59	74	67	47	33	30	41	45	50	50	54	70

* Includes young birds.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
No. of Broods	0	2	2	3	2	0	2	6	3	4	6	5

Pochard *Aythya ferina* (5, 18, 132) [≥ 13]

Reasonably visitor that is more common in the winter but often present through the summer months but with no proven breeding on-site. Most significant counts are made between December and February.

A reasonably good year for this species with 85 days recorded, 262 bird-days and a maximum count of 15 birds on the 31st December. A summary of data from the period 2004-21 is shown in the table below.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Max*	Med*
Days-rec.	94	84	53	47	70	62	83	105	86	83	126	85	162	83
Bird-days	376	312	171	126	216	204	388	524	533	345	520	262	885	312
Maximum	20	27	12	18	11	15	20	20	16	18	16	15	31	19

* Maximum (Max) and Median (Med) values are given for the period 2004–21.

Red-crested Pochard *Netta rufina* (5, 10, 5) [All]

Irregular visitor. Fourteen records for the site, most (9) in October/November.

Just a single record for the year of a female on the Main Pit on the 28th February. This was the 14th occurrence for the species on-site and the sixth year in a row it has been recorded.

Pheasant *Phasianus colchicus* (5, 18, 50) [≥ 15]

Resident, previously supplemented by released birds from Tyttenhanger Farm; appears to be declining on site and all records are currently considered notable.

Only seen in ten months of the year (no records in August and October) the 42 days-recorded was a significant drop on the 79 of 2020 – even when compensating for the low coverage this year. The maximum count for the year was of just 3 birds on the 14th and 25th April and there were just another 9 days with multiple counts. Also notable this year is the observation that only 6 of the days recorded were in the second-half of the year... clearly a trend that we need to keep in mind in future years. A summary of maximum counts, days-recorded and bird-days for the period 2009-2021 are summarised in the table below.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Max. count	13	15	20	17	10	7	4	8	4	3	5	6	3
Days-rec.	80	46	59	37	62	37	32	46	25	26	48	79	42
Bird-days	168	139	104	75	112	63	43	76	40	30	68	117	54

Red-legged Partridge *Alectoris rufa* (5, 18, 200) [All]

Resident, previously supplemented by released birds from Tyttenhanger Farm; appears to be declining very rapidly on-site/locally so all records and counts are now considered significant.

With the low coverage and the overall low numbers this year it is difficult to make any clear comments about possible trends but it is encouraging that the species is still doing better than the nadir of 2018.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	98	45	62	26	32	30	22	12	34	4	5	12	6
Max. count	50	70	71	44	6	10	9	3	2	1	6	2	4
Breeding	No	No	No	No	Yes	Yes	Yes	No	Yes	No	Yes	No	No

Black-necked Grebe *Podiceps nigricollis* (2, 6, 2) [All]

Irregular visitor.

An excellent year for this species with two birds seen on the 31st May and 1st June with one bird staying on until the 2nd and 3rd June. This is only the second record of a bird(s) that stayed longer than a day – the last being an injured individual in April 2010 that subsequently died on-site. Two birds were then seen on 4th July, which took the total number of days-recorded to 17. Note, all records to date are between April and July (inclusive) and as with most other records, this year's records were all from the Main Pit.

Little Grebe *Tachybaptus ruficollis* (5; 18, 14) [≥ 4]

Irregular breeding species present through much of the year - although often absent in the winter months. Counts of 4 or more birds are significant and when made have generally included young birds in the July-September window.

While many species appear to be struggling on-site this species actually appears to be holding its own. The 54 days-recorded this year equates to 71 days when corrected for the low coverage - compared 91 in 2020, while the 75 bird-days (128 in 2020) was also a comparatively good return. The maximum count for the year was of 3 birds on the 11th July. Unfortunately, despite the year's relatively good numbers there were no indication that any breeding attempts were made. The table below shows days-recorded, corrected days-recorded, bird-days and average count (bird-days/days-recorded).

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	121	75	47	31	17	19	18	29	42	47	53	91	54
Corr'd Days	145	85	53	37	20	21	20	31	42	47	53	91	71
Bird-days	296	151	75	46	39	23	21	32	60	65	85	128	76
Ave. Count	2.45	2.01	1.60	1.48	2.29	1.21	1.17	1.10	1.43	1.38	1.60	1.41	1.41

Great Crested Grebe *Podiceps cristatus* (5; 18, 46) [≥ 21]

Present throughout the year with small numbers of pairs breeding in most years. Significant counts are frequently in November, December and March – but can occur at any time of the year.

Breeding this year appears to have produced just 2 broods - one on the Fishing Lakes and the other on the Main Pit. Unsurprisingly maximum counts in all months with the exception of January were well below the long-term (2004-21)

medians and the maximum count was of just 16 birds on 1st January. A summary of monthly maximum data from the period 2004-21 is shown in the table below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	16	6	10	9	6	4	9	5	6	4	10	10
Median 2004-21**	12	14	20	18	16	13	13	15	16	18	21	17
Maximum 2004-21**	27	23	38	30	39	27	32	29	23	29	37	33

* Includes young birds; **Median and maximum values of the monthly maxima for the period 2004-21.

Interestingly, while the abundance of this species appears to have declined (as indicated above – and also shown by the average count in the table below), the frequency of occurrence this year (as shown by days recorded) was still good i.e., 118 days-recorded - 155 when corrected for coverage. The following table shows days-recorded, corrected days-recorded, bird-days and average count (bird-days/days-recorded).

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	57	74	61	102	118	111	132	130	121	140	206	118
Corr'd Days	64	83	72	122	132	122	141	131	121	141	207	155
Bird-days	578	827	790	962	834	1184	1437	854	985	853	916	453
Ave. Count	10.14	11.18	12.95	9.43	7.07	10.67	10.89	6.57	8.35	6.41	4.51	3.94

Cormorant *Phalacrocorax carbo* (5; 18, 94) [≥29]

A common winter visitor with birds generally present throughout the year. Significant counts generally occur between November and January.

Ostensibly a rather ordinary year for this species however, once the low coverage for this year is taken into account the number of days recorded 126 – adjusted to 166 days – is quite close to the 171 (172 adjusted) of 2020. Nevertheless, there was clearly an overall drop in numbers with the average count/day falling back to 8.1 birds. As indicated in the tables this drop is probably due to a reduced number of big counts and indeed the maximum count for the year was 43 on the 21st December and there were just three counts above 30 for the year (all in December). Nevertheless, the real question is why the bigger counts have been made in some years but not in others. Suggestions?

A summary of monthly maxima for the period 2004-21 is shown in the table below while the second table summarises data for days-recorded, average count (bird-days/days-recorded) and the number of significant counts (≥29) for the period 2009-21.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	27	18	20	13	7	4	5	6	7	18	23	43
Median 2004-21**	24	18	17	10	4	4	4	6	7	10	22	30
Maximum 2004-21**	75	62	35	25	10	9	11	20	22	50	70	91

**Median and maximum values of the monthly maxima for the period 2004-21.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	176	118	117	95	92	127	141	139	151	110	144	171	126
Counts ≥29	0	2	0	0	0	2	15	25	21	0	14	9	3
Ave. Count	4.6	5.9	6.0	6.9	5.8	5.3	12.6	14.9	12.2	7.7	11.3	11.2	8.1

Grey Heron *Ardea cinerea* (5, 18, 35) [≥11]

Present throughout the year with numbers generally on the increase as a result of the small breeding colony established in 2009.

A good breeding year for this species with up to 10 occupied nests reported from 9th March – with a maximum count of 10 nests in March and April⁵. Young birds reported from the 7th May and 3rd June although there was no estimate made of the breeding success with numbers indicating that any birds that did fledge may have dispersed rapidly. The breeding colony seems to have contributed to good numbers in the early part of the year with both February and March producing record counts (20 birds on the 22nd February and 18th March -which were also the largest counts for the year). However, numbers in the last six months of the year were generally low and below the long-term median (2004-21). A summary of monthly maxima data from the period 2004-21 is provided in the table below.

⁵ The Hertfordshire Bird Report shows a count of 11 nests for the site in 2021.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	6	20	20	14	13	8	4	3	7	4	4	8
Median 2004-21**	8	8	9	8	9	9	6	8	9	6	6	7
Maximum 2004-21**	15	20	20	16	16	16	20	35	23	18	8	12

* Includes young birds. **Median and maximum values of the monthly maxima for the period 2004-21. Record counts for a given month are highlighted.

Little Egret *Egretta garzetta* (5, 18; 24) [≥ 7]

Very irregular visitor in the past with the first record in 1999; becoming more frequent as this species continues to spread through the UK as a breeding species.

Despite the low coverage this year there is little doubt that visiting numbers of this species have dropped substantially in the last couple of years from the peak in the years 2017-19. Days-recorded this year were just 62 - adjusted for low-coverage to 82 (the lowest adjusted value since 2014 i.e., 83 days-recorded), just over half that of 2020. While days recorded were low, the average count was also low i.e., just 1.4 birds/day-recorded, which is hardly surprising given a highest count for the year was of just three birds (six days spread across January, March, July, September and November) and with days recording more than one bird being just 20 of the 62 (32.3%) (compared to 85 of 198 (42.9%) in 2019 and 88 of 156 (56.4%) in 2020).

A summary of data for the period 2009-21 is provided in the table below and Figure 5 provides a plot of days recorded and corrected days-recorded for the period 2004-21.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	12	21	30	51	84	74	140	195	169	204	198	156	62
Bird-days	12	34	49	58	105	88	262	616	789	530	356	343	88
Ave. Count	1.0	1.6	1.6	1.1	1.3	1.2	1.9	3.2	4.7	2.6	1.8	2.2	1.4

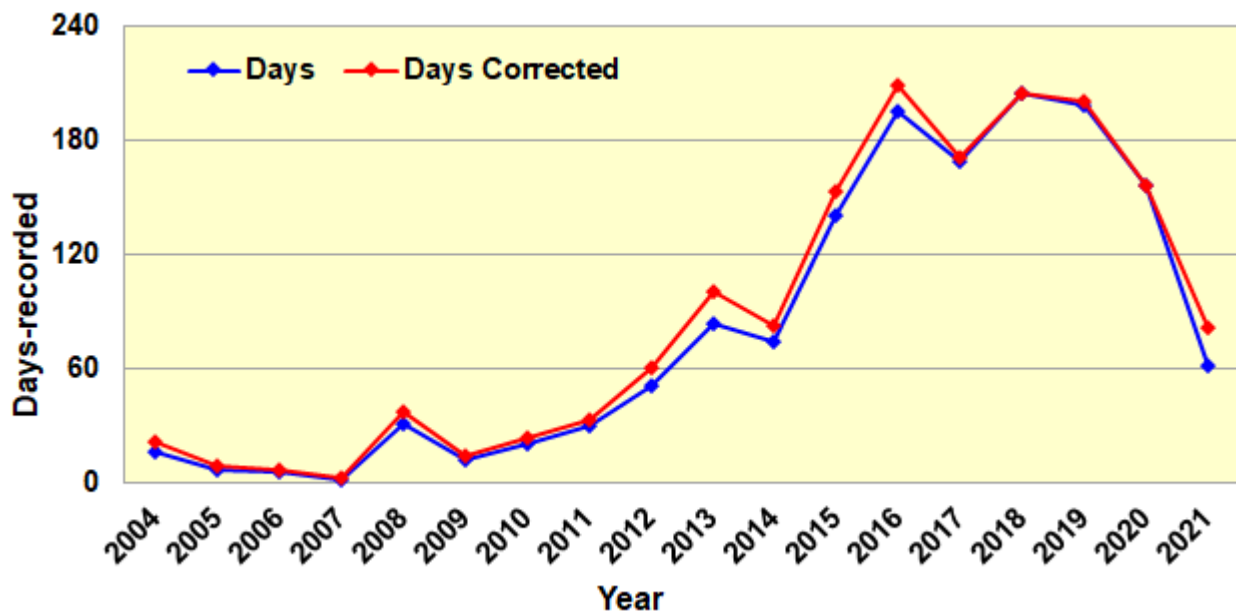


Figure 5. Days recorded for Little Egret *Egretta garzetta* in the period 2004-21 shown with the corresponding values corrected for the relative coverage for the year.

Great White Egret *Ardea alba* (5, 7, 2) [All]

Irregular visitor; first recorded in 2013. Becoming much more common in the UK and Hertfordshire and hopefully a future regular at Tythenhanger. All counts are still considered notable.

Now an annual occurrence at Tythenhanger GPs this is the sixth year in a row that this species has been recorded on-site, but with just 2 days recorded (single birds on the 11th March and 23rd October) it is certainly the poorest return in those six years (see Figure 6). It is notable that elsewhere in Hertfordshire overall numbers of days-recorded have continued to increase – although the large increase in the last couple of years is due to up to 4 birds frequently seen around the Tring Reservoirs in the last quarters of 2020 and 2021. Interestingly, the end of 2022 and the beginning of 2023 has seen a bird (presumably the same bird) appearing frequently again at Tythenhanger GPs – watch this species in future years for more analysis!

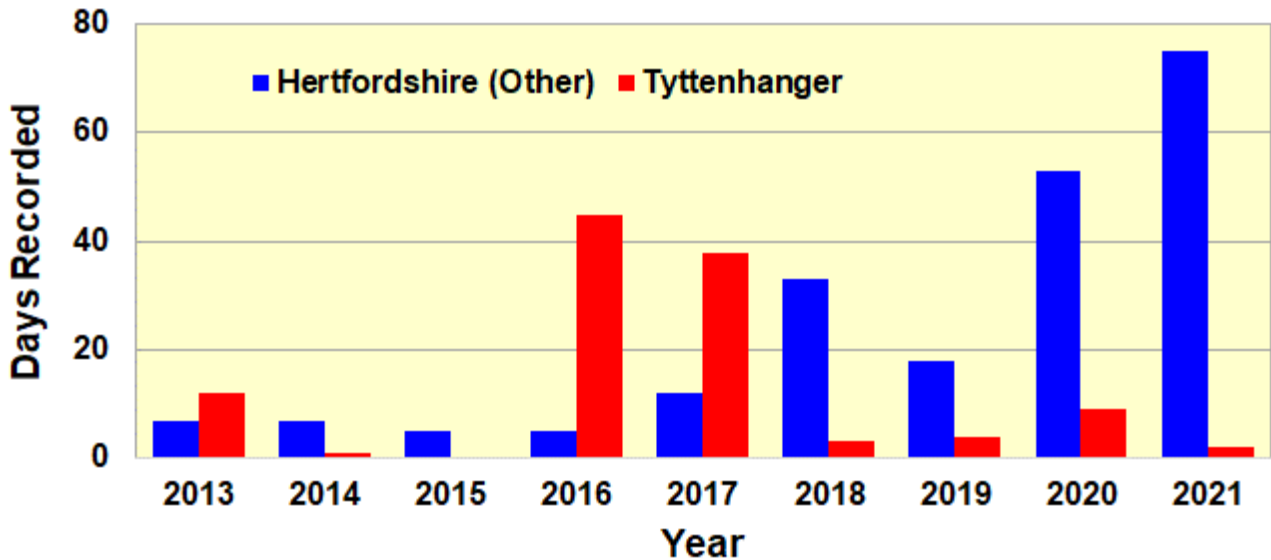


Figure 6. Days-recorded for Great White Egret *Ardea alba* at Tyttenhanger and other Hertfordshire sites in the period 2013-21. Data for this graph were extracted from the records included in the Herts Bird Club [Sightings Archive](#) – the total number of records may be slightly different as not all birds will be reported through that platform.

Osprey *Pandion haliaetus* (3, 14, 1) [All]

Regular passage migrant, first recorded in 1988 with a total of 31 days-recorded.

A single record this year on the 9th April of a single bird that circled the Main Pit before heading north; this was the 13th day-recorded for April.

Marsh Harrier *Circus aeruginosus* (4, 11, 1) [All]

Irregular visitor; first recorded in 1991. All records are notable.

Three records for the year the first being a female flying over Willows Farm and Coursers Road heading east on the 2nd January, this is the first January record for this species and possibly the same (female) bird seen in December 2020. Subsequent records involved a female over on the 14th May (morning and evening records) and then a juvenile over the High Viewpoint on the 19th August- both records fitting well with May and August being the peak months for this species on-site (6 days-recorded each from a total of 22 days-recorded).

Red Kite *Milvus milvus* (5, 18, 12) [≥3]

Frequent visitor – becoming much more common as the English population continues to burgeon; recent on-site breeder.

As with so many species this year interpreting the data in the light of the relatively low coverage does help to shed a little more light on the numbers. In this case it appears, once again, that the year wasn't actually that bad in the context of recent years and that it was 2020 that was the exception. Probably the most notable record of the year was a count of 12 birds that was made on the 19th May – that is a new site record surpassing the previous best of 8 birds on the 20th September 2019 and the 19th September 2020.



Photo courtesy of Patrick Wainwright

A summary of days-recorded, corrected days-recorded, bird-days and average count (bird-days/days-recorded) are shown in the table below.

Figure 7 provides a summary of the recording frequency and a comparative plot of the corrected days-recorded for the period 2004-21 for this and the other common birds-of-prey at Tyttenhanger GPs.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	36	78	95	138	143	121	114	120	109	137	180	98
Corr'd Days	41	87	112	165	159	132	122	121	122	139	180	129
Bird-days	45	97	149	180	194	165	147	190	164	264	320	195
Av. count	1.25	1.24	1.57	1.30	1.36	1.36	1.29	1.58	1.50	1.95	1.78	1.99

Buzzard *Buteo buteo* (5, 18, 10) [≥ 5]

Local resident that has become increasingly more common in Hertfordshire since 2004 and consequently more frequently observed at Tyttenhanger. Recently confirmed to have bred on-site.

After the bumper year in 2020 it is difficult to see why numbers for this species have fallen so dramatically this year. However, days recorded (81) when corrected for the coverage (107) indicates it was actually 2020 that was really the stand-out year and that this year is probably more in keeping with the recent past. The recording-frequency for the year (55% - recorded on 27 dates from a total of 49 days-visited by one regular observer – see Figure 7) supports the above suggestion regarding this and the previous year. A summary of days-recorded, corrected days-recorded, bird-days and average count (bird-days/days-recorded) are shown in the table below. Figure 7 provides a summary of the recording frequency and a comparative plot of the corrected days-recorded for the period 2004-21.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	88	74	67	82	87	113	97	114	98	117	167	81
Corr'd Days	99	83	79	98	98	124	104	115	98	118	168	107
Bird-days	203	101	170	178	216	223	226	260	198	251	313	180
Av. count	2.3	1.4	2.5	2.2	2.5	2.0	2.3	2.3	2.0	2.1	1.9	2.2

While the overall picture for this species indicates relative stability over the last several years, during the above analysis the following observation was made regarding the days-recorded per month. As can be seen the early part of the year was actually reasonably good with the peak months of March and April performing relatively well. In contrast, the latter part of the year – especially December - was particularly poor even given the very low coverage between September and the end of the year. Finally, as in most years, there was no confirmed records of breeding – but in contrast to many years there were no reports of courtship/display despite the good number of records in the March-April window.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days-rec.	4	4	16	16	10	7	2	8	4	5	5	1
Median	5	5	11	13	10	6	5	9	10	6	4	4
Maximum	12	8	20	19	20	20	14	16	17	13	10	12

Sparrowhawk *Accipiter nisus* (5, 18, 4) [≥ 2]

Present throughout the year. Undoubtedly breeds locally but usually not confirmed. Over 86% of records involve single birds; counts of more than one bird and breeding records are considered notable.

A very ordinary year for this species with just 26 days recorded (only 2013 produced less in the period 2004-21 i.e., 23 days-recorded and only 2012 had a lower corrected number of days-recorded – see table below). There was just a single record of more than one bird i.e. 2 birds on the 14th August this year and although low coverage does partially explain the low numbers, a reporting frequency of 14.9% (recorded on just 7 dates from a total of 47 days-visited by one regular observer) does indicate that numbers have truly declined. Unsurprisingly there were no breeding records this year.

The following table shows the days-recorded, corrected number of days-recorded, bird-days and the percentage recording frequency (% R.F.) for the period 2010-21. Figure 7 provides a summary of the recording frequency and a comparative plot of the corrected days-recorded for the period 2004-21 for this and the common birds-of-prey at Tyttenhanger GPs.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	51	40	30	23	44	42	56	51	44	62	68	26
Corr'd Days	56	45	35	27	49	46	60	51	44	63	68	36
Bird-days	56	45	36	27	53	48	68	58	45	77	71	27
% R.F.	34.7	30.5	33.3	16.4	29.3	20.9	30.1	22.1	15.7	20.0	20.6	14.9

Peregrine *Falco peregrinus* (5, 18, 2) [All]

Regular visitor. All records are still considered notable - especially those of multiple birds.

There were just 13 days recorded this year with all records being of single birds. Even after correction for the low coverage still indicates the decline apparent from 2019 is still on-going (see Figure 8). Most records this year were of un-aged/un-sexed birds with just 2 records indicating an adult bird.



Photo courtesy of Steve Blake

Estimating the relative temporal abundance of frequently encountered birds-of-prey.

Trying to estimate relative changes in abundance for any species from year to year is fraught with difficulties. In the past we have used an observer based method (see “*Standardization of Data*” page 11) to try and estimate changes in abundance of the common birds-of prey at Tythenhanger GPs since 2004, but as the following plots show this can produce quite different results from other methods i.e. in the latter case (part b) where the number of days-recorded (corrected for relative coverage of the site across the year) is plotted for the period 2004-21. Both methods are subject to a number of caveats and limitations, but it is interesting that larger and more long-term changes do seem to find some degree of congruence.

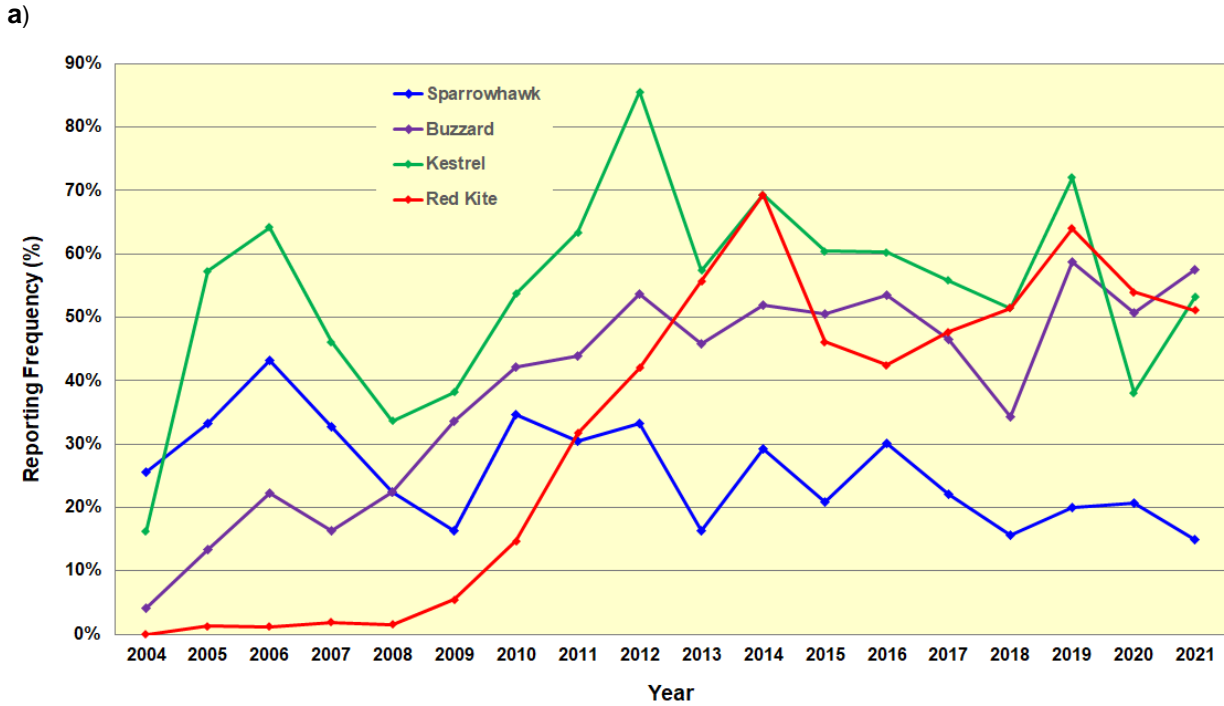
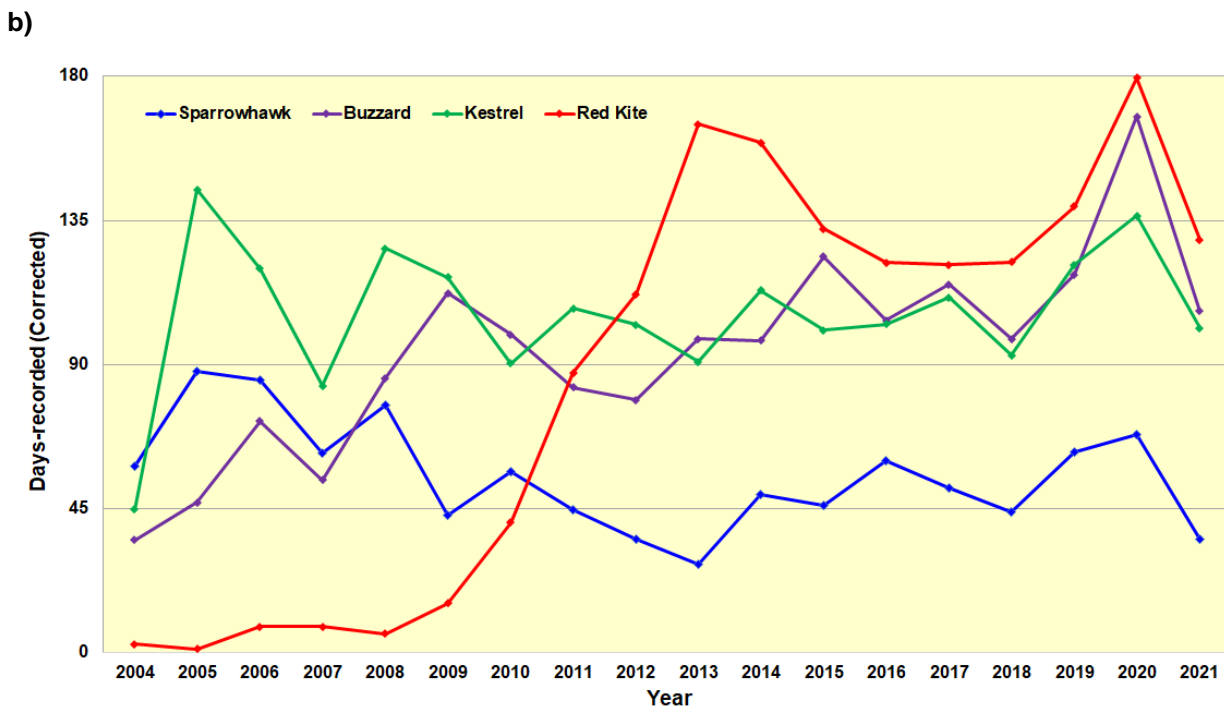


Figure 7. a) Summary of recording frequency for the more common birds of prey at Tythenhanger during the period 2004-2021. Recording frequency is calculated from data generated by a single observer for each species-year combination and is based on the number of days-recorded for the year as a percentage of the number of visits. Note only single observer records have been used where the observer is known to record all sightings of the species involved.



b) Summary of Days-recorded (corrected) for the more common birds of prey at Tythenhanger during the period 2004-2021. Raw data for days-recorded were corrected for the coverage in each of the years relative to the maximum coverage of 324 days in 2018.

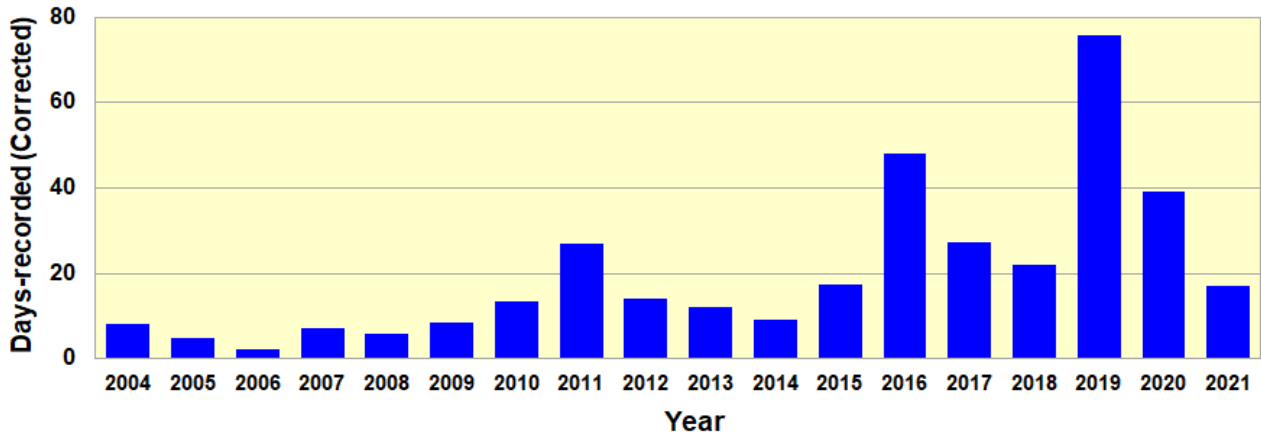


Figure 8. Days-recorded (corrected) for Peregrine Falco peregrinus in the period 2004-21. Corrections were made for the days of coverage relative to the peak coverage in 2018.

Kestrel Falco tinnunculus (5, 18, 7) [≥2]

Birds of both sexes are generally present throughout the year with on-site/locally in most years. Over 75% of records involve single birds and records of more than one bird and any breeding records are notable.

While the actual numbers of days-recorded and bird-days were relatively low this year, this appears to be due primarily to the low coverage i.e., the recording frequency (53.2%) and the average count (1.26 birds/day-recorded) both indicate there has been no discernible change in abundance. This year failed to produce any breeding records and the maximum count for the year was of just 3 birds on the 25th April

The following table shows days-recorded, corrected number of days-recorded, average count (bird-days/actual days-recorded) and the percentage recording frequency for the period 2010-21. Figure 7 provides a summary of the recording frequency and a comparative plot of the corrected days-recorded for the period 2004-21 for this and the common birds-of-prey at Tyttenhanger GPs.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	80	96	87	76	101	92	96	110	93	120	136	77
Corr'd Days	90	108	103	91	113	101	103	111	93	121	136	101
Ave. count	1.20	1.27	1.46	1.22	1.42	1.20	1.29	1.28	1.22	1.53	1.32	1.26
% R.F.	53.7	63.4	85.5	57.4	69.3	60.4	60.3	55.8	51.4	72.0	38.1	53.2

Hobby Falco subbuteo (5, 18, 5) [≥3]

Passage migrant and summer visitor; median spring arrival date (2004-21) 29th April; median autumn departure date (2004-21) 27th September. Over 72% of all counts are of single birds; counts of 3 or more birds are statistically significant.

The first bird of the year arrived on the 26th April (the same date as 2020) - just before the long-term (2004-21) median date of the 29th April. Birds were then seen frequently through until September producing a total of 40 days recorded for a total of 75 bird-days; the maximum count for the year was of just three birds on three dates between 20th August and 24th September. The last bird of the year was seen on the 27th September – right on the median date for the period 2004-21. The following table shows days-recorded, corrected number of days-recorded, average count (bird-days/actual days-recorded) and the maximum count for the year for the period 2010-21.



Photo courtesy of Patrick Wainwright

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	30	24	26	28	38	26	35	30	54	60	73	40
Corr'd Days	34	27	31	33	43	28	37	30	54	61	73	53
Ave. count	1.53	1.33	1.15	1.25	1.13	1.23	1.06	1.23	1.80	1.42	1.45	1.88
Maximum	5	2	2	3	2	5	2	3	5	5	5	3

Water Rail *Rallus aquaticus* (5, 18, 7) [≥3]

Regular winter visitor in the recent past; median spring departure date (2004-21) 21st March; median autumn arrival date (2004-21) 31st October. All records between 21st April and 1st September are particularly noteworthy.

This year produced just 20 days-recorded for a total of 33 bird-days with a maximum count of 4 birds on the 14th December. The days-recorded were equally distributed between the first (9) and second (8) winter periods. However, although the overall numbers were low this year, somewhat surprising were the number of “summer” records i.e. between 21st April and 1st September – of which there were 3 (single birds heard on the 31st May, 4th June and 20th August). Not counting the above three records the last record in the first winter period was on the 20th March and the first in the second winter period on the 3rd September⁶ (*Appendix 1B* (page 56) provides a summary of spring departure and autumn arrival dates). This is the third year in a row that birds have been recorded in the “summer” period and indicates that breeding is likely to occur on-site soon!

Moorhen *Gallinula chloropus* (5; 18, 69) [≥20]

Common resident with a few pairs breeding in most years.

It was a poor breeding year for this species with just 2 pairs reported - a nest with young on 7th May and recently fledged young on the 9th August. Overall numbers were generally low throughout the year (due no doubt in part to the low coverage) however, the period from June-October showed particularly low numbers and may well reflect the poor breeding results for the year. The best count of the year was of 26 birds on the 18th January with two further significant counts (≥20) recorded. The table below provides summary of monthly maxima data for 2004-21 along with the maximum count in that period for each month and the number of times that significant counts (≥20 birds) have been made in that month in the period 2004-21.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	26	12	12	9	8	4	6	6	3	11	25	18
Median 2004-21**	20	13	15	10	8	11	12	12	15	20	23	17
Maximum 2004-21**	40	39	40	29	31	25	60	40	50	47	69	60
Counts Counts ≥20	13	8	6	4	3	1	3	5	6	11	12	6

Coot *Fulica atra* (5, 18, 214) [≥100]

Has seen large fluctuations in status over the years; currently a common breeding resident and winter visitor.

Young birds were reported from May through to August, with the first two broods reported on the 7th May. As with most waterbird species, it is difficult to accurately estimate the total number of pairs from the data available, however, it would appear there were between 5 and 7 broods that hatched – although little data are available for the actual numbers/size of those broods. Breeding aside, monthly maxima through the year were generally close to the long-term (2004-21) median values, with the highest count of the year was of 105 birds on the 7th November – the only significant count (≥100 birds) of the year. The table below provides summary of monthly maxima data for 2004-21 along with the maximum count in that period for each month and the number of times that significant counts (≥100 birds) have been made in that month in the period 2004-21.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	80	85	40	42	40	44	70	70	99	100	105	84
Median 2004-21**	87	87	60	46	44	55	70	76	72	57	70	85
Maximum 2004-21**	148	148	125	81	155	171	207	150	214	178	178	196
Counts ≥100	14	8	4	0	4	4	6	9	12	16	8	8

Oystercatcher *Haematopus ostralegus* (5, 18, 8) [≥4]

Summer visitor that has bred in the past. Median arrival date (2004-21) 3rd March; median departure date (2004-21) 22nd July; records outside the February-August window are especially notable.

While most other breeding waders have abandoned the site over the last few years this species continues to return and managed to find suitable sites on which to breed. The first bird of the year appeared on the 6th February and was soon joined by a further 2 birds on the first of March – although one of these birds disappeared soon afterwards and things settled into the usual pattern of 1 or 2 birds being seen on most days through until the end of May. The majority of records through this period came from the Fishing Lakes and an Occupied Nest was reported on the 30th April with first young bird reported on the 28th May. Subsequent records indicated young birds present on the 2nd and 22nd of June – the latter being the first to note the presence of 2 young birds. The table below shows a summary of data from 2008-21 with days-recorded, the total number of bird-days and the breeding summary for the year i.e., the number of pairs that built a nest, and the number of young that were seen to hatch (in brackets).

⁶ The recent increase in the number of records between the 21st April and the 1st September make it more difficult to assign departure and arrival dates to winter-visitors as bird – possible breeders – linger through the summer months.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	77	67	90	60	57	70	60	80	82	105	76	122	81	48
Bird-days	139	117	228	124	109	116	100	166	202	230	90	179	152	87
Breeding*	1 (1)	0	1 (2)	0	0	0	1 (0)	1 (3)	1(3)	1(3)	0	0	1 (2)	1(2)

*Breeding shows the number of pairs established and the number of young that hatched (in brackets).

Golden Plover *Pluvialis apricaria* (5, 18, 2160) [≥ 210]

Now an erratic winter visitor to the area - median spring departure date (2004-21) 30th March; median autumn arrival date (2004-21) 10th October. All records are currently considered notable.

As with last year there were just three days-recorded although this year saw all records restricted to the first winter period. Day counts were as follows: 150 on the 11th March, 21 on the 20th March and 150 on the 2nd April; somewhat ironically, the count on the 2nd April was actually a record for that month! A summary of early and late dates and the respective medians for the period 2004-21 can be found in *Appendix 1B* (page 56).

Lapwing *Vanellus vanellus* (5, 18, 2000) [≥ 300]

Generally present through much of the year with large winter flocks in many years. Previously nested on site in most years - but has not bred since 2010. Numbers and days-recorded have declined dramatically in the last few years.

While the year did manage to produce one three-figure count (100 birds on the 17th January), the declining trend of the last couple of years shows little sign of reversal. While the national breeding population of this species has shown a slow decline since the mid 2000s (slightly more pronounced in the east of England)⁷. This decline as a breeding species and the disappearance of suitable habitat from Tyttenhanger GPs can explain the low summer numbers shown in the table below and probably offer little hope they will improve in the future.

Winter numbers reported in the Hertfordshire Bird Reports have also shown a decline in the recent past with the last four-figure count being in the winter of 2011/12⁸ and maximum counts showing a gradual decline since then. So, while the low winter numbers of the last couple of years can be attributed – at least in part - to high water levels, the declining numbers generally are undoubtedly part of a larger picture. The following table shows the monthly maxima for the year and the corresponding median, maximum and minimum counts for the period 2004-21.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	100	80	2	1	1	3	0	0	24	23	56	37
Median 2004-21**	293	267	98	17	15	37	116	146	118	215	252	275
Maximum 2004-21**	630	617	600	50	50	137	307	1000	313	700	500	556
Minimum 2004-2021**	47	0	1	1	1	0	0	0	2	22	45	1

* Record low-counts are highlighted. ** Median, maximum and minimum counts each month in the period 2004-21.

Snipe *Gallinago gallinago* (5, 18, 68) [≥ 15]

Winter visitor and common passage migrant; median autumn arrival date (2004-21) 8th August and median spring departure date (2004-21) 22nd April. Records between the 8th May and 24th July are especially notable.

With water levels being very similar to those in 2020 it is hard to see why numbers were so poor this year. Even correcting for days of coverage the 14 days-recorded (17 when corrected) is the lowest in the period 2004-21 and compares poorly with the 50 days-recorded (same value corrected) in 2020. The only bright light this year was the maximum count of 16 birds on the 8th October (itself a significant count i.e., ≥ 15 birds) and possibly indicates there are birds present but they are just not visible. The following table shows days-recorded, corrected days-recorded, bird-days and the number of significant counts (≥ 15 birds) for the period 2009-21. Figure 9 summarise data for days-recorded and corrected days recorded for the period 2004-21.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	98	57	49	49	43	63	54	52	44	139	146	50	14
Corr'd Days	117	64	55	58	51	71	59	56	44	139	147	50	17
Bird-days	597	155	85	111	118	308	171	145	154	891	1215	217	34
Counts ≥ 15	7	0	0	0	0	4	2	1	2	14	24	2	1

⁷ <https://www.bto.org/our-science/projects/breeding-bird-survey/latest-results/population-trend-graphs>

⁸ Birds of Hertfordshire, p102. This also shows that winter counts peaked in the late 1990s and showed a significant decline thereafter through until

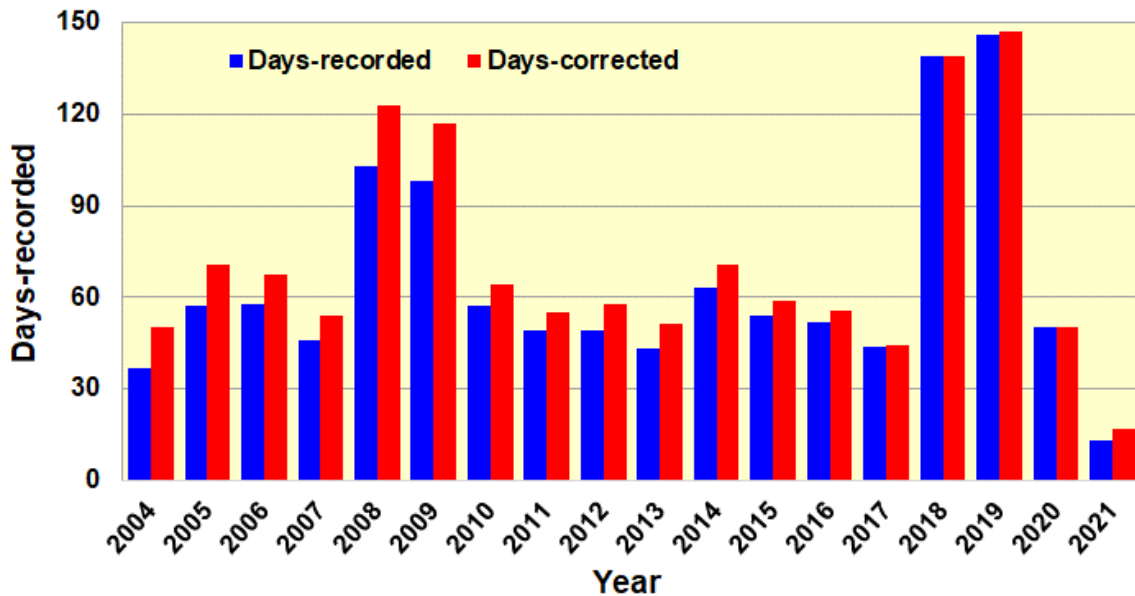


Figure 9. Days recorded a corrected days-recorded for Snipe *Gallinago gallinago* in the period 2004-2021. The corrected values are standardised against days of coverage with 2018 being set the relative value of 1.00 i.e. maximum days of coverage in the period 2004-21.

Woodcock *Scolopax rusticola* (5, 15, 5) [All]

Regular winter visitor between November and April – records outside of this period are especially notable.

A below average year for this species with just a single bird seen resting in a field near the Church Lane entrance on 25th November.

Curlew *Numenius arquata* (3, 15, 19) [All]

Infrequent passage migrant

Last recorded in 2018 this year saw a single record of a bird flying north at 7.50 am on the 29th April. This is the 23rd record for this species in the period 2004-21 and the 51st since first recorded in 1986 – 17 records of the 51 have been in April.

Redshank *Tringa totanus* (5, 18, 14) [≥ 7]

Summer visitor last breeding in 2010. For summering birds, the median arrival date (2004-21) is the 8th March and the median departure date (2004-21) is the 24th July – records outside of 23rd February to 16th August are particularly notable.

Just a single record for the year of a bird on the Fishing lakes on the 8th March. Amazingly this is the median date for the spring arrival of this species – just unfortunate that it (or its mates) didn't hang around! The following provides a summary of days-recorded and bird-days from the period 2009-21.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	70	91	69	58	30	27	34	29	35	23	16	3	1
Bird-days	291	331	229	177	49	52	62	45	38	36	18	3	1

Greenshank *Tringa nebularia* (5, 18, 18) [≥ 3]

Spring and autumn migrant in small numbers. median spring arrival date (2007-21) 20th April; median autumn departure date (2007-21) 28th August⁹. Records outside of the period 12th April to 26th September are particularly notable.

Just one record of a single bird, heard but not seen from the Main Pit on 8th October – which is surprisingly only the third October record of this species on-site¹⁰. A summary of days-recorded and bird-days from the period 2009-21 are shown in the table below.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	6	7	9	2	3	4	3	13	21	26	14	2	1
Bird-days	8	11	20	2	8	5	3	14	31	47	18	2	1

⁹ Records from before 2007 have not been used to calculate early/late dates as these may have been biased by the long-term winter visitor that frequented the site in the period from late 2001 until early 2006.

¹⁰ Previous October records were of a single on the 7th October 1984 and 25th October 2001. Notably the overwintering bird that was initially assumed to have arrived in early 2003 now looks to have put in its first appearance in December 2001 – possibly the same bird as seen in late October?

Green Sandpiper *Tringa ochropus* (5, 18, 14) [≥ 5]

Winter visitor and passage migrant; median spring departure date (2004-21) 20th April; median autumn arrival date (2004-21) 19th June. Records between the 30th April and 14th June are particularly notable.

The first of the eight days-recorded for the year was on the 29th March with the last record from 2020 being on the 15th September making this the worst winter with respect to days-recorded from 2003/04 ¹¹. A similar pattern is seen at the end of 2021 when there were no days recorded i.e., the last record for the year was of a single bird on the 30th August. The only count of more than one bird this year was of two birds on the 23rd August. While disappointing, it is worth noting that this species has shown several large fluctuations in days-recorded over the period 2004-21 and so there is some hope that numbers may recover in the future. The following table shows the days recorded the winter periods (October-March inclusive) from 2003/4 through until 2020/21. Figure 10 shows a plot of days-recorded and corrected days recorded for the years from 2004 through until 2021, *Appendix 1B* (page 56) provides a summary of spring departure and autumn arrival dates.

	Pre 10/11*	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Days-rec'd	25 (08/09)	9	56	22	27	2	10	81	81	54	20	1

*The minimum number of days recorded in the winter periods between 2003/04 and 2009/10 is shown along with the winter period in which that occurred. The maximum in this period was the winter of 2005/06 which produced 102 days-recorded.

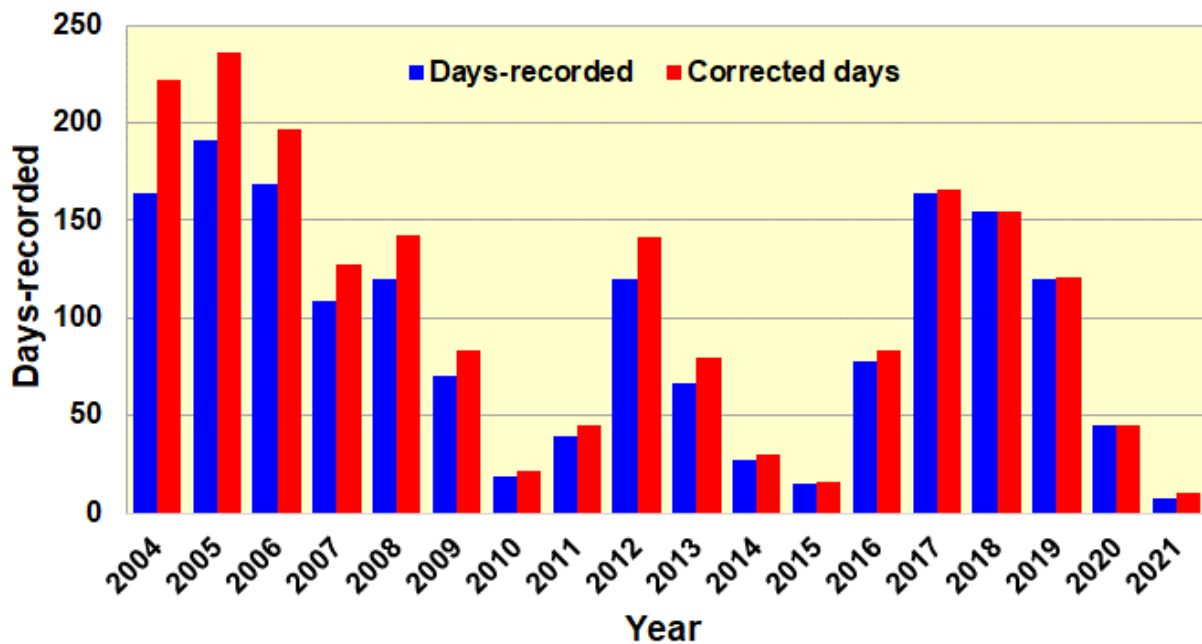


Figure 10. Days recorded and corrected days-recorded for Green Sandpiper *Tringa ochropus* in the period 2004-2021. The corrected values are standardised against days of coverage with 2018 being set the relative value of 1.00 i.e. maximum days of coverage in the period 2004-21.

Common Sandpiper *Tringa hypoleucos* (5, 18, 18) [≥ 4]

Regular passage migrant, more frequent in autumn. Median arrival date (2004-21) 16th April; median departure date (2004-21) 26th September.

There was just a single spring record this year of one bird on the 30th April. It was then a long wait until the first of 8 days-recorded in the autumn with a single bird on the Main Pit on the 16th July; the last bird of the year was seen on the relatively early date of the 12th September. The total of 9 days-recorded, corrected to 12 to take account of the low coverage for the year, is the lowest in the period 2004-21 – whichever way you look at it!. Counts of 2 birds were made on the 23rd, 25th and 29th August, with the last bird of the year being seen on the 12th September. A summary of data for days-recorded, corrected days-recorded, bird-days and maximum counts for the period 2004-21 is shown in the table below.

	2004-09*	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	43 (2007)	28	40	48	54	41	71	76	61	71	89	30	9
Corr'd days	50 (2007)	32	45	57	65	46	33	82	62	71	89	30	12
Bird-days	62(2007)	36	55	86	74	56	43	125	102	121	149	35	12
Maximum	3 (2009)	3	5	5	6	4	3	5	5	5	5	2	2

* The lowest values in the period 2004-09 are shown for each of the parameters along with the relevant year (in brackets).

¹¹ The winter period for the purposes of this analysis is assumed to run from October to March inclusive. Although we have no records for the first half of the 2003/04 winter there were 38 days recorded in January-March 2004.

Black-headed Gull *Chroicocephalus ridibundus* (5, 18, 1900) [≥400]

Common non-breeding species present virtually all year around with numbers generally lowest between April and June and peak counts usually in the early winter.

Numbers were generally below the median (2004-21) for most months of the year with the exception of January, November and December. The highest count of the year was of 1000 birds on the 7th November but there were two further significant counts (≥400 birds) on the 15th January and 21st December. A summary of monthly maxima data from the period 2004-21 shown in the table below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	400	300	120	8	6	3	120	250	290	300	1000	400
Median 2004-21**	307	300	244	19	9	19	259	400	480	345	350	375
Maximum 2004-21**	800	1000	800	30	26	109	600	1000	1500	800	1200	1200

** Median and Maximum values from the monthly maxima for the period 2004-21.

Common Gull *Larus canus* (5, 17, 256) [≥75]

Regular winter visitor; usually absent during the summer months between mid-April and early July with a median spring departure date 8th April (2004-21) and median autumn return date of 10th July (2004-21).

Monthly maxima in most months were generally well below the long-term (2004-21) median values and birds were completely absent between the 30th March and 29th August – this being the only year in the period 2004-21 that has failed to produce a record in July! The fall in numbers this year follows the trend from 2020 and is not a reflection of the low coverage this year in fact the average count this year (7.6 per day-recorded) was slightly higher than 2020 (4.3) – both of which are considerably lower than the peak in 2019 (23.7). A summary of monthly maxima data from the period 2004-21 shown in the table below with data for days-recorded, corrected days-recorded, bird-days and average count (bird-days/days-recorded) shown in the table below that. Figure 11 shows a summary of monthly maxima for the period 2004-2021.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	26	30	28	0	0	0	0	3	1	20	9	60
Median 2004-21**	61	64	79	3	0	0	2	3	4	22	50	60
Maximum 2004-21**	200	256	218	142	9	6	8	28	16	52	144	200

** Median and Maximum values from the monthly maxima for the period 2004-21.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	124 (2008)	66	62	72	98	79	82	86	74	75	83	34
Corr'd days	148 (2008)	74	73	86	110	86	88	87	74	76	83	45
Bird-days	1924 (2009)	1914	1749	944	2156	2397	872	1459	1567	1776	359	259
Ave. count	20.3 (2010)	29.0	28.2	13.1	22.0	30.3	10.6	17.0	21.2	23.7	4.3	7.6

* The maximum values for each parameter are shown along with the relevant year from which the value was obtained.

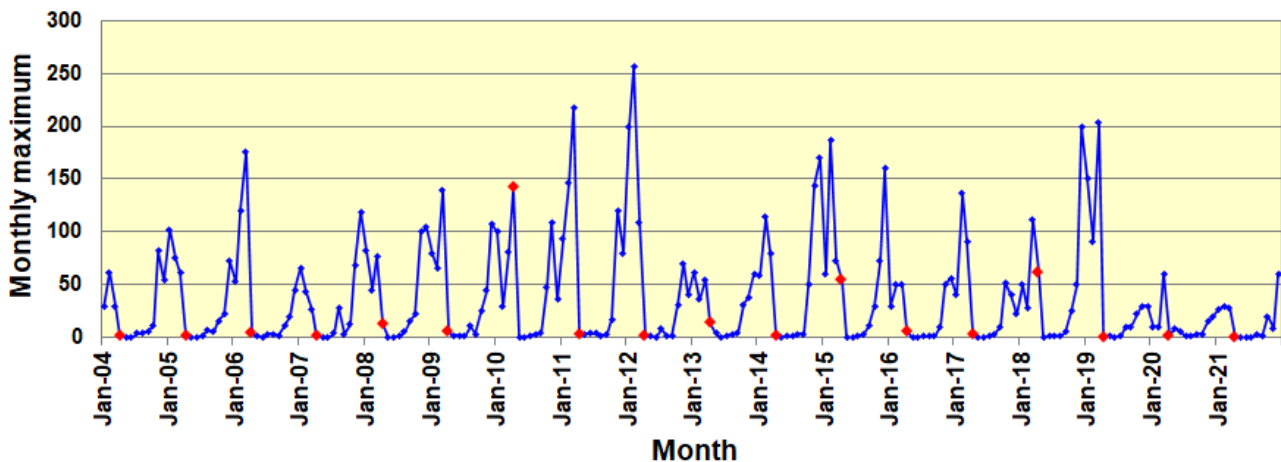


Figure 11. Monthly maxima for Common Gull *Larus canus* for the period 2004-2021. Maxima for the month of April are shown in red.

Mediterranean Gull *Ichthyaetus melanocephalus* (3, 14, 3)

Visitor in small numbers most years.

With 2019 and 2020 both drawing a blank for this species it was good to see it back on the year-list again. There was just a single record for the year of an adult in winter plumage on the Main Pit on the 18th August. There have now been 69 days recorded since the first appearance in 2001 with this year showing congruence with the peak of records occurring in the July-September window.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days-recorded	1	2	6	0	0	1	13	22	13	7	2	2

Herring Gull *Larus argentatus* (5, 18; 200) [≥21]

Present through much of the year although local breeding has resulted in increased records in the summer months in the recent past.

One of just a few species that actually seems to be doing well on-site despite the changing conditions and habitat. Numbers have clearly been boosted by the continuing success of the breeding colony on the roofs next to the London Colney bypass (breeding pairs up to 11 this year compared to 5 in 2019 and 2020) – especially in the April-July window. The maximum count for the year was of 150 birds on the 13th February. The latter was a record count for February, but it was notable that March, April, July, August and September also produced record counts. There were also 19 significant counts for the year¹² and the average count (bird-days/days-recorded) was also the highest in the period 2004-2021. The only dark spot in the year were the counts in the last quarter which were quite low. However, coverage in each of these months was particularly low (see “Coverage”) and may explain the relatively low numbers. The following tables show days-recorded, corrected days-recorded, number of significant counts (≥21 birds) and the average count (bird-days/days-recorded for the period 2009-21 upper table) and monthly maxima and maximum count for each month in the period 2004-21. Figure 12 provides a graphic summary of the monthly maxima data for the period 2004-21.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	21	21	52	43	83	91	128	123	147	117	140	192	111
Corr'd days	21	21	52	43	83	91	128	123	147	117	141	192	146
≥21 birds	0	0	0	0	1	0	2	3	9	6	9	19	19
Ave. count	1.8	1.6	2.2	2.9	3.2	2.7	4.5	5.3	7.0	6.4	6.9	6.8	7.7

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2021	25	150	82	60	14	30	35	50	45	4	4	8
Maximum 2004-21**	120	150	82	60	25	40	35	50	45	68	68	200

** Maximum values from the monthly maxima for the period 2004-21.

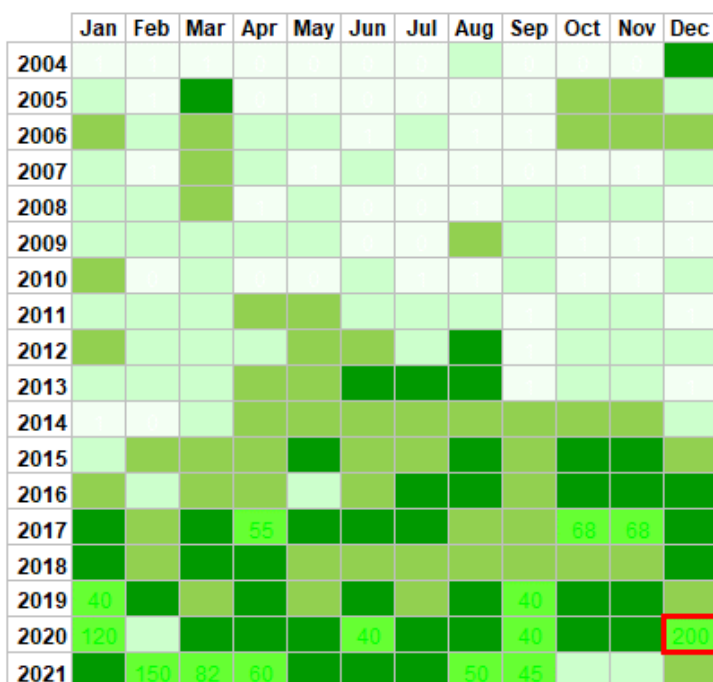


Figure 12. Summary of monthly maxima data for Herring Gull *Larus argentatus* for the period 2004-21. The key for the shading is shown at the bottom of the plot. The maximum count for the site (200 birds on the 31st December 2020) is indicated by the cell outlined in red.

Key	
0-2	[Lightest Green]
3-4	[Light Green]
5-13	[Medium Green]
14-39	[Dark Green]
≥40	[Darkest Green]

¹² Significant counts are re-calculated every year after the addition of new data. For most species this does not usually result in a change to the significant number i.e., the 95th percentile but in the case of this species the Significant Count was revised this year from 20 to 21 birds which has resulted in changes to the number of significant counts in a few of the previous years.

Yellow-legged Gull *Larus michahellis* (5, 15, 3) [All]

Previously irregular visitor, becoming more regular.

There were four days-recorded this year for a total of 4 bird-days, with all records between the 1st January and 14th April. Only one of the records noted the age of the bird (an adult) but there may have been more than one bird involved in these records i.e., Coursers Road recorded at least three birds in this period, and movement between the two locations is highly likely for this species. A summary of days-recorded for each month of the year is shown in the table below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days-recorded	10	5	11	7	3	6	8	4	3	12	6	3

Lesser Black-backed Gull *Larus fuscus* (5, 18; 142) [≥40]

Present throughout the year; with a recently established breeding population nearby in London Colney, records in the summer months have increased dramatically.

Overall numbers for this species were still generally good this year with the maximum count in most months well above the long-term (2004-21) median. The breeding colony on the industrial roof-tops next to the London Colney by-pass was slightly smaller this year with 26 breeding pairs compared to 33 in 2019 and 30 in 2020 – but despite this numbers in the April-July window were still good. The maximum count for the year was 73 birds on the 9th April and there were a further 12 significant counts (≥40 birds) scattered through the April-September window. Numbers were a little down in the final quarter of the year –but this was probably the result of the very low coverage (see “*Herring Gull*” above). The following tables show monthly maxima and maximum count for each month in the period 2004-21 (upper table) and days-recorded, corrected days-recorded, number of significant counts (≥21 birds) and the average count (bird-days/days-recorded for the period 2009-21) - lower table.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Maximum 2021	20	30	50	73	48	35	64	30	50	10	10	30
Median 2004-2021**	13	7	12	14	16	25	19	35	27	17	22	11
Maximum 2004-2021**	30	42	142	80	100	70	108	129	71	97	50	50

* Median values from the monthly maxima for the period 2012-21. ** Median and Maximum values from the monthly maxima for the period 2004-21.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	154	117	119	91	115	133	145	145	156	137	150	202	125
Corr'd days	184	132	133	107	137	149	159	155	157	137	151	203	165
≥21 birds	0	0	3	3	3	5	19	18	12	9	23	10	13
Ave. count	3.4	4.9	7.7	8.3	10.0	13.4	20.6	16.9	17.4	18.4	19.4	9.7	14.5

Great Black-backed Gull *Larus marinus* (5, 18, 13) [≥2]

Previously an infrequent visitor most often encountered in the cooler months –has recently become a much more frequent visitor albeit in small numbers; 75% of all records relate to single birds.

Recorded on just 9 days this year and with a total of 13 bird-days. There were 4 days on which two were recorded – 1st and 2nd January and the 13th and 14th February. All of the records were between 1st January and 2nd of March and involved at least three birds i.e. an adult and first winter on the 1st January and two records of 2 adults together. A summary of days-recorded and bird-days is provided in the table below.

	2004-09*	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	25 (4.0)	5	5	3	3	6	2	6	53	62	43	11	9
Bird-days	32 (5.0)	6	7	3	3	7	5	14	65	91	53	12	13

* Number of days-recorded and bird-days in the period 2004-09 is shown along with the averages for the same period - shown in brackets.

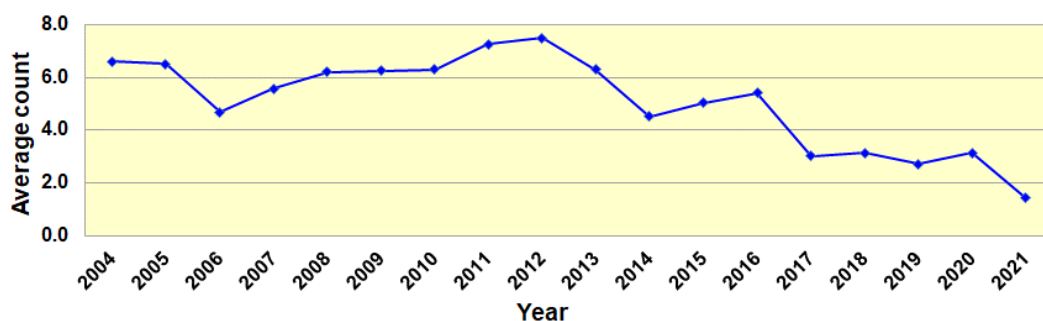
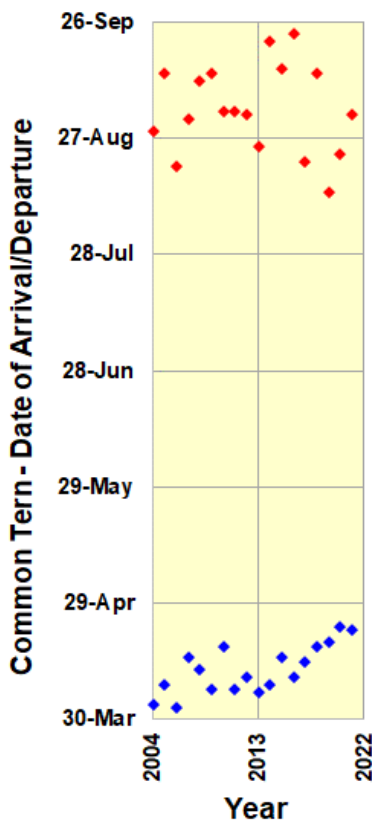


Figure 14. The average count (bird-days/days-recorded) for Common Tern *Sterna hirundo* for the period 2004-2021.



Common Tern *Sterna hirundo* (5, 18, 30) [≥13]

Summer visitor that regularly attempted to breed in the past. Median arrival date (2004-21) 12th April; median departure date (2004-21) 3rd September.

The first bird of the year arrived on the 23rd April - slightly later than median date (2004-21) of the 12th April. This slightly late arrival date was not out of keeping with the recent trend towards later arrivals (see Figure) however in contrast to most previous year, numbers and occurrences did not increase substantially after that. Even after correction for the year's low coverage the days-recorded 33 (corrected to 43) was well below those of the recent past (70 days-corrected in 2019 and 86 in 2020). However, not only was the presence of birds reduced but the maximum count of the year was just three birds (9th July), the average number of birds per count (bird-days/days recorded) fell to an all-time low of 1.4 (see Figure 13) and there were no post-breeding records of juvenile birds in the usual July-September window¹³. The final bird of the year was seen on the 3rd September – spot-on the median date for the period 2004-21. All in all this was a very disappointing year for this species and one that is a little difficult to explain; hopefully thing will look up in 2022!

The table below shows days-recorded, corrected days-recorded, and maximum count for the period 2009-21. Figure 13 shows a plot of arrival and departure dates for the period 2004-21 and Figure 14 the average count (bird-days/days-recorded) for the same period.

Figure 13. Arrival (♦) and departure (◆) dates for Common Tern *Sterna hirundo* in the period 2004-21. Dates are standardised to account for leap years.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	90	69	77	50	59	68	82	75	81	84	69	86	33
Days corr'd	108	77	86	59	71	76	90	80	82	84	70	86	43
Max.	20	16	18	20	22	20	23	22	10	9	8	11	3

Woodpigeon *Columba palumbus* (5, 18, 4000) [≥278]

Common resident. Present throughout the year often in large flocks and with a notable late autumn passage in some years.

A very ordinary year for this species with a maximum count of just 150 birds on the 7th March and 17th October (so no significant counts), and no evidence of breeding. A summary of maximum counts for the period 2004-21 is provided in the table below along with those for the other common pigeons/doves.

Stock Dove *Columba oenas* (5, 18, 200) [≥14]

Common resident present throughout the year but subject to significant variations between years.

The numbers recorded this year was generally lower than the previous two years and although the maximum count for the year was just 17 birds (10th April) there was a second significant count (≥14 birds) of 14 birds on the 30th March and also evidence of breeding (a bird visiting a possible nest site (N) on the 21st July). Further to the above, the number of days-recorded (especially after correction) was reasonably good, overall adding up to quite a good year for this species. The following table provides a summary of days-recorded and corrected days-recorded for the period 2004-21; maximum counts for the same period are shown in the table below (see "Feral Pigeon").

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	172 (2006)	78	48	97	129	142	147	142	121	163	215	126
Corr'd Days	200 (2006)	87	57	116	145	155	157	143	121	165	216	166

* The maximum days-recorded and corrected days-recorded in the period 2004-10 is provided along with the relevant year (in brackets)

Feral Pigeon *Columba livia* (5, 18, 1250) [≥100]

Common resident, particularly common around Willows Farm.

Interestingly the maximum count for the year, although just 63 birds (14th August) was better than the maximum of 45 recorded 2020 in addition to which there were a total of 23 counts of 10 or more birds this year (37.5% of days-recorded) compared to 34 in 2020 (26.5%). Nevertheless, numbers are still failing to reach the levels seen in the late 2000's (see

¹³ Although breeding pairs in Hertfordshire increased this year (40 pairs compared to 28 in 2019 and 2020), breeding success was low and only three birds were fledged across the three sites involved (Amwell, Rye Meads and Stockers Lake).

Figure 15) and the last significant count (≥ 100 birds) was back in 2018. The following table provides a summary of maximum count data for the period 2004-21 for this species and the other common doves/pigeons on-site. Figure 15 shows the temporal distribution of significant counts of this species for the period 2004-21.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Feral Pigeon	1250 (2006)	100	150	50	103	185	120	250	120	60	45	63
Stock Dove	200 (2005)	10	5	20	25	20	148	20	15	51	37	17
Woodpigeon	3000 (2005)	800	300	140	500	1000	1500	800	1000	1000	154	150
Collared Dove	57 (2006)	13	2	11	2	4	3	11	6	22	15	4

* The highest counts in the period 2004-10 are provided along with the year in which that count was made (in brackets)

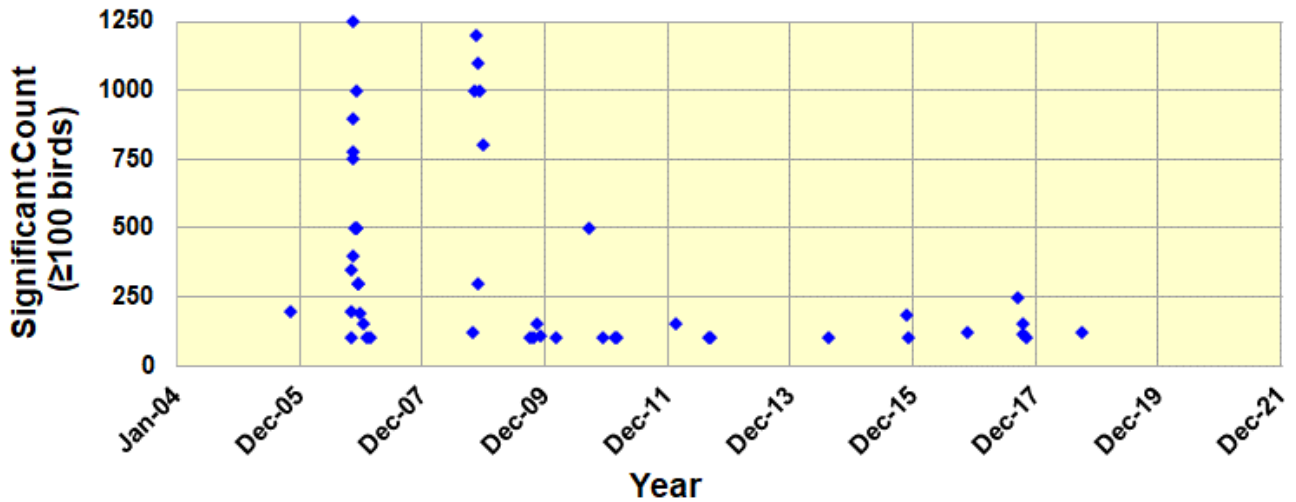


Figure 15. Temporal distribution of significant counts (≥ 100 birds) for Feral Pigeon *Columba livia* in the period 2004-21.

Collared Dove *Streptopelia decaocto* (5, 18, 150) [≥ 8]

Patchily distributed resident.

While days-recorded (24 – corrected for coverage to 32) were well down on 2019 (71) and 2020 (88) in a longer-term context it wasn't such a bad year (just below the 2004-21 median of corrected days-recorded of 38). However, the maximum count for the year was only 4 birds on the 9th January (the lowest since 2016) no significant counts and no breeding records. The following table shows a summary of days-recorded and corrected days-recorded for the period 2004-21 and maximum counts for the same period in the table above (see "Feral Pigeon").

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	93 (2006)	31	33	31	13	17	15	36	31	71	88	24
Corr'd Days	106 (2006)	35	39	37	15	19	16	36	31	72	88	32

* The maximum days-recorded and corrected days-recorded in the period 2004-10 is provided along with the relevant year (in brackets)

Addition- 1983; A recently discovered record sets a new record count for the site (previously 57 on the 23rd August 2006) -"There was also an unusual mid-summer gathering of ca 150 at Tyttenhanger GPs in June and July". *HBR, 1983 p152.*

Cuckoo *Cuculus canorus* (5, 18, 5) [≥ 2]

Summer visitor in small numbers. Median spring arrival date (2004-21) 19th April; median autumn departure date (2004-21) 9th August. The majority of days-recorded (86.3%) involve just a single bird.

After the record number of days-recorded (25) and bird-days (33) from 2020 it is perhaps no surprise that numbers this year were slightly lower i.e., 18 days-recorded and 19 bird-days – the only record of more than one bird being 2 seen on the 28th May. The first bird of the year arrived on the slightly late date of the 30th April while the last bird of the year was recorded on the 17th June - calling behind the model Railway Club. A summary of days-recorded from the period 2004-21 is shown below and a summary of early and late dates for the period 2004-21 are provided in *Appendix 1A* (page 54).

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	24 (2006)	15	17	10	21	17	8	4	4	17	25	18

* The maximum days-recorded in the period 2004-10 is provided along with the relevant year (in brackets).

Ring-necked Parakeet *Psittacula krameri* (5, 15, 792) [≥ 59]¹⁴

Previously an irregular visitor now becoming a very frequent occurrence across the site.

The large numbers in 2020 were driven by the roost that formed in the latter part of the year in the Colney Heath Common area, with most of the large counts being made of birds leaving or entering the roost area. The temporal distribution of daily maxima in 2020 and 2021 is shown in Figure 16 and shows:

- All counts over 150 birds in 2020 (circled in red) were made in the final quarter of the year (between 17th October and 22nd November).
- The better numbers in 2021 are concentrated in the first part of the year; with the number of records declining later in the year and also being of fewer birds (all less than 25 birds).

The status of this species on-site continues to be something of a moving-feast and we'll be keeping a close eye on things over the forthcoming years. The following table provides a summary of days-recorded, bird-days and maximum counts data for the period 2004-2021.

	2004-09*	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	5 (2008)	1	3	3	1	5	4	10	62	105	156	208	114
Bird-days	8 (2008)	8	16	5	2	9	6	19	220	428	1250	7388	895
Maximum	4 (2008)	8	11	2	2	4	2	4	25	22	63	792	50

* Highest number of days-recorded and bird-days in the period 2004-09 are shown along with the year in which the count/total was obtained (shown in brackets).

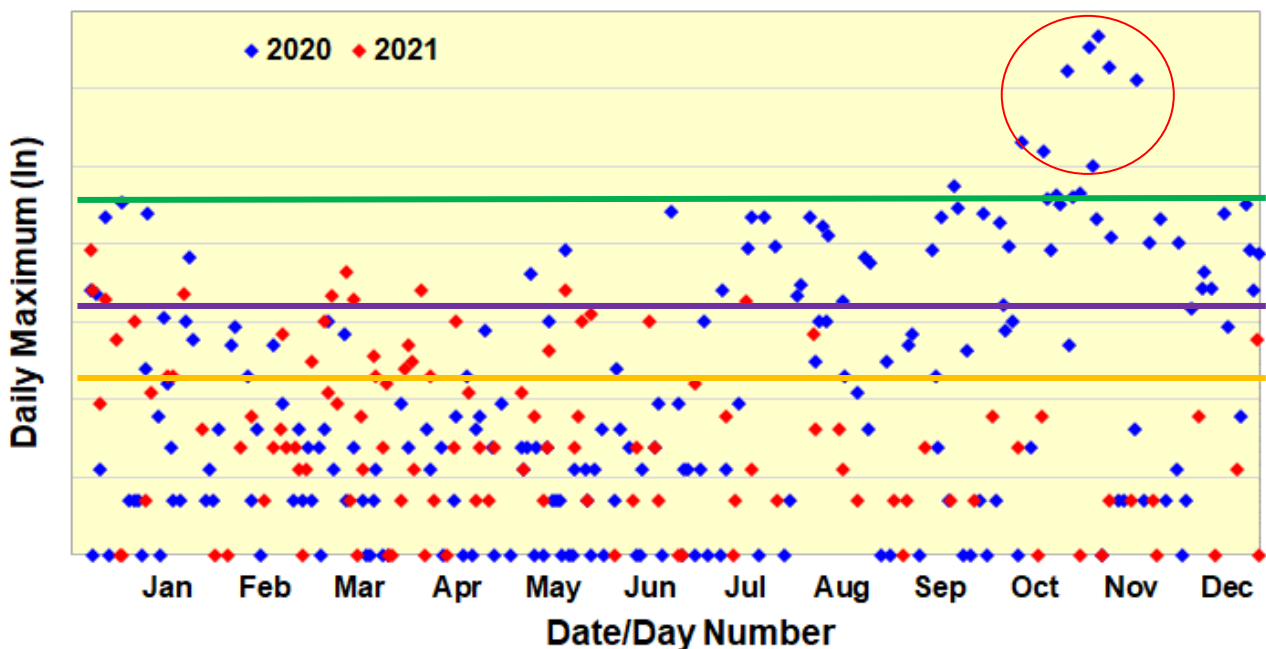


Figure 16. Daily maxima for Ring-necked Parakeet *Psittacula krameri* plotted against date/day number for 2020 (♦) and 2021 (◆). The vertical axis is shown on a natural logarithmic (ln) scale with the amber (-), purple (-) and green (-) lines showing the relevant position for 10, 25 and 100 birds respectively. Counts above 150 birds are encircled by the red line (-).

Barn Owl *Tyto alba* (5, 11, 2) [All]

Irregular visitor.

Just a single record this year of a bird hunting over the back scrape on the evening of the 21st February. It is not clear if the roost of the previous few years was checked this year so we would welcome any available clarification of this matter.

Addition – 1961 The *Hertfordshire Bird Report* for the year has the following “7 young hatched at Tyttenhanger”.

¹⁴ Of the daily maximum counts made since the first record in 1993, the greatest 5% of these counts are of 59 birds or more – all of those counts being made in 2019 and 2020. We included these as “significant counts” at the current time but the much smaller numbers this year indicate a change in phenology of this species and so further refinement of this number is likely in coming years.

Tawny Owl *Strix aluco* (5, 18, 5) [All]

Resident breeding species; undoubtedly under-recorded but present in most woodland areas on the site; most records (>87%) are of single birds.

The year produced three records as follows: 2 (possibly 3) birds heard calling at first light on the 1st January (Garden Wood/Main Pit), one bird on the 10th April (Main Pit) and a single bird heard on the 8th July (Willows Farm). A summary of the days-recorded for the period 2004-21 is shown below in addition to a monthly breakdown of those days-recorded (total of 95) for the same period.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	19	10	9	11	8	1	2	9	1	13	6	3

* Total number of days-recorded in the period 2004-09 - includes 11 days-recorded in 2007.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days-rec'd	7	10	11	8	2	7	3	6	12	14	11	4

Little Owl *Athene noctua* (5, 18, 7) [≥ 2]

Resident; birds usually seen around the Waterworks and Willows Farm, regularly breeds. The majority of counts (>83%) are of single birds.

Fifty-six days-recorded this year - with all records being from the Willow's Farm/Garden Wood area, 12 of these records involved 2 or more birds and the maximum count was of 3 birds on the 24th February and the 8th and 21st July. Breeding was confirmed this year with a recently fledged bird seen on the 14th June that was noted through until 21st July in the Willows Farm area. Although not unequivocal from the data provided, it is possible that a second pair/brood was also present in the Willows Farm area in August i.e., nest with young reported on the 14th August and an "adult and juvenile" subsequently reported on the 29th August. A summary of days-recorded and the number of days with more than one bird recorded (Multi bird) are shown for the period 2004-21 in the table below.

	2004-09*	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	49 (2008)	27	42	26	10	21	32	34	48	73	75	84	56
Multi bird	10 (2007)	1	12	4	1	5	7	0	1	8	19	20	12

* Maximum number of days-recorded and multi-bird-days in the period 2004-09 with the relevant year shown in brackets.

Kingfisher *Alcedo atthis* (5, 18; 4) [≥ 2]

Resident, generally present throughout the year and occasionally breeding on-site or close by. Most records (>83%) are of single birds.

This year produced a total of 44 days-recorded (58 when corrected for coverage compared with 70 corrected/uncorrected in 2020) including just 3 days on which two birds (the maximum count for the year) were seen. However, there were two records this year of a bird carrying food/faecal sacs (FF) one on the 7th May and one on the 3rd July suggesting that a breeding attempt took place locally even though there were no subsequent records of young birds/family groups.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	44	31	34	18	44	56	77	117	138	104	106	70	44
Bird-days	48	36	37	18	49	63	89	141	171	119	121	81	47
Counts ≥ 2	4	5	3	0	5	7	10	21	30	15	15	11	3

Swift *Apus apus* (5, 18, 300) [≥ 60]

Relatively common summer visitor with feeding birds present throughout the summer months. Median spring arrival date (2004-21) 26th April; median autumn departure date (2004-21) 13th August.

The first birds of the year were seen on the 25th April (just ahead of 2004-21 median of 26th April) with May producing 2 counts of 100 on the 11th and 16th before numbers settled down through until the end of June. The total number of days-recorded for the year was 40 which when corrected for coverage (53) is typical of the recent past – with the obvious exception of 2020! The maximum count for the year was of 200 birds on the 11th July – which is the highest count since the 20th July 2011. The last birds of the year were seen on the 3rd September Early and late dates for the period 2004-21 are shown in *Appendix 1A* (page 54) along with long-term median dates for arrival and departure. A summary of days-recorded, significant counts (≥ 60 birds) and the maximum year-counts for the period 2009-21 is shown below.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	19	23	27	19	29	29	26	41	41	38	56	70	40
Corr'd Days	23	26	30	22	35	33	28	44	41	38	57	70	53
Maximum	30	100	300	30	40	30	60	80	100	160	100	100	200
≥ 60 birds	0	1	3	0	0	0	1	2	3	2	1	6	4

Green Woodpecker *Picus viridis* (5, 18, 10) [≥4]*Common breeding resident.*

There were 108 days-recorded this year, which after correction for coverage, is better than all years since 2009 with the exception of 2020 (see table below) While the reporting rate was well above the average for the recent past there were only 12 significant counts i.e., of 4 or more birds, and the average count (bird-days/days-recorded) was slightly lower than the last few years. The maximum count for the year was of 9 birds on the 30th March and there was one report of recently fledged young on the 8th July. Despite the slightly low numbers of birds this was, all-in-all, still a good year for this species. The following table provide a summary of data for days-recorded, corrected days-recorded, significant counts (≥4 birds) and average count (bird-days/days-recorded) for the period 2009-21.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	147	94	90	70	77	112	111	119	141	111	128	201	110
Corr'd Days	176	106	101	82	92	126	122	127	142	111	129	202	145
Counts ≥3	11	6	10	4	1	5	13	4	13	12	24	43	12
Ave. count	1.93	2.01	2.00	1.84	1.70	1.92	2.04	1.96	2.10	2.00	2.24	2.45	1.85

Lesser Spotted Woodpecker *Dryobates minor* (2, 11 2) [All]*Previously resident and having bred in Garden Wood during that time. Now an irregular visitor.*

The second year in a row this species has been recorded with 3 records as follows: 5th January a male showing well for over 40 minutes in the back of Garden Wood, 29th January again a male in the back of Garden Wood and a single bird (unsexed) reported from Coppice Wood on 27th February. The last record is the only record that we have found that has specifically been attributed to this site... maybe something to keep a watch on in the future!

Addition - 1958. One in Tyttenhanger Park on 2nd February (Trans. Herts Nat. Hist. Soc. Volume 25 Part 3) is currently the first unequivocal record (of any species) we have found for the site¹⁵.

Great Spotted Woodpecker *Dendrocopos major* (5, 18, 6) [≥3]*Common breeding resident.*

As with a number of other species days-recorded (85) after correction for coverage (112) was consistent with most years in the recent past with the exception of the outstanding 2020. However, as was also the case with a number of other species overall numbers were a little on the low side despite 8 counts of 3 or more birds and a maximum count of 6 birds on the 21st February. The latter equals the site record which has been set on 6 other occasions since 2014. This year also produced a range of breeding records including agitated behaviour (A), courtship and display (D), nest hole excavation (B) and then a nest with young reported (NY) on 23rd May and 1st June. The latter record was from Church Lane while the earlier record was from garden Wood – so at least 2 pairs on-site this year. The following table provide a summary of data for days-recorded, significant counts (≥4 birds) and average count (bird-days/days-recorded) for the period 2009-21.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	64	71	66	46	48	71	78	73	109	88	108	147	85
Counts ≥3	2	4	9	4	1	4	5	3	13	11	30	27	8
Ave. count	1.30	1.37	1.48	1.59	1.29	1.34	1.42	1.29	1.50	1.65	2.04	1.80	1.59

Skylark *Alauda arvensis* (5, 18, 200) [≥25]*Breeding resident; also recorded as passage migrant and often forms large winter flocks.*

This year saw 92 days-recorded, which after correction for the low coverage gave a figure of 121 days – which is reasonable in the context of the last several years. There were just two significant counts of ≥25 birds with 50 birds on the 2nd January being the higher of these. Although there were a number of singing males noted around the site in the summer months there were no Probable/Confirmed Breeding records. Numbers were generally lower in the latter half of the year – possibly due to the very low coverage at that time (see “Coverage”) with the best count being 30 birds on the 12th November.

	2004-09*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	120 (2006)	66	48	66	98	95	96	117	103	124	157	92
Corr'd days	140 (2006)	74	57	79	110	104	103	118	103	125	157	121
Maximum	100 (2005)	55	56	19	43	40	80	60	100	200	45	50
≥ 25 Birds	11 (2005)	1	3	0	4	1	2	6	5	13	3	2

* The maximum for each parameter from the period 2004-10 is shown along with the year in which that value was obtained.

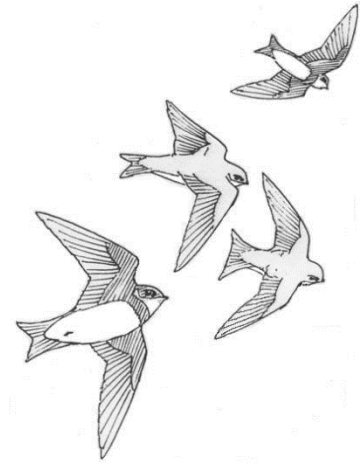
¹⁵ There are some records of birds from as early as 1945 that use “Tyttenhanger” as a location. But as this could also refer to Tyttenhanger Green this would place the record off-site. However, “Tyttenhanger Park” is contained within the boundaries of the current Tyttenhanger GPs and so as this record is the first available from Tyttenhanger Park it is also the first record for the site.

Sand Martin *Riparia riparia* (5, 18; 200) [≥ 50]

Summer visitor that previously bred and has more recently bred locally on Coursers Road. Median arrival date (2004-21) 19th March; median departure date (2004-21) 15th September.

The first birds of the year appeared on the slightly early date of the 18th March with a number of double-figure counts subsequently from the end of March through until the beginning of May. The highest count of the year was of 50 birds on the 9th April but with indications that the species did not breed at Coursers Road this year (Hertfordshire Bird Report) the lower number from May onwards are understandable. All-in-all there were 41 days-recorded this year, 54 after correction for coverage, the latter being well below the long-term median for corrected days-recorded of 71.

Early and late dates for the period 2004-21 are shown in *Appendix 1A* (page 54) along with long-term median dates for arrival and departure. The following table provides a summary of maximum counts for the period 2004-21 for the three migrant hirundines.



	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Sand Martin	100 (2007)**	200	50	40	80	50	60	100	40	100	50	50
Swallow	150 (2005)	300	100	100	100	150	200	100	100	100	100	100
House Martin	220 (2004)	150	170	50	80	50	100	100	100	70	70	50

* The maximum for each species for the period 2004-10 is shown along with the year in which that value was obtained. ** This value was obtained in both 2007 and 2008.

Swallow *Hirundo rustica* (5, 18, 500) [≥ 50]

Summer visitor with small breeding population centred on Willows Farm. Median arrival date (2004-21) 31st March; median departure date (2004-21) 11th October.

The first bird of the year arrived on the 1st April and were then present fairly consistently through until the last birds (48) were seen on the 8th October. The only breeding record for the site this year was of a bird carrying a faecal sac/food on 23rd July. Overall, there were 71 days recorded, which when corrected for coverage (94 days) was consistent with most years in the recent past – with the exception of 2020 (see table below). The maximum count for the year was of 100 birds on the 27th August (the only significant count - ≥ 50 birds of the year. Early and late dates for the period 2004-21 are shown in *Appendix 1A* (page 54) along with long-term median dates for arrival and departure. The table above provides a summary of maximum counts for the period 2004-21 for the three migrant hirundines while the table below shows summary data for days-recorded, corrected days-recorded and significant counts (≥ 50 birds) for the period 2004-21.

	2004-09*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	85 (2005)	62	49	48	70	82	85	94	87	96	121	71
Corr'd days	105 (2005)	70	58	57	78	90	91	95	87	97	121	94
≥ 50 Birds	12 (20010)	2	6	3	2	4	5	6	4	2	6	1

* The maximum for each parameter from the period 2004-10 is shown along with the year in which that value was obtained.

2020 – Correction – the days-recorded for this species was incorrectly stated to be 79; the correct value is shown in the table above i.e., 121 days.

House Martin *Delichon urbicum* (5, 18, 290) [≥ 60]

Passage migrant with small breeding population previously present on the Colney Heath margins of the site. Median arrival date (2004-21) 9th April; median departure date (2004-21) 5th October.

The first birds of the year were seen on the 31st March and the last birds on the 8th October. Between these dates birds were recorded on a total of just 27 days with no records at all between the 23rd May and 7th July. However, in the context of the period 2004-21 (and after correction for coverage) the corrected days-recorded (36) was just above the long-term median of 31. The maximum count for the year was of 50 birds on the 1st October. – the only significant count (≥ 60 birds) for the year. Early and late dates for the period 2004-21 are shown in *Appendix 1A* (page 54) along with long-term median dates for arrival and departure. A summary of maximum counts for the period 2004-21 for the three migrant hirundines is provided in the table above.

Tree Pipit *Anthus trivialis* (3, 3, 2) [All]

Rare visitor.

Just a single record of a bird flying over the Main Pit calling on the 23rd April but this is the 4th record in the past 5 years following singles on the 17th April and 23rd August 2017 and two flying over on the 18th August 2020. Prior to 2017 there had been a gap of 19 years without any records i.e., from the 30th March 1998.

Meadow Pipit *Anthus pratensis* (5, 17; 200) [≥42]

Winter visitor and passage migrant, generally absent between May and August; median spring departure date (2004-21) 23rd April; median autumn arrival date (2004-21) 14th September. All records in the summer-period between 2nd May and 7th September (inclusive) are especially notable.

The number of days-recorded was quite low this year (37) but after correction for coverage (50) this was much closer to the long-term median of 51 (corrected days-recorded – 2004-21). The last birds of the first winter period were seen on the 14th April while the first returning birds in the autumn were on the 12th September; however, in keeping with the recent past there was also a record in the summer-period of 3 birds on the 14th August.

	2004-10**	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Maximum	80 (2004)	25	8	37	30	47	55	100	70	100	200	60
Days-rec'd	59 (2008)	19	19	24	29	48	46	73	42	75	76	38
Corr'd days	60 (2008)	21	22	29	33	53	49	74	42	76	76	50
≥ 42 Birds	3 (2010)**	0	0	0	0	1	2	5	2	11	7	2

* The maximum for each parameter from the period 2004-10 is shown along with the year in which that value was obtained.

Grey Wagtail *Motacilla cinerea* (5, 18; 5) [≥3]

Local resident and winter visitor.

The 24 days-recorded this year, even when corrected for low coverage (32 days), is still one of the lowest for several years. There were three counts of three birds this year on the 30th April, 1st May and 17th September – with the May record being 2 adults feeding a youngster - indicating breeding either on-site or locally. The following table shows a summary of data from 2004-2021 for bird-days, days-recorded and corrected days- recorded.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bird-days*	123 (2005)	2	34	21	19	50	88	67	49	128**	103	31
Days-rec*	81 (2006)	2	24	18	14	38	61	49	41	82**	76	24
Corr'd days	98 (2005)	2	28	22	16	42	65	49	41	83	76	32

* Maximum number of bird-days, days-recorded and corrected days-recorded in the period 2004-10 shown along with the relevant year (in brackets).

Yellow Wagtail *Motacilla flava* (5, 18,53) [≥8]

Passage migrant with 1-2 pairs breeding in some years. Median arrival date (2004-21) 11th April; median departure date (2004-21) 20th September.

The first bird of the year arrived on the 12th April with a further 18 days recorded in the spring with a maximum count of 8 birds on the 9th May. Despite several records of multiple birds through June and July there was no evidence of breeding this year. The maximum count in autumn was of 5 birds on the 8th September, with the last birds seen on the 24th September. Despite the lack of breeding pairs, there was a total of 40 days-recorded - 53 days after correction for low coverage – being well above the median for the period 2004-21 of 33 days (corrected). The following table shows a summary of data from 2004-2021 for days-recorded and corrected days- recorded and maximum count.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec*	48 (2006)	10	13	33	22	33	38	28	51	38	55**	40
Corr'd days	56 (2006)	11	15	39	25	36	41	28	51	38	75	53
Maximum*	30 (2009)	8	5	5	2	5	7	6	9	10	16	8

* Maximum number of days-recorded, corrected days-recorded and maximum count in the period 2004-10 shown along with the relevant year (in brackets).

White/Pied Wagtail *Motacilla alba* (5, 18; 90) [≥12]

Breeding species present through much of the year with evidence of both spring and autumn passage in most years.

Pied Wagtail. Although 70 days-recorded looks a little low in comparison with recent years, after correction for low coverage (92 days) it doesn't look quite as bad. Most of the records for the year were of just 1-2 birds although there were three significant counts (≥12 birds) for the year 12 birds on the 2nd March, 19 on the 15th October and 20 on the 16th March. There were no records this year that indicated breeding on-site

White Wagtail. After the conspicuous absence in 2020 it was nice to have this subspecies back on the year-list. There were four records this year: single birds on the 11th, 15th, and 27th March and 3 on the 26th March. The record on the 11th March is the earliest record we have for Tyttenhanger GPs since the first record in 1986.

A summary of days recorded (Pied and White Wagtail), corrected days-recorded (Pied Wagtail) and maximum counts (Pied Wagtail) across the period 2004-21 is shown in the table below.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Pied - Days-rec.	137 (2006)	62	46	59	79	90	102	138	78	104	130	70
Pied – Corr'd days	160 (2006)	70	54	71	89	99	109	139	78	105	130	92
Pied - Maximum	50 (2006)	37	7	20	11	19	14	15	30	50	16	20
White - Days-rec.	11 (2004)	2	0	2	3	1	11	15	2	2	0	4

* Maximum number of days-recorded, corrected days-recorded and maximum count in the period 2004-10 for Pied Wagtail long with days-recorded for White Wagtail; the relevant year for each parameter is shown in brackets.

Wren *Troglodytes troglodytes* (5, 18, 40) [≥8]

Common breeding resident.

Present throughout the year with a maximum count of 20 birds on the 30th March and 25th April. In addition to the above counts there were 6 further significant counts (≥8 birds) this year – compared to 18 last year – and a total of 99 days recorded There were no probable or confirmed breeding records this year.

Dunnock *Prunella modularis* (5, 18, 23) [≥8]

Common breeding resident.

The maximum count for the year was of 12 birds on the 16th March with a further 9 days producing significant counts (≥8 birds). Days recorded this year were down on the last couple of year – mostly due to the low coverage for the year (overall recording rate was 42.7% - which compares favourably with values in the recent past with the exception of the outstanding 2020).

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	143 (2006)	74	51	71	104	108	114	139	108	134	182	105
Corr'd days	167 (2006)	83	60	85	117	118	122	140	108	135	183	138
Counts ≥8	7 (2006)	0	2	0	6	7	7	11	12	24	13	10

* Maximum number of days-recorded, corrected days-recorded and counts of ≥8 for the period 2004-10 shown along with the relevant year.

Robin *Erithacus rubecula* (5, 18, 30) [≥10]

Common breeding resident.

A relatively good year for this species with 125 days-recorded (an overall recording rate of 50.8% - the second best of the recent past behind the exceptional 2020's 61.0%) a maximum count of 25 birds (31st March) and a further 12 significant counts (≥10) scattered through the first part of the year in the period through until May. There was confirmed breeding this year with birds reported carrying food/faecal sac on the 23rd May and recently fledged young on the 29th May.



Photo courtesy of Simon West

Redstart *Phoenicurus phoenicurus* (3, 12 3)

Irregular visitor usually on spring passage.

A male on 11th and 12th April in hedge between main pit and model railway was the first record since August 2018. This was the 31st record for the site and the 14th in April Another bird (female-type) was possibly present on the 16th August but the unlucky observer was unfortunately unable to pin it down – one that got away!

Stonechat *Saxicola torquata* (5, 18, 6) [≥3]

Regular passage migrant and winter visitor mostly from September through until March. Records between April and August are particularly noteworthy.

Recorded on just 17 days this year with the majority of these days-recorded (15) from the first winter period with the last birds of the winter being seen on the 30th March. Several records in the first winter period involved a pair (male and female) but the 2nd March saw 2 females on-site, one of which was conspicuous by a lack of all tail feathers! The continuation of good number from the end of 2020 is witnessed by the winter of 20/21 producing a total of 65 bird-days – the best in the period 2004-21 since the winter of 2004/05 (101) The only two records in the second half of the year (17th and 19th September) involved just single birds.

	2004-10**	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BDs-1st WP*	40 (2005)	1	0	1	1	1	0	0	11	2	8	20
BDs-2nd WP*	61 (2004)	0	7	0	10	2	3	27	3	16	45	2
Days-rec'd	46 (2008)	1	7	1	9	3	3	21	14	15	32	17

*BDs= bird-days; WP = winter period. ** Maximum number of bird-days in the first winter period (BDs-1st WP), second winter period (BDs-2nd WP) and days-recorded (Days-rec'd) for the period 2004-10 are shown along with the relevant year.

Wheatear *Oenanthe oenanthe* (5, 18, 30) [≥4]

Regular passage migrant, more frequent in spring. Median arrival date (2004-21) 25th March; median departure date (2004-21) 20th September.

The first bird of the year was on the 26th March and was followed by seven other records on separate dates until the 9th May, with a maximum of 6 birds on 29th March. Autumn passage started with a single bird on the 13th August and then 4 single birds on separate dates up to the 1st October. With 13 days-recorded and 19 bird-days, while not a good year for this species it was reasonably good – and considerably better than 2020! Early and late dates for the period 2004-21 are shown in *Appendix 1A* (page 54) along with long term median dates for arrival and departure. A summary of data from the period 2009-21 is presented below showing total bird-days (Bird-days) and spring bird-days (Spring BDs) for the period 2008-21.



Photo courtesy of Simon West

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bird-days	40	44	56	32	71	18	10	14	17	15	31	8	19
Spring BDs	29	29	30	30	67	10	7	11	8	11	13	5	14

Blackbird *Turdus merula* (5, 18, 30) [≥12]

Common resident and breeding species; also, probably occurs as passage migrant.

Present throughout the year with a maximum count of 17 on the 30th March with a further five significant counts (≥12 birds) scattered through the January to April window. Days-recorded this year were 122, which when corrected for coverage was 161 days – a reasonable year in the period 2004-21. However, despite the reasonable number this year there were no confirmed-breeding records.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	161 (2006)	76	55	101	121	114	133	131	116	152	196	122
Corr'd days	188 (2006)	85	65	121	136	125	142	132	116	153	197	161
Counts ≥8	18 (2006)	0	1	1	0	1	2	4	3	2	15	6

* Maximum number of days-recorded, corrected days-recorded and counts of ≥8 for the period 2004-10 shown along with the relevant year.

Song Thrush *Turdus philomelos* (5, 18, 17) [≥4]

Breeding resident.

While days recorded this year (84) were down on 2019 (107) and 2020 (146), after correction for the poor coverage modified value (111 days) compared very favourably with the previous 2 years (108 and 146 respectively). The maximum count for the year was of just 8 birds on the 2nd January but there were a further 17 days – mostly in the first half of the year (15 of 17 counts) – that produced significant counts (≥4 birds). This year produced 2 confirmed breeding records – bird collecting food (FF) on the 18th April; and recently fledged young on the 30th May.

Mistle Thrush *Turdus viscivorus* (5, 18, 125) [≥14]

Breeding resident and local migrant.

After the exceptional year this species had in 2020 it was back-to-business-as normal this year with just 24 days recorded (32 after correction for coverage) – which was a recording percentage of 9.8% and very comparable with most years in the period 2004-21. The maximum count was of 10 birds on the 29th August i.e. during the traditional post-breeding flocks that have congregated at Tyttenhanger for some years now – although these flocks have generally declined in size since the

early 2010s. There were no confirmed records of breeding this year. The following table provides a summary of maximum counts, days-recorded, corrected days-recorded and recording percentage for the period 2004-21.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Maximum	54 (2004)	32	24	8	14	17	4	15	9	15	22	10
Days-rec'd	97 (2006)	33	24	22	34	42	38	54	29	30	66	24
Corr'd days	113 (2006)	37	28	26	38	46	41	55	29	30	66	32
Record %**	34.9 (2006)	11.4	8.7	8.1	11.8	14.2	12.5	16.8	9.0	9.3	20.4	9.8

* The maximum for each parameter from the period 2004-10 is shown along with the year in which that value was obtained. Record % is the days-recorded/days coverage expressed as a percentage.

Redwing *Turdus iliacus* (5, 18, 1000) [≥ 94]

Common winter visitor and passage migrant. Median spring departure date (2004-21) 29th March; median autumn arrival date (2004-21) 12th October.

The excellent end to 2020 for this species carried through into the first winter period of this year with counts of 100 on the 12th January and 21st February and 200 on the 24th February seen flying into roost in Garden Wood (this count equals the previous record set in February 2004). Despite the good start birds seem to depart a little earlier this year than in the recent past¹⁶, but the last bird of the spring was seen on the 30th March – just a little after the long-term (2004-21) median of 29th March. Birds (53) starting returning on the 8th October with a count of 100 birds on the 5th November and 90 on the 27th December. Overall, most months of the year produced counts over or very close to the long-term (2004-21) median values despite the relatively low coverage in the final quarter of the year (see “Coverage” page 4). . Early and late dates for the period 2004-21 are shown in *Appendix 1B* (page 56) along with long term median dates for arrival and departure. A summary of monthly maxima data from the period 2004-21 is provided in the table below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Maxima 2021	100	200	46	0	0	0	0	0	0	82	100	90
Median 2004-21*	50	43	48	0	0	0	0	0	0	69	50	35
Maximum 2004-21*	200	200	125	50	0	0	0	0	40	1000	345	200

* Median and Maximum Monthly Maximum for each month in the period 2004-21.

Fieldfare *Turdus pilaris* (5, 18, 600) [≥ 120]

Common winter visitor and passage migrant. Median spring departure date 7th April (2004-21); median autumn arrival date 21st October (2004-21); all records between May and September are highly notable.

With just 24 days-recorded – the lowest in the period 2004-21 - even after correction for low coverage it remained the lowest for the period. It is therefore surprising that the year still produced three counts of 100 or more birds – 600 on the 21st February, 100 on the 24th February and 450 on the 5th November. The count of 600 was equal to the site record (2nd March 2003) and the highest in the county for the year. The last birds of the spring were seen on the relatively early date of the 22nd March and the first birds of the autumn on the relatively late date of the 5th November so all-in-all a very unusual year for this species! The following tables provides a summary of data from the period 2004-21; late departure and early arrival dates for the period 2004-21 are shown in *Appendix 1B* (page 56) along with long-term median dates for these parameters.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Maxima 2021	50	600	3	0	0	0	0	0	0	0	450	2
Median 2004-2021*	77	105	65	3	0	0	0	0	0	26	68	50
Maximum 2004-2021*	200	600	300	118	1	0	0	0	5	100	450	100

* Median and Maximum Monthly Maximum for each month in the period 2004-21.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	54 (2008)	39	36	47	37	40	46	48	63	51	66	24
Corr'd days	64 (2008)	44	42	56	41	44	49	48	63	51	66	32
Counts ≥ 100	7 (2010)	5	3	6	15	4	10	7	5	0	0	3

* Maximum number of days-recorded, days-recorded corrected days-recorded and counts of 100 or more birds for the period 2004-10 shown along with the relevant year.

¹⁶ There are four April records for this species; 2016 (3rd April) 2018 (3rd April), 2019 (22nd April) and 2020 (3rd April) – last dates for those year are shown in brackets.

Cetti's Warbler *Cettia cetti* (3, 3, 1)

Previously rare visitor but becoming an increasingly abundant resident in Hertfordshire becoming more frequent on-site.

The bird present through the latter part of 2020 were still present at the start of the year and was heard to call on 6 dates between 1st January and the 8th March. All then went quiet until the end of the year when a bird was possibly heard on the 17th December.

Reed Warbler *Acrocephalus scirpaceus* (5, 18, 20) [≥ 8]

Summer visitor and breeding species. Median arrival date (2004-21) 19th April; median departure date (2004-21) 9th September.

The first bird of the year appeared on the slightly early date of the 16th April with good numbers through the spring/summer period producing a total of 53 days-recorded and 7 significant counts (≥ 8 birds) - the largest of which was 10 birds on the 6th June and 8th July. Despite the good numbers there were no confirmed records of breeding this year. The last bird of the year was seen on the 10th September - early and late dates for the period 2004-21 are shown in *Appendix 1A* (page 54) along with the long-term median dates for arrival and departure. A summary of data for days-recorded and mean count (bird-days/days-recorded) from the period 2004-21 is provided in the table below.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	43 (2006)	36	23	41	53	54	45	55	39	65	79	53
Mean count	2.85 (2010)	2.33	2.39	2.63	2.92	3.11	2.96	2.89	4.33	3.88	3.59	3.21

* The maximum for each parameter from the period 2004-09 is shown along with the year in which that value was obtained.

Sedge Warbler *Acrocephalus schoenobaenus* (5, 18, 6) [≥ 4]

Summer visitor and breeding species. Median spring arrival date (2004-21) 14th April; median autumn departure date (2004-21) 31st August.

With 14 days-recorded (18 days after correction for coverage) and 21 bird-days while down on the 2020 figures is a slight improvement over 2019 and still showing an upward trend from the nadir of 2018. The first bird of the spring was seen on the 16th April and there were a number of birds noted singing from April through until June. Singing birds aside there was no evidence of breeding but a maximum of 4 birds on the 30th April was another encouraging sign. The last bird of the year was seen on the relatively late date of the 10th September but was probably the only true autumn migrant this year as the previous records was on the 4th July. A summary of data from the period 2004-21 is provided in the table below

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	45 (2009)	33	21	34	24	32	19	20	8	12	22	14
Bird-days	87 (2009)	64	29	78	38	56	39	56	11	16	37	21

* The maximum for each parameter from the period 2004-10 is shown along with the year in which that value was obtained.

Blackcap *Sylvia atricapilla* (5, 17, 25) [≥ 8]

Common summer visitor and breeding species. Median arrival date (2004-21) 1st April; median departure date (2004-21) 1st October.

The first bird of the year was on the relatively early date of the 18th March¹⁷ with numbers then building through March and April with the maximum count for the year of 25 birds (a new site record) being made on the 18th April. There were seven other significant counts (≥ 8 birds) – mostly in April – and 65 days-recorded. While the days-recorded after correction for low coverage (89 days) was down on 2020 (103 days) but on par with 2019 (85 days) it was slightly surprising that the recording rate (66/1% - days-recorded/days of coverage) was the highest for the period 2004-21! Confirmed breeding records this year comprised adults carrying food/faecal sac (FF) on the 19th June and recently fledged young on the 8th July. The table below provides a summary of days-recorded and recording rate (Record % - days-recorded/days of coverage) for the period 2004-21. Early and late dates for the period 2004-21 are shown in *Appendix 1A* (page 54) along with long-term median dates for arrival and departure.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	57 (2006)	43	29	47	53	60	62	68	57	83	98	65
Record %	45.6 (2005)	31.2	25.4	39.5	37.5	43.5	43.8	41.9	33.1	50.6	63.4	66.1

* The maximum for each parameter from the period 2004-10 is shown along with the year in which that value was obtained.

Record % is the number of days-recorded/days of coverage – in this case for the months April-September

¹⁷ As with Chiffchaff *Phylloscopus colybita*, the increasing over-wintering population in the UK means that separating mobile over-wintering birds from migrants can be difficult in early-mid March. Interestingly the bird on the 18th March was seen at the feeders at The Hump – increased garden-feeding having been strongly implicated in the over-wintering in the UK and the associated reverse migration from Europe – see Delmore K. E. et al. (2020) Individual variability and versatility in an eco-evolutionary model of avian migration. *Proc. R. Soc. B* 287: (2020) 1339

Lesser Whitethroat *Curruca curruca* (5, 18, 5) [≥ 3]

Frequent spring migrant/summer visitor showing some breeding success in the recent past. Median arrival date (2004-21) 21st April; median departure date (2004-21) 5th September.

Spring passage was fairly typical this year with the first bird on the 23rd April and then small numbers through until the 3rd June with a maximum of 3 birds on the 7th May. As with 2020, there were singing birds noted through the spring passage but with no further evidence of breeding noted. There was just a single record after June of a single bird on the 27th July. Overall - even after allowance for the poor coverage this year – the worst year for this species since 2015 and hopefully not indicative of future decline. Early and late dates for the period 2004-21 are shown in *Appendix 1A* (page 54) along with long-term median dates for arrival and departure. A summary of days-recorded and bird-days for the period 2004-21 is shown in the table below.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	19 (2009)	9	8	6	20	18	27	37	31	32	32	14
Bird-days	22 (2009)	9	13	6	22	22	43	74	44	44	39	19

* The maximum for each parameter from the period 2004-10 is shown along with the year in which that value was obtained.

Whitethroat *Curruca communis* (5, 18, 22) [≥ 12]

Common summer visitor and breeding species. Median arrival date (2004-21) 12th April; median departure date (2004-21) 12th September.

The first bird of the year arrived on the 11th April with numbers quickly rising and the first clear signs of breeding activity noted on the 25th April (nest-building- B); the latter date also produced the maximum count of the year with 22 birds noted – a new site-record! - with four other significant counts (≥ 12 birds) made early May (1st to 9th). Confirmed breeding records comprised adults carrying food/faecal sac on the 30th May and recently fledged young on the 24th June and 8th July. The last bird of the year was seen on the slightly early date of the 3rd September. Overall numbers were slightly down on 2020 i.e. 57 days-recorded (corrected for coverage to 73 compared to 94 for 2020), 267 bird-days and an average count (bird-days/days-recorded) of 4.68 compared 60 5.96 in 2020 and 5.02 in 2019, but this still remains the most abundant migrant-warbler on-site. Early and late dates for the period 2004-21 are shown in *Appendix 1A* (page 54) along with long-term median dates for arrival and departure. The table below shows a summary of days-recorded, bird-days and significant counts (≥ 12 birds) for the period 2004-21.

	2004-09*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	77 (2006)	50	32	54	60	60	55	60	57	61	89	57
Bird-days	327 (2006)	268	101	195	220	252	236	209	221	306	530	267
≥ 12 birds	5 (2006)	5	1	0	4	4	2	0	2	2	13	5

* The maximum for each parameter from the period 2004-10 is shown along with the year in which that value was obtained.

Garden Warbler *Sylvia borin* (5, 18, 8) [≥ 4]

Regular summer visitor and breeding species. Median spring arrival date (2004-21) 24th April; median autumn departure date (2004-21) 19th August.

Whatever has happened to the habitat at Tyttenhanger in the years since 2012 certainly seems to be something that this species likes! The first bird of the year was seen on the typical date of the 23rd April after which a further 40 days-recorded produced a total of 101 bird-days. The only comparable year is 2019 but this year produced a reporting rate of 30.6% (25.6 in 2019) and also managed a maximum count of 8 birds – a new record for the site. Hot-spots for this species are mostly around the Main Pit (the Maersk container, the horse paddocks and Pylon Corner) with relatively few records from the Willows Farm and Colney Heath Common ends of the site. Despite the overall good numbers this year, breeding was not confirmed for the first time since 2015!. Early and late dates for the period 2004-21 are shown in *Appendix 1A* (page 54) along with long-term median dates for arrival and departure. A summary of days-recorded, bird-days and significant counts (≥ 4 birds) for the period 2004-21 is shown in the table below.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	25 (2005)	21	17	32	34	38	37	41	49	43	43	41
Bird-days	41 (2009)	36	26	51	55	61	62	88	90	122	75	101
Counts \geq	1**	1	1	2	1	1	1	4	6	16	0	11

* The maximum for each parameter from the period 2004-10 is shown along with the year in which that value was obtained.

**There were only two counts of ≥ 4 birds before 2010 – one in 2008 and one in 2009

Willow Warbler *Phylloscopus trochilus* (5, 18, 13) [≥ 5]

Regular summer visitor and breeding species. Median arrival date (2004-21) 3rd April; median departure date (2004-21) 19th September.

The first bird of the year was found on the slightly early date of the 30th March after which the year went on to produce 43

days-recorded and a total of 79 bird-days. Even before correction for the low coverage this year the number of days-recorded is relatively good in the context of the period 2004-21 and above the long-term (2004-21) median of 41 days. The maximum count for the year was of 7 birds on 19th May (the only significant count of ≥ 5 birds for the year) and maybe a little surprisingly there were no confirmed breeding records this year. The last bird of the year was seen on the relatively early date of the 11th September and in fact there were only 3 records after the 23rd July (all in September). Arrival and departure dates for the period 2004-21 are shown in *Appendix 1A* (page 54) along with the long-term median dates. A summary of data from the period 2004-21 is shown in the table below.

	2004-09**	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	50 (2006)	46	36	13	22	29	30	41	34	23	44	61	43
Bird-days	131 (200*)	84	65	18	25	42	44	65	59	38	66	99	80
Mean*	2.5 (2006)	1.83	1.81	1.38	1.14	1.45	1.47	1.59	1.74	1.65	1.50	1.57	1.84
Maximum	13 (2009)	8	6	3	2	4	3	4	5	5	9	6	7

* Mean = mean count i.e. Bird-days/Days-rec'd. **The maximum for each parameter from the period 2004-09 is shown along with the year in which that value was obtained.

Chiffchaff *Phylloscopus collybita* (5, 17, 23) [≥ 8]

Common summer visitor and breeding species; overwintering birds may be coming more regular. Median arrival date (2004-21) 13th March; median departure date (2004-21) 23rd October.

Continuing from the end of 2020 there was at least one over-wintering bird recorded on 3 dates from the 8th January through to the 26th February. The first presumed migrant arrived on the relatively early date of the 3rd March and birds were then present through until the 22nd October – recorded on 97 of the 172¹⁸ days between these two dates! The only winter record in the second part of the year was on the 5th November with the best count of the year being 20 birds on the 18th and 25th April with a further 10 significant counts (≥ 8 birds) in the period 27th March – 1st October. Despite the good numbers there were no confirmed breeding records for the year.

The following table shows a summary data for days-recorded, average count (bird-days/days-recorded) and winter days for the period 2004-21. Arrival and departure dates for the period 2004-21 are shown in *Appendix 1A* (page 54) along with the long-term median dates.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	84 (2005)	59	54	41	42	89	86	110	119	114	130	154
Ave. count	2.66 (2004)	1.92	2.04	2.37	2.67	2.61	3.15	3.08	3.16	3.19	3.63	3.51
Winter Days	11 (2005)	0	0	0	6	3	13	3	18	18	16	4

* Maximum number of days-recorded, average count (bird-days/days-recorded and winter (1st November – 28th February) days-recorded for the period 2004-10 shown along with the relevant year.

Goldcrest *Regulus regulus* (5, 18, 12) [≥ 5]

Small resident population supplemented by regular passage migrants and winter visitors; irregular breeder.

Just 34 days-recorded this year, which even after adjusting for the poor coverage (45 days) was still the lowest since 2016 (33 days corrected). Although the coverage in the second half of the year was very low (104 days compared to 142 in the first half) this does not explain the fact that there were only 4 days-recorded! The best count for the year was of 7 birds on the 2nd January (the only significant count of the year i.e. ≥ 5 birds) and there were no confirmed breeding records for the year. The following table shows a summary of days-recorded, corrected days-recorded and average count (bird-days/days-recorded) for the period 2004-21.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	44 (2005)	19	21	21	22	20	38	33	58	50	71	70
Corr'd days	53 (2005)	21	24	25	25	22	42	33	55	49	68	68
Ave. count	2.59 (2004)	2.11	2.00	1.71	1.23	1.35	2.29	1.73	1.76	1.80	2.17	1.90

* Maximum number of days-recorded, corrected days-recorded and average counts (bird-days/days-recorded) for the period 2004-10 shown along with the relevant year.

Firecrest *Regulus ignicapillus* (3, 4, 2) [All]

Infrequent visitor

The first record for the year was of a single bird feeding in garden Wood on the 1st January and seen on 6th and 22nd January. Then two birds were noted on 8th March there was then a gap until the 30th September when a single bird was

¹⁸ This amounts 56.4% of the days-covered – which is quite remarkable given that recording rates for common species often fail to reach 50% of the prospective coverage.

found in the same general area. Another single bird was then reported on the 1st and 6th October. Interestingly the second half of the year produced 3 days-recorded – only one less than that for Goldcrest *Regulus regulus*!

Spotted Flycatcher *Muscicapa striata* (5,18, 6) [All]

Declining autumn passage migrant; has bred in past years. Median autumn departure date (2004-2021) 9th September.

With 5 days-recorded – one in spring (7th May) and 4 in autumn - this was fairly typical of the years since possible breeding records in July were noted (2008). There were two records of multiple bird this year with 2 birds seen on the 5th September and 4 on the 6th.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	3	3	2	2	2	6	3	3	3	3	6	4	5
Bird-days	3	4	3	2	2	6	3	3	5	4	6	7	9

Pied Flycatcher *Ficedula hypoleuca* (1, 3; 1)

Rare visitor.

A male seen by the causeway on the 12th April was just the fourth record for the site – all of single birds - and the first ever in spring.

Long-tailed Tit *Aegithalos caudatus* (5, 18, 35) [≥19]

Common resident and breeding species.

Reported throughout the year with a maximum of 23 birds seen on the 2nd March– the only other significant count (≥20 birds) was of 20 birds on the 2nd January. Breeding records this year comprised nest-building on the 24th February and 19th April with an occupied nest reported on the 25th April and recently fledged birds on the 30th May. A summary of the number of significant counts in the period 2011-21 is shown in the table below.

Blue Tit *Cyanistes caeruleus* (5, 18, 50) [≥20]

Common resident and breeding species.

Recorded on a total of 128 days (169 after correction for coverage) this year, a maximum count of 35 birds on the 30th March with a further 12 significant counts (≥20 birds) and a recording rate (days-recorded/days of coverage) of 52.0%, this was actually a relatively good year for the species. In addition, breeding was confirmed by a bird carrying food/faecal pellet on the 17th May and recently fledged young reported on 16th June and 14th August. A summary of the number of significant counts in the period 2011-21 is shown in the table below.



Photo courtesy of Patrick Wainwright

Great Tit *Parus major* (5, 18, 50) [≥18]

Common resident and breeding species.

Present throughout the year with a maximum of 40 birds on the 6th January, 113 days-recorded (149 days after correction for coverage), a total of 15 significant counts (≥18 birds) and a recording rate (days-recorded/days of coverage) of 45.9%, this year was fairly typical of the recent past. Nest-building was reported on the 14th April and breeding confirmed by recently fledged young seen on the 8th July and 14th August. A summary of the number of significant counts in the period 2011-21 is shown in the table below.

	Number of Significant counts											Total
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Long-t'd Tit (≥19)	5	3	0	1	5	6	9	1	8	16	2	72
Coal Tit (≥3)	1	0	1	3	2	3	4	9	7	10	2	47
Blue Tit (≥20)	1	1	0	3	5	4	4	5	15	21	13	90
Great Tit (≥18)	2	1	1	4	6	2	5	8	9	14	15	74

Coal Tit *Periparus ater* (5, 18, 7) [≥3]

Resident and irregular breeding species.

Just 28 days-recorded this year (adjusted to 37 days for low coverage) was actually a reasonable year for this species in the context of 2004-21 – albeit a bit lower than the previous 3 years (2018-20). The maximum count for the year was of 4 birds on the 30th March and 18th April and there were no confirmed records of breeding. The following table shows a summary of days-recorded, corrected days-recorded, bird-days and maximum counts for the period 2004-21; A summary of the number of significant counts in the period 2011-21 is shown in the table above.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	37 (2010)	18	11	18	32	32	29	37	46	57	90	28
Corr'd days	42 (2010)	19	12	19	29	34	28	33	45	56	90	37
Bird-days	55 (2010)	25	12	23	48	48	43	59	94	87	149	43
Maximum	3 (2006-07)	3	2	3	5	5	3	3	6	5	7	4

*The maximum for each parameter from the period 2004-10 is shown along with the year(s) in which that value was obtained.

Nuthatch *Sitta europaea* (5, 18, 6) [≥3]

Common resident and species that probably breeds in most years; most frequently (68.7%) reported as single birds.

There were 46 days-recorded this year producing a total of 70 bird-days, a maximum count of 6 birds on the 2nd January and a total of 6 significant counts (≥6 birds). The recording rate this year was 18.7% (days-recorded/days of coverage – expressed as %) – higher than any other year with the exception of 2020 (25.4%). The only breeding record for the year was from Garden Wood and involved of a bird carrying a faecal sac/food on 23rd May.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	47 (2007)	30	15	17	17	25	35	51	46	41	82	46
Record rate(%)	17.0 (2007)	10.4	5.5	6.3	5.9	8.4	11.6	15.9	14.2	12.8	25.4	18.7

*The maximum for each parameter from the period 2004-10 is shown along with the year(s) in which that value was obtained

Treecreeper *Certhia familiaris* (5, 18, 10) [≥2]

Resident and probable breeding species in most years; most counts (69.8%) have been of single birds.

With only 18 days-recorded this year and no records in June, July, October, or December this apparently disappointing year may well have been better had the coverage been greater i.e., the corrected days-recorded was 24 (median of 16 for the period 2004-21) and the recording rate 7.32% (2004-21 median = 5.09%) were both above normal. In addition, there were six days-recorded with 2 or more birds and a maximum count of 4 birds on 30th March Breeding occurred this year in Garden Wood with nest building noted on the 14th April and a nest with young on the 23rd May. The following table provides a summary of data for days-recorded and recording rate (percentage of days-covered on which recorded) for the period 2004-21.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	22 (2006)	12	7	10	15	12	7	16	10	21	52	18
Record rate (%)	8.02 (2005)	4.15	2.55	3.69	5.19	4.05	2.31	4.98	3.09	6.54	16.1	7.32

*The maximum for each parameter from the period 2004-10 is shown along with the year(s) in which that value was obtained

Magpie *Pica pica* (5, 18, 75) [≥20]

Common resident.

The maximum count for the year was 35 birds on the 10th April - with a further 13 significant counts (20 or more birds) being made- mostly in the first half of the year. The only breeding record for the year was of recently fledged young seen on the 17th May. A summary of maximum counts for this and the other common corvids for the period 2004-21 is shown in the table below.

	2004-10	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Magpie	24 (2006)	29	36	22	23	31	36	15	60	75	50	35
Carrion Crow	250 (2006)	74	44	70	100	150	130	100	110	150	115	70
Rook	108 (2005)	40	117	80	50	56	50	40	20	10	50	34
Jackdaw	500 (2006)	50	280	100	70	350	400	300	310	500	300	200

*The maximum for each species from the period 2004-10 is shown along with the year(s) in which that value was obtained.

Jackdaw *Coloeus monedula* (5, 18, 500) [≥113]

Local breeder and common visitor to the site.

Still the most common corvid on-site with this year producing 14 counts of 50 or more birds (20 in 2020) and a maximum of 200 on the 7th November; the only other significant count (≥113 birds) for the year was of 120 birds on the 21st July. Breeding was also noted this year with nest building noted on 25th March and 9th May a nest with young on 3rd June. A summary of maximum counts from the last 18 years are shown in the table above.

Raven *Corvus corax* (5, 11, 2) [All]

Irregular visitor –seemingly becoming more frequent as the species spreads within the UK. First recorded in 2009.

There were seven days-recorded this year with single birds on the 3rd January, 27th March (birds in both the morning and afternoon over Garden Wood), 23rd July, and 28th November and two birds recorded on the 30th April and 2nd July. There have now been 44 days-recorded for a total of 61 bird-days.

Rook *Corvus frugilegus* (5, 18, 117) [≥ 37]

Local breeder and relatively frequent visitor to the site.

A relatively poor year for this species with just 15 days-recorded, a maximum count of 34 birds on the 15th January and two other double figure counts for the year. A summary of days-recorded for the period 2004-21 is shown below along with a summary of recording rate for the same period.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	71 (2006)	36	40	18	11	26	8	20	17	24	42	15
Record rate (%)	24.4 (2005)	12.5	14.5	6.6	3.8	8.8	2.6	6.2	5.2	7.5	13.0	6.1

*The maximum for each parameter from the period 2004-10 is shown along with the year(s) in which that value was obtained

Carrion Crow *Corvus corone* (5, 18, 250) [≥ 50]

Common resident.

Present throughout the year with a maximum of 70 birds on the 8th September – the only significant (≥ 50 birds) count of the year and the first year since 2013 not to produce a three-figure count. This species did however produce the most unusual breeding record of the year – a “Used nest or eggshell” found on Christmas Eve!

Jay *Garrulus glandarius* (5, 17, 15) [≥ 5]

Common resident with a noticeable autumn passage in some years with significant counts most notably between weeks 36 and week 46 (2nd September – 17th November).

Overall numbers this year were good, with a maximum count of 10 birds on the 30th March and another 9 significant counts (≥ 5 birds) made throughout the year – most of them in the third quarter (October-December) of the year. While days recorded (82) may not have matched the exceptional 2020 (154) – even after adjusting for the low coverage (108 corrected days-recorded) - the average count per day-recorded (birds-days/days-recorded) was the highest in the period 2004-21 (See Table below). Despite the lack of breeding records this year it was still a pretty good year for this species. The following table provides a summary of data from 2004-21 for days-recorded, average count and counts of 5 or more birds.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	67	73	57	65	59	76	64	70	91	85	92	154	82
Ave. count	1.76	2.04	1.81	2.66	1.71	2.07	1.55	1.57	2.07	2.15	2.29	1.95	2.38
Counts ≥ 5	3	6	1	7	0	4	0	2	5	5	11	5	10

Starling *Sturnus vulgaris* (5, 18, 10000) [≥ 200]

Common resident and winter visitor; a large roost formed in the winter of 2020/21 that attracted some large crowds.

Carrying on from the excellent end to 2020 there was a count of 2500 birds at the reed-bed roost on the 9th January – after which the roost either dispersed... or people stopped visiting/counting! Things were then relatively quiet through until July when a roost was again reported from the reed-bed on the Main Pit. There were three counts of over 1000 birds – 8th July (2000), 16th August (1000) and the 17th August (1500) with numbers dwindling after that to 500 in September with no significant roost noted after that. A summary of maximum counts for the period 2004-21 is shown below.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Maximum	400	400	500	250	380	500	450	450	150	200	2500	2500

*The maximum for from the period 2004-10; maximum counts of 400 were made in both 2006 and 2009

Tree Sparrow *Passer montanus* (5, 18, 100) [≥ 14]

Breeding resident and frequent visitor from the nearby breeding population at Coursers Road; recent indications are of a dramatic decline.

The year appeared to start where 2020 left-off with small but regular numbers of birds seen – mostly at the feeding station near Tyttenhanger Farm And behind The Mound. Overall, the year produced 115 days-recorded which when corrected for coverage came to 151 days – a quite respectable total in the context of the last 10 years. Counts of 10 birds (the maximum for the year) were recorded on 14th February and 27th March with February and March producing also several records of birds prospecting for nest sites – mostly at the various nest-boxes on-site. Breeding was subsequently confirmed by records of an occupied nest on the 12th April, an adult carrying food/faecal sac on the 16th May and then reports of recently fledged young from the 15th May until the 16th June. It was after this that things starting to go downhill with the July-September quarter producing just a few records of more than two birds and then the final quarter of the year failing to produce any count of more than 2 birds. Without wishing to steal-the-thunder of any future reports at the current time the last records we can find in the public domain for this species at Tyttenhanger GPs are in April 2022¹⁹ – which means that 2021 represents the last year this species was present on-site throughout the year. A summary of days-recorded, corrected

¹⁹ The Herts Bird Club Sightings Archive shows only 8 records for the species i.e. up to 2 birds between 3rd January and 23rd February, while eBird shows an additional 4 records between 25th February and 1st April.

days-recorded, counts of 10 or more birds (≥ 10 birds) and maximum counts for the period 2009-21 are shown in the table below. Figure 16 provides a plot of all daily maxima for 2021

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	62	98	63	37	41	179	169	135	138	163	191	137	115
Corr'd days	68	111	71	44	49	161	185	143	138	163	192	136	151
≥ 10 birds	4	3	2	2	1	35	36	9	24	31	47	22	2
Max. count	14	10	12	13	28	19	32	24	26	25	23	20	10

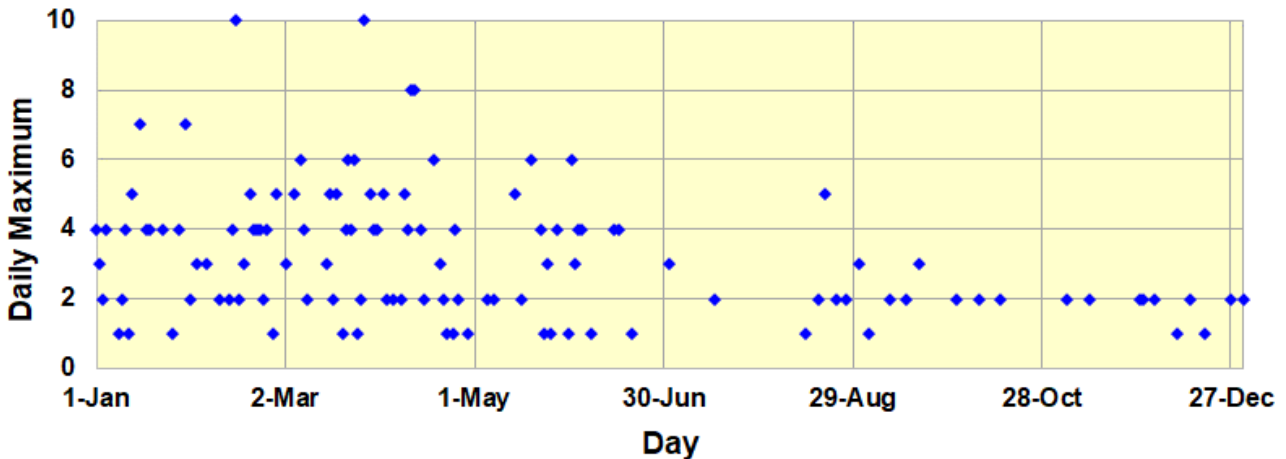


Figure 16 Daily maximum for Tree Sparrow *Passer montanus* plotted against date for 2021.



The editors couldn't fail to notice the similarity between the photograph above and the image that has been used on the cover of the Tythenhanger GPs reports since 2005 – shown on the left. The irony of the fact that the image on the right appeared at a time when the species itself seems to have disappeared from Tythenhanger GPs is noted... we hope we are premature in the latter observation! Photo courtesy Simon West.

House Sparrow *Passer domesticus* (5, 18, 40) [≥ 12]

Small resident populations around Willows Farm and in Colney Heath.

As with so many other species, after the exceptional 2020 it was back to normal this year with 31 days-recorded and a maximum count of just 10 birds on the 31st December. Confirmed breeding records this year were restricted to a report of bird carrying a faecal sac/food on the 7th May at Willow's Farm. A summary of maximum counts and days-recorded data from the period 2009-21 is shown in the table below.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	70	45	27	12	26	18	37	41	38	23	62	57	31
Maximum	20	15	20	18	6	10	14	20	15	15	20	14	10

Brambling *Fringilla montifringilla* (5, 14, 11) [All]*Regular/irruptive winter visitor.*

There were four records for the year with 2 birds seen flying over on the 8th October, 11 flying over on the 9th October (both during visible migration stints) and then single birds on the 15th October and 12th November. The count of 11 birds on the 9th October is a site record. A summary of data from the period 2004-21 is shown in the table below.

	2004-09*	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec.	13 (2007)	16	2	0	0	1	0	0	17	1	3	6	4
Bird-days	46 (2007)	29	4	0	0	1	0	0	28	1	4	6	15

* Maximum number of bird-days and days-recorded for the years 2004-09 inclusive, with the relevant year shown in brackets.

Chaffinch *Fringilla coelebs* (5, 18; 200) [≥ 32]*Common resident and breeding species with winter flocks commonly noted.*

After the record-breaking year in 2020, it was back to the 2012 numbers, with 78 days-recorded, just 2 counts of 20 or more birds and a maximum count of 40 birds on the 21st December – the only significant (≥ 32 birds) count of the year. As in most years, there were no confirmed breeding records this year despite several singing males noted in the summer months. A summary of days-recorded, counts of 20 or more birds and maximum count data from the period 2004-21 is shown in the table below.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	150 (2006)	85	62	87	100	89	100	116	106	121	175	81
≥ 20 birds	16 (2007)	8	8	5	4	5	9	13	6	15	4	2
Maximum	150 **	150	200	79	80	45	50	60	50	70	52	40

* Maximum count, number of bird-days and days-recorded for the years 2004-10 inclusive with the relevant year for each parameter shown in brackets. ** Maximum counts of 150 birds were made in 2009 and 2010.

Bullfinch *Pyrrhula pyrrhula* (5, 18, 12) [≥ 4]*Resident, probably breeds in most years. Most commonly reported in the winter months, often in small flocks; only 42.6% of records relate to single birds.*

A remarkably elusive species this year reported in only seven months of the year, just 11 days-recorded, a total of 17 bird-days, an average count of 1.55 (lowest in the period 2004-21) and a reporting rate (%) of just 4.5% (the lowest in the period 2004-21 and less than half of the next lowest in the same period). The maximum count for the year was of just 2 birds on 5 dates (scattered through the year), unsurprisingly there were no breeding records. A summary of data from the period 2010-21 is shown in the table below

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Record rate (%)	10.4	10.4	12.7	10.0	10.4	16.6	13.5	20.2	16.0	23.4	15.2	4.5
Days-recorded	30	30	35	27	30	49	41	65	52	75	48	11
Bird-days	55	51	58	51	60	88	87	112	100	124	81	17
Average count*	1.83	1.70	1.66	1.89	2.00	1.80	2.12	1.72	1.92	1.65	1.65	1.55

* Average count = Bird-days/days-recorded; the long-term (2004-21) average is 1.85 birds.

Crossbill *Loxia curvirostra* (1; 2, 20) [All]*Rare visitor.*

There was only one record this year - but what a record! On the 17th January a flock of 20+ birds were seen to fly over Coursers Road and appeared to alight in trees near Lawsons before heading off west. There were several flocks of the same size reported around Hertfordshire in the early part of the year (Hertfordshire Bird Report 2021, p146) and this was probably a foraging flock just passing through. This is the 11th day-recorded since the first record in 1991 and follows on the back of an excellent 2020 when there were 7 days-recorded between July and the end of the year.

Greenfinch *Chloris chloris* (5, 18, 116) [≥ 15]*Common resident and probable breeding species in most years.*

There were 49 days-recorded this year – which is fairly typical of the last decade – with the obvious exceptions of the well-performing 2019 and 2020 (see table below). Numbers were also low this year with a maximum count of just 5 birds on the 8th and 27th July, and just a single record of a singing bird on the 14th April (most years produce several records). A summary of days-recorded, maximum count and significant count (≥ 15 birds) data for the period 2004-21 is provided in the table below.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	108 (2006)**	45	21	35	26	12	24	40	45	75	143	49
Maximum	50 (2006)**	70	4	7	8	5	5	5	8	116	20	5
≥15 birds	7 (2005)	4	0	0	0	0	0	0	0	14	2	0

* Maximum count and maximum days-recorded for the years 2004-10 with the relevant year for the maximum shown in brackets.

** 2007 also had 108 days-recorded and 2010 also produced a maximum count of 50 birds.

Goldfinch *Carduelis carduelis* (5, 18, 104) [≥26]

Common resident and breeding species.

This year produced 105 days-recorded (a reasonably good 141 after correction for coverage) along with seven counts of 20 or more birds. The first winter period produced a maximum count of 25 birds on the 2nd January and no other counts of ≥20 birds; the second winter period produced a maximum count of 42 birds on the 8th September and 5 further counts of ≥20 or more birds from the 29th August to 29th December. The only confirmed breeding record for the year was of an adult with 2 juveniles on 20th June. A summary of days-recorded, maximum counts and counts of 20 or more birds (≥20 birds) from the period 2004- 21 is shown in the table below.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	102 (2009)	74	64	84	98	103	113	141	109	135	173	105
Maximum	52 (2010)	32	50	89	100	50	104	70	38	40	65	42
≥20 birds	10 (2010)	4	5	7	17	14	6	22	6	12	15	7

* Maximum count, maximum days-recorded and maximum number of counts of 20 or more birds (≥20 birds) for the years 2004-10 are shown along with the relevant year.

Linnet *Linaria cannabina* (5, 18, 350) [≥80]

Common resident and breeding species; large winter flocks often present.

This year showed a dramatic drop in the numbers with just 54 days-recorded (70 days when corrected for coverage) and again producing no significant counts (≥80 birds); the maximum count for the year was of 60 birds on the 29th January – the second winter period producing a maximum count of 43 birds on the 7th November . Once again, despite a continued presence through the breeding season there were no breeding records this year. A summary of data from the period 2004-21 is shown in the table below.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	120 (2005)	55	50	64	60	72	102	108	93	122	128	54
≥80 birds	1 2 (2010)	0	2	2	4	2	4	2	13	33	0	0

* Maximum count, maximum days-recorded and maximum number of counts of 20 or more birds (≥80 birds) for the years 2004-10 are shown along with the relevant year.

Lesser Redpoll *Acanthis cabaret* (5, 18, 80) [≥20]

Regular winter visitor. Median spring departure date (2004-21) 22nd March; median autumn arrival date (2004-21) 19th October. Records between 22nd April and 19th October are especially notable.

A rather ordinary year for this species with just 13 days-recorded (median for the period 2004-21 is 17 days) and a single significant count (≥20 birds) of 20 birds on the 31st January. The first winter period produced 10 days-recorded with the last bird seen on the relatively late date of the 18th April. The second winter period produced just 3 days-recorded²⁰ with the first bird noted on the 27th October and a maximum count of only 2 birds. A summary of days recorded and significant counts (≥20 birds) for the period 2004-21 is shown in the table below; *Appendix 1B* (page 56) provides a summary of spring departure and autumn arrival dates.

	2004-10*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	20 (2006)	15	37	49	5	16	41	34	35	19	47	13
≥20 birds	0	0	2	4	0	0	3	1	0	1	10	1

* Maximum number of days-recorded 2004-10 are shown along with the relevant year; there were no significant counts (≥20 birds) in the period 2004-10.

²⁰ Coverage was relatively much lower in the second winter period but it did seem to be particularly poor for a number of species – the finches generally seeming to be particularly affected.

Siskin *Spinus spinus* (5, 18, 120) [≥ 60]

Frequent winter visitor - commonly along the River Colne at Colney Heath and more recently in Garden Wood. Median spring departure date (2004-21) 16th March; median autumn arrival date (2004-21) 14th October.

A strange year for this species with several records relating to birds flying over and just a handful of records from the usual stronghold of Colney Heath Common. There were 12 days-recorded in the first winter period with the last bird of spring seen on the 25th April and a maximum count of 30 on the 4th January (from Colney Heath Common!). The first returning birds of the autumn (8 birds) were seen on the 8th October - flying over during a visible migration watch - with the second-winter period producing a total of 6 days-recorded and a maximum count of 30 birds on the 28th November (again from Colney Heath Common!)²¹. Early and late dates for the period 2004-21 are shown in *Appendix 1B* (page 56).

Reed Bunting *Emberiza schoeniclus* (5, 18, 50) [≥ 7]

Resident with a small number of breeding pairs in most of the last several years.

With 74 days-recorded for a total of 199 bird-days the numbers are clearly down on 2020 (134 and 362 respectively) but, given the low coverage, in the broader context of the period 2004-21 it was actually an OK year. The maximum count for the year was 15 birds on the 15th January that were seen to drop into the Main Pit reedbed to roost and breeding was confirmed by recently fledged young seen on the 19th June. A summary of days-recorded and maximum counts for the period 2009-21 is shown in the table below.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	71	76	63	58	67	96	81	82	108	87	117	134	74
Maximum	7	12	11	14	12	6	15	10	15	13	18	50	15

Yellowhammer *Emberiza citrinella* (5, 18, 50) [≥ 20]

Winter visitor generally around the Tyttenhanger Farm area. Has declined significantly since 2012 and all records currently considered notable.

Another better year for this species with 47 days-recorded, reported in 11 months of the year and with a maximum count of 8 birds on 27th December. Despite the lack of double-figure counts (the last was in 2012), there were several records of singing birds in June and with a total of 80 bird-days, the improvements seen in 2020 appears to have continued this year. The table below summarises data for days-recorded, bird-days and double-figure counts for the period 2004-21.

	2004-09*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Days-rec'd	65 (2006)	48	34	10	2	8	18	21	26	10	33	47
Bird-days	598 (2009)	276	156	16	8	8	22	28	39	10	56	80
≥ 10 birds	23 (2009)	7	3	0	0	0	0	0	0	0	0	0

* Maximum count, maximum days-recorded and maximum counts of 10 or more birds (≥ 10 birds) for the years 2004-10 are shown with the relevant year for the maximum shown in brackets.

Escapes & Birds of Uncertain Origin

Domestic (White) Goose *Anser sp.*

The number of records of this group of residents was considerably down on previous years (just 8 records) and with a maximum count of just 5 birds it would seem that they have suffered a substantial decline i.e. 2020 produced several counts of 20 birds and breeding was also confirmed – there were no indications of breeding this year. However, it is possible that observers have stopped noting (and possibly annotating) records of this taxa and so we would ask if anybody can confirm or refute this apparent change in status.

Aythya sp.

The bird reported in the last couple of years - a presumed Ferruginous Duck x Pochard hybrid - was not seen this year., but there was a report of a Pochard x Tufted Duck hybrid seen on the Main Pit on the 31st March.

Ringed Teal *Callonetta leucophrys*

An eclipse male Ringed Teal was reported from Willow's Farm Lake on the 17th September.

²¹ There were also a couple of records of 25-30 birds at the end of November from just east of the bridge over the Colney at Colney Heath i.e. indicating that a flock of around 30 birds was present at the end of the year but may well have spent tie just off-site.

ARRIVAL AND DEPARTURE DATES FOR COMMON MIGRANTS

Appendix 1A – Summary of spring arrival dates and autumn departure dates for common migrants and breeding visitors at Tyttenhanger GP covering the period 2004-2120. The earliest spring (E) and latest autumn (L) dates recorded on site are shown in the column labelled E/L – these dates and the corresponding dates in the body of the table (if present) are shaded green and blue respectively; where E/L date is from prior to 2011 it is shaded in yellow. Median dates are shown for the period 2004-21. Where no dates (ND) are available these are indicated by the grey shaded boxes.

Species	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	E/L	Median
Hobby	24 th Apr	5 th May	8 th May	21 st Apr	2 nd May	1 st May	18 th May	29 th Apr	29 th Apr	26 th Apr	26 th Apr	1 st Apr	29 th Apr
	2 nd Oct	21 st Sep	7 th Oct	15 th Oct	11 th Oct	3 rd Oct	11 th Sep	28 th Sep	15 th Oct	26 th Sep	27 th Sep	15 th Oct	27 th Sep
Ringed Plover	8 th Feb	19 th Feb	10 th May	30 th Mar	2 nd Apr	3 rd Apr	8 th Feb	22 nd Apr	NA	NA	NA	16 th Jan	23 rd Feb
	30 th Jul	19 th Aug	29 th Aug	22 nd Nov	23 rd Aug	19 th Aug	6 th Sep	8 th Sep	NA	NA	NA	22 nd Nov	6 th Sep
Little Ringed Plover	29 th Mar	2 nd Apr	15 th Apr	8 th Apr	9 th Apr	3 rd Apr	20 th Mar	9 th Mar	1 st Apr	NA	NA	9 th Mar	30 th Mar
	10 th Aug	30 th Aug	17 th Aug	17 th Aug	9 th Aug	30 th Jul	12 th Jul	14 th Aug	6 th Jul	18 th Jul	NA	1 st Oct	9 th Aug
Redshank	26 th Feb	1 st Mar	7 th Mar	8 th Mar	13 th Mar	19 th Mar	12 th Mar	12 th Mar	17 th Mar	14 th Mar	8 th Mar	23 rd Feb	8 th Mar
	24 th Sep	12 th Jul	10 th Sep	25 th Jun	9 th Jul	23 rd Nov	25 th Sep	27 th Jul	18 th Jul	NA	NA	23 rd Nov	24 th Jul
Common Sandpiper	23 rd Apr	11 th Apr	16 th Apr	30 th Mar	12 th Apr	19 th Apr	17 th Apr	16 th Apr	19 th Apr	22 nd Apr	30 th Apr	28 th Mar	16 th Apr
	8 th Nov	28 th Sep	7 th Oct	27 th Oct	14 th Sep	13 th Nov	15 th Sep	7 th Oct	29 th Sep	15 th Sep	12 th Sep	13 th Nov	26 th Sep
Common Tern	8 th Apr	11 th Apr	7 th Apr	9 th Apr	16 th Apr	11 th Apr	15 th Apr	19 th Apr	20 th Apr	24 th Apr	23 rd Apr	3 rd Apr	12 th Apr
	4 th Sep	3 rd Sep	26 th Aug	22 nd Sep	15 th Sep	24 th Sep	22 nd Aug	14 th Sep	14 th Aug	24 th Aug	3 rd Sep	27 th Sep	3 rd Sep
Cuckoo	12 th Apr	19 th Apr	24 th Apr	19 th Apr	16 th Apr	19 th Apr	22 nd Apr	24 th April	1 st May	24 th Apr	30 th Apr	25 th Mar	19 th Apr
	1 st Aug	NA	16 th Aug	19 th Sep	5 th Jul	4 th Jun	2 nd Jun	NA	5 th Aug	18 th Aug	NA	25 th Sep	9 th Aug
Swift	30 th Apr	26 th Apr	27 th Apr	3 rd May	6 th May	18 th Apr	29 th Apr	21 st Apr	24 th Apr	22 nd Apr	25 th Apr	18 th Apr	26 th Apr
	30 th Jul	21 st Jul	28 th Jul	26 th Aug	29 th Aug	10 th Aug	9 th Sep	18 th Aug	12 th Sep	29 th Aug	13 th Aug	12 th Sep	13 th Aug

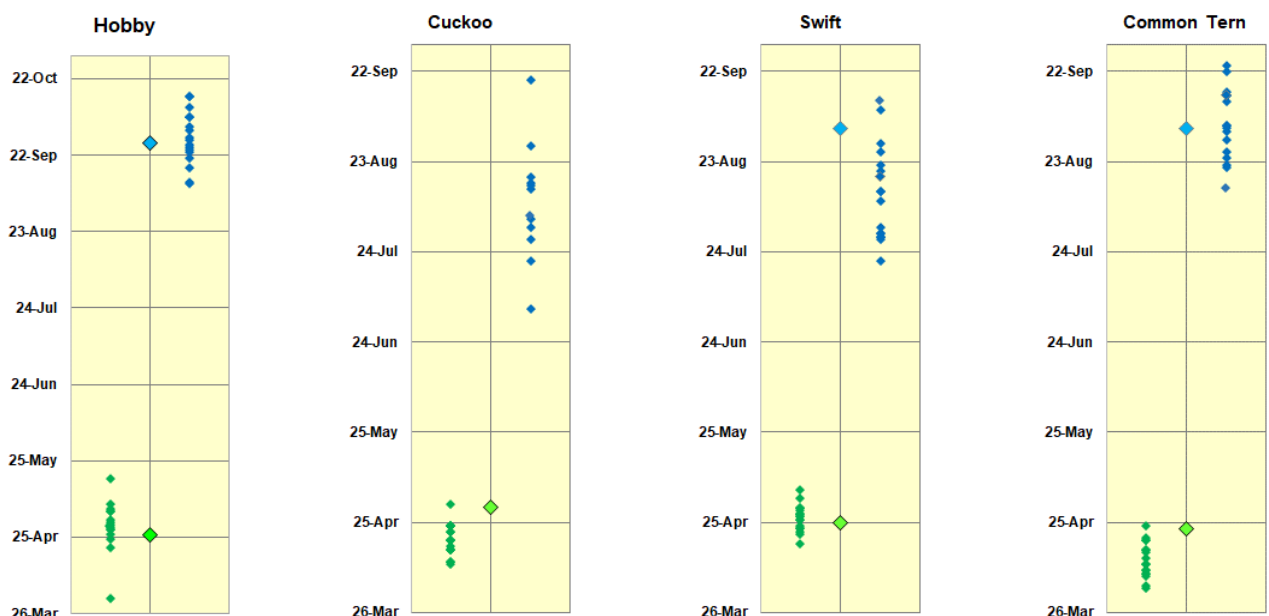


Figure A1. A selection of arrival and departures dates for selected summer migrants for the period 2004-2021. The points on the central vertical gridline are the relevant dates for 2021. There was no autumn date for Cuckoo in 2021.

Appendix 1A continued - Spring arrival dates and autumn departure dates for common migrants and breeding visitors at Tyttenhanger GP.

Species	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	E/L	Median
Sand Martin	23 rd Mar	17 th Mar	13 th Apr	20 th Mar	18 th Mar	25 th Mar	11 th Mar	16 th Mar	17 th Mar	15 th Mar	18 th Mar	11 th Mar	19 th Mar
	20 th Sep	1 st Sep	15 th Sep	4 th Sep	14 th Sep	23 rd Sep	23 rd Sep	16 th Sep	10 th Sep	2 nd Oct	29 th Sep	7 th Oct	15 th Sep
Swallow	26 th Mar	31 st Mar	13 th Apr	29 th Mar	3 rd Apr	26 th Mar	29 th Mar	3 rd Apr	31 st Mar	1 st Apr	1 st Apr	25 th Mar	31 st Mar
	15 th Oct	20 th Oct	6 th Oct	12 th Oct	19 th Oct	14 th Oct	20 th Oct	7 th Oct	27 th Oct	24 th Oct	8 th Oct	27 th Oct	11 th Oct
House Martin	5 th Apr	17 th Apr	13 th Apr	10 th Apr	11 th Apr	8 th Apr	1 st Apr	6 th Apr	2 nd Apr	10 th Apr	31 st Mar	31 st Mar	9 th Apr
	8 th Oct	2 nd Oct	22 nd Sep	24 th Sep	24 th Sep	1 st Oct	5 th Oct	23 rd Sep	5 th Oct	11 th Oct	8 th Oct	5 th Nov	5 th Oct
Yellow Wagtail	5 th Apr	17 th Apr	15 th Apr	11 th Apr	11 th Apr	5 th Apr	14 th Apr	5 th Apr	8 th Apr	16 th Apr	12 th Apr	30 th Mar	11 th Apr
	27 th Sep	19 th Sep	14 th Sep	1 st Sep	19 th Sep	30 th Sep	16 th Sep	27 th Sep	18 th Sep	16 th Oct	24 th Sep	5 th Oct	20 th Sep
Whinchat	8 th May	ND	19 th Apr	ND	1 st May	ND	29 th Apr	18 th Apr	7 th May	NA	NA	14 th Apr	30 th Apr
	9 th Sep	26 th Sep	31 st Aug	19 th Oct	13 th Sep	13 th Sep	16 th Sep	8 th Sep	17 th Sep	31 st Aug	NA	19 th Oct	13 th Sep
Wheatear	25 th Mar	17 th Mar	30 th Mar	19 th Mar	9 th Apr	2 nd Apr	3 rd Apr	16 th Apr	19 th Mar	16 th Apr	26 th Mar	14 th Mar	25 th Mar
	8 th Oct	4 th Oct	18 th Sep	25 th Sep	1 st Sep	21 st Sep	17 th Sep	19 th Sep	17 th Sep	18 th Sep	1 st Oct	8 th Oct	20 th Sep
Sedge Warbler	8 th Apr	13 th Apr	15 th Apr	19 th Apr	11 th Apr	12 th Apr	14 th Apr	10 th Apr	18 th Apr	23 rd Apr	16 th Apr	7 th Apr	14 th Apr
	29 th Aug	21 st Aug	17 th Sep	6 th Sep	25 th Aug	NA	21 st Aug	31 st Aug	14 th Sep	30 th Aug	10 th Sep	17 th Sep	31 st Aug
Reed Warbler	10 th Apr	20 th Apr	16 th Apr	18 th Apr	15 th Apr	19 th Apr	15 th Apr	20 th Apr	18 th Apr	16 th Apr	16 th Apr	10 th Apr	19 th Apr
	19 th Sep	28 th Sep	6 th Aug	19 th Sep	17 th Aug	12 th Sep	6 th Sep	16 th Sep	1 st Oct	9 th Sep	10 th Sep	28 th Sep	9 th Sep
Blackcap	30 th Mar	30 th Mar	14 th Apr	2 nd Apr	7 th Apr	1 st Apr	30 th Mar	5 th Apr	22 nd Mar	12 th Mar	18 th Mar	12 th Mar	1 st Apr
	2 nd Oct	30 th Oct	6 th Oct	18 th Oct	27 th Sep	14 th Sep	7 th Oct	30 th Sep	1 st Oct	10 th Oct	8 th Oct	30 th Oct	1 st Oct
Garden Warbler	17 th Apr	5 th May	23 rd Apr	22 nd Apr	24 th Apr	23 rd Apr	20 th Apr	21 st Apr	4 th May	19 th Apr	23 rd Apr	17 th Apr	24 th Apr
	13 th Aug	25 th Aug	28 th Jul	14 th Aug	21 st Aug	4 th Sep	5 th Aug	31 st Jul	25 th Aug	17 th Aug	12 th Sep	17 th Sep	19 th Aug
Whiteth't	8 th Apr	16 th Apr	15 th Apr	11 th Apr	15 th Apr	7 th Apr	10 th Apr	13 th Apr	12 th Apr	12 th Apr	11 th Apr	4 th Apr	12 th Apr
	4 th Sep	30 th Aug	24 th Sep	19 th Sep	6 th Sep	29 th Aug	16 th Sep	26 th Sep	14 th Sep	6 th Sep	3 rd Sep	2 nd Oct	12 th Sep
Lesser Whiteth't	21 st Apr	2 nd May	21 st Apr	18 th Apr	22 nd Apr	23 rd Apr	23 rd Apr	16 th Apr	19 th Apr	19 th Apr	23 rd Apr	15 th Apr	21 st Apr
	24 th Jul	25 th Aug	NR	9 th Sep	27 th Sep	7 th July	14 th Sep	2 nd Sep	10 th Sep	5 th Sep	NA	27 th Sep	5 th Sep
Willow Warbler	26 th Mar	12 th Apr	15 th Apr	5 th Apr	10 th Apr	3 rd Apr	2 nd Apr	1 st Apr	9 th Apr	20 th Mar	30 th Mar	20 th Mar	3 rd Apr
	5 th Sep	3 rd Sep	28 th Aug	4 th Oct	26 th Sep	24 th Sep	23 rd Sep	12 th Sep	1 st Oct	29 th Sep	11 th Sep	4 th Oct	19 th Sep
Chiffchaff	13 th Mar	12 th Mar	28 th Mar	4 th Mar	13 th Mar	4 th Mar	4 th Mar	14 th Mar	8 th Mar	2 nd Mar	3 rd Mar	2 nd Mar	13 th Mar
	9 th Oct	30 th Oct	19 th Oct	20 th Oct	25 th Oct	2 nd Nov	3 rd Nov	3 rd Nov	27 th Oct	1 st Nov	22 nd Oct	3 rd Nov	23 rd Oct
Spotted Flycat'r ⁽¹⁾	9 th Sep	5 th Sep	17 th Sep	10 th Sep	2 nd Sep	5 th Sep	12 th Sep	21 st Sep	25 th Sep	1 st Sep	6 th Sep	25 th Sep	9 th Sep

⁽¹⁾ Spring arrival dates are not provided for this species as there is no spring passage usually noted.

Appendix 1B. Summary of spring departure dates and autumn arrival dates for regular winter visitors at Tyttenhanger GP for the period 2004-2021. The latest spring (L) and earliest autumn (E) dates recorded on site are shown in the column labelled L/E – these dates and the corresponding dates in the body of the table (if present) are shaded green and blue respectively; where E/L date is from prior to 2010 it is shaded in yellow. Median dates are shown for the period 2004-19. Where no dates (ND) are available these are indicated by the grey shaded boxes.

Species	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	L/E	Median
Water Rail	15 th Mar	8 th Apr	NA	16 th Mar	12 th Feb	18 th Mar	22 nd Mar	13 th Apr	14 th Apr	7 th Apr	20 th Mar	21 st Apr	21 st Mar
	25 th Oct	27 th Oct	11 th Dec	26 th Nov	22 nd Nov	3 rd Oct	14 th Sep	24 th Aug	2 nd Sep	20 th Sep	3 rd Sep	24 th Aug	31 st Oct
Golden Plover	30 th Mar	9 th Apr	12 th May	23 rd Mar	2 nd Feb	NA	31 st Mar	NA	19 th Apr	15 th Mar	2 nd Apr	12 th May	30 th Mar
	16 th Oct	26 th Oct	11 th Oct	28 th Nov	3 rd Oct	14 th Nov	18 th Nov	16 th Sep	30 th Sep	NA	NA	16 th Sep	10 th Oct
Green Sandpiper	4 th May	20 th Apr	20 th Apr	22 nd Apr	14 th Apr	13 th Apr	12 th Apr	20 th April	22 nd Apr	16 th Apr	25 th Apr	4 th May	20 th Apr
	27 th Jun	4 th Jul	18 th Jun	13 th Jun	15 th Aug	2 nd Jul	19 th Jun	9 th Jun	19 th Jun	6 th Jul	15 th Aug	8 th Jun	19 th Jun
Fieldfare	8 th Apr	9 th Apr	12 th May	31 st Mar	30 th Mar	12 th Apr	16 th Mar	7 th Apr	22 nd Apr	9 th Apr	22 nd Mar	12 th May	7 th Apr
	9 th Oct	27 th Oct	15 th Oct	1 st Nov	7 th Nov	19 th Oct	15 th Oct	22 nd Oct	21 st Oct	9 th Oct	5 th Nov	18 th Sep	21 st Oct
Redwing	26 th Mar	10 th Mar	13 th Apr	23 rd Mar	21 st Mar	3 rd Apr	15 th Mar	3 rd Apr	22 nd Apr	3 rd Apr	30 th Mar	14 th Apr	29 th Mar
	13 th Oct	14 th Oct	7 th Oct	16 th Oct	16 th Oct	12 th Oct	8 th Oct	12 th Oct	1 st Oct	27 th Sep	8 th Oct	7 th Oct	12 th Oct
Siskin	12 th Mar	3 rd Mar	27 th Mar	NA	17 th Jan	8 th Apr	25 th Mar	21 st Apr	28 th Mar	15 th Mar	25 th Apr	21 st Apr	16 th Mar
	1 st Oct	14 th Oct	2 nd Nov	NA	18 th Sep	25 th Nov	26 th Sep	29 th Sep	15 th Oct	6 th Sep	8 th Oct	14 th Sep	14 th Oct
Lesser Redpoll	20 th Mar	18 th Mar	23 rd Apr	16 th Mar	NA	30 th Apr	1 st Apr	4 th May	15 th Apr	23 rd Jan	18 th Apr	4 th May	22 nd Mar
	14 th Oct	19 th Oct	19 th Oct	8 th Nov	2 nd Oct	29 th Oct	9 th Oct	20 th Oct	28 th Oct	13 th Sep	27 th Oct	13 th Sep	19 th Oct

Appendix 2

Breeding Birds of Tyttenhanger – 2021

Blackcap	Great Tit	Magpie	Swallow
Blue Tit	Green Woodpecker	Mallard	Tree Sparrow
Canada Goose	Grey Heron	Moorhen	Treecreeper
Carrion Crow	Grey Wagtail	Mute Swan	Tufted Duck
Coot	House Sparrow	Nuthatch	Whitethroat
Gadwall	Jackdaw	Oystercatcher	
Goldfinch	Kingfisher	Reed Bunting	
Great Crested Grebe	Little Owl	Robin	
Great S'd Woodpecker	Long-tailed Tit	Song Thrush	

Species shown in the above table were confirmed breeding species as defined by the current Bird Atlas categories (see page 14 for further discussion).

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total*
Records - Confirmed Breeding	1	9	19	31	38	24	15	1	139
Breeding species recorded	1	3	4	8	8	3	1	1	32

* Total includes the December record of a Carrion Crow "Used nest or eggshell" (UN) from December but does not include the record for Cormorant f "Occupied Nest" (ON) from March.

HOW GOOD WAS 2020... REALLY ?

Introduction

Besides the COVID-19 pandemic and the Herts Bird Club breeding-bird blitz, 2020 was notable at Tyttenhanger GPs for the number of species (over 50) for which there were a record number of days recorded. At the time, it was difficult to explain why this may have been the case as the coverage (323 days) had been very similar to 2019 (321 days) as had the number of records (20,844 in 2019 and 21,851 in 2020) and the number of observers (77 in 2019 and 80 in 2020). While this looked like a change in the way in which observers were capturing data i.e., including records/counts of birds that would not normally be submitted, there was no immediate proof this was the case. As with many such observations it was a question of waiting to see what the next year's data provided and if the trend was continued.

However, the following year, 2021 has presented a new set of issues inasmuch as the total number of days-coverage and the total number of records submitted both dropped dramatically - reversing what had effectively been a nine-year trend in both parameters. Initially we set out using a similar analysis to that used in the past, but it soon became apparent that after the exceptional results of 2020 that we had to look at the data in a different way. As part of the on-going process of writing a new report every year, we are also continually looking for fresh ways to look at the data and new ways to present the data and analyses. The low coverage this year was over 30% lower than the previous --4 years (321-324 days) and the second lowest in the period 2004-2105 (just ahead of 2004's 239 days). This meant that for many of the commoner species we had to re-look at the data in the longer-term context and see if we could discern any patterns that might be emerging.

As a first step in looking anew at the data we decided to return to the unusual observations of 2020 and the record numbers of days-recorded produced for many species.

Further Analysis

For those of you unable to remember, of the 101 regularly occurring species²² recorded in 2020, 55 of these produced records for the number of days-recorded – with those species showing the greatest increase (%) shown in the table below.

	2020	Previous Best	% Change
Treecreeper	52	22	136.4
Siskin	53	28	89.3
Coal Tit	99	55	80.0
Nuthatch	82	47	74.5
Jay	154	106	45.3
Buzzard	167	117	42.7
Jackdaw	207	146	41.8
Great Spotted Woodpecker	145	105	38.1
Green Woodpecker	201	146	37.7
Song Thrush	146	107	36.5

The first thing to note from this table is the wide range of species involved and that most of them are species that we would generally expect to be recorded i.e., within the context of Tyttenhanger GPs they are notable species. There are a few of possible exceptions to the above observation e.g., Jackdaw, Jay and Song Thrush (possibly) may not normally be considered "reportable" species, but from the perspective of the Editorial Team we'd hope that all records of the others would be submitted. Of course, the latter is predicated on the (possibly erroneous!) assumption that most observers will be submitting records either through Birdtrack or eBird - where is it relatively easy to submit complete lists, and in the case of the latter to even compile lists in the field.²³

Looking at the 2021 data in the context of the low coverage, we decided first to go back and look at the above species as a function of corrected days-recorded across the last 10 years. A plot of the results is shown in Figure A2.

The first feature to stand out on the plot shown in Figure A1 is the pattern for all species in the last three years i.e. a very obvious rise from 2019 to the peak in 2020 and then a drop to 2021 – the latter producing values much more in keeping with those of 2019. Second (and perhaps less obvious), removal of the values for 2020 resulted in a more general pattern for most of the species i.e., one of relative stability across the 10-year period shown.

As the above species are in many cases are not species one might always expect to record in any given visit to Tyttenhanger GPs (even if they are undoubtedly there most of the time!), we then looked at 10 species that would fit this criterion. The method of selection of these 10 species involved a combination of assessing the relative frequency of occurrence of all species from several sets of data along with a straw-poll from several regular visitors with the question "what 10 species would you expect to record in most visits to Tyttenhanger GPs?".

The analysis then carried out was the same as above i.e., using corrected days-recorded for the period 2012-21 and plotting against year; the results of this second analysis are shown in Figure A3. There is general agreement in the results between this and the above data – showing again that 2020 was out of trend with the data from all other years. However, as these are species that are commonly encountered/recorded on trips to Tyttenhanger GPs, the spread across the vertical axis (corrected days-recorded) is clearly much smaller. As a consequence of the latter a more general pattern is discernible for all species between 2012 and 2017 namely, a slow parabolic increase in the number of corrected days-recorded approaching an asymptote somewhere between 2015-2017. Then, perhaps most surprisingly, 2018 shows a clear drop for

²² These species were those that occur more than 10 times in most years and were clearly not species such as Ring-necked Parakeet that were clearly changing status at a rapid rate.

²³ We know that a number of observers use BirdTrack for storing/submitting their data and that there is now a mobile App for Birdtrack; however it is not clear that anybody is currently using the latter for real-time collection of records.

all species (present but less apparent in the above analysis i.e., see Figure A2), which is then followed by a sharp rise to 2019 followed by the peak of 2020 and the previously noted 2021 decrease.

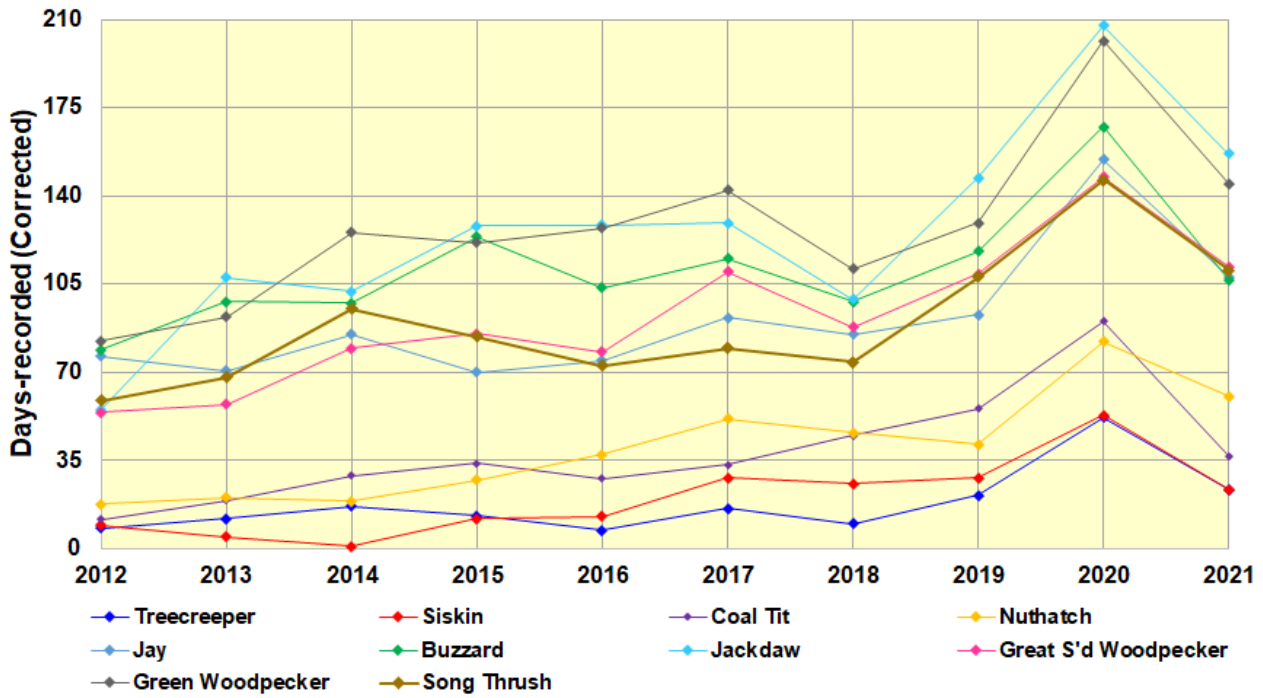


Figure A2. Days-recorded (Corrected) plotted against year for those species that showed the biggest gain in days-recorded during 2020. Raw data for days-recorded were corrected for the coverage in each of the years relative to the maximum coverage of 324 days in 2018.

While the patterns for days-recorded (corrected) are clear in the data for the more frequently recorded species (Figure A3) it is worth bearing in mind that the percentage of days-visited (323 days) on which these species were recorded still only range between 53.0% (Cormorant) and 67.8% (Tufted Duck). Moreover, when the records of one regular observer in the same year are analysed we find that the percentage of days-recorded (from 63 days) was as high as 87.3% (Tufted Duck) and were generally above 60% - the exception being that for Wren (28.6%).

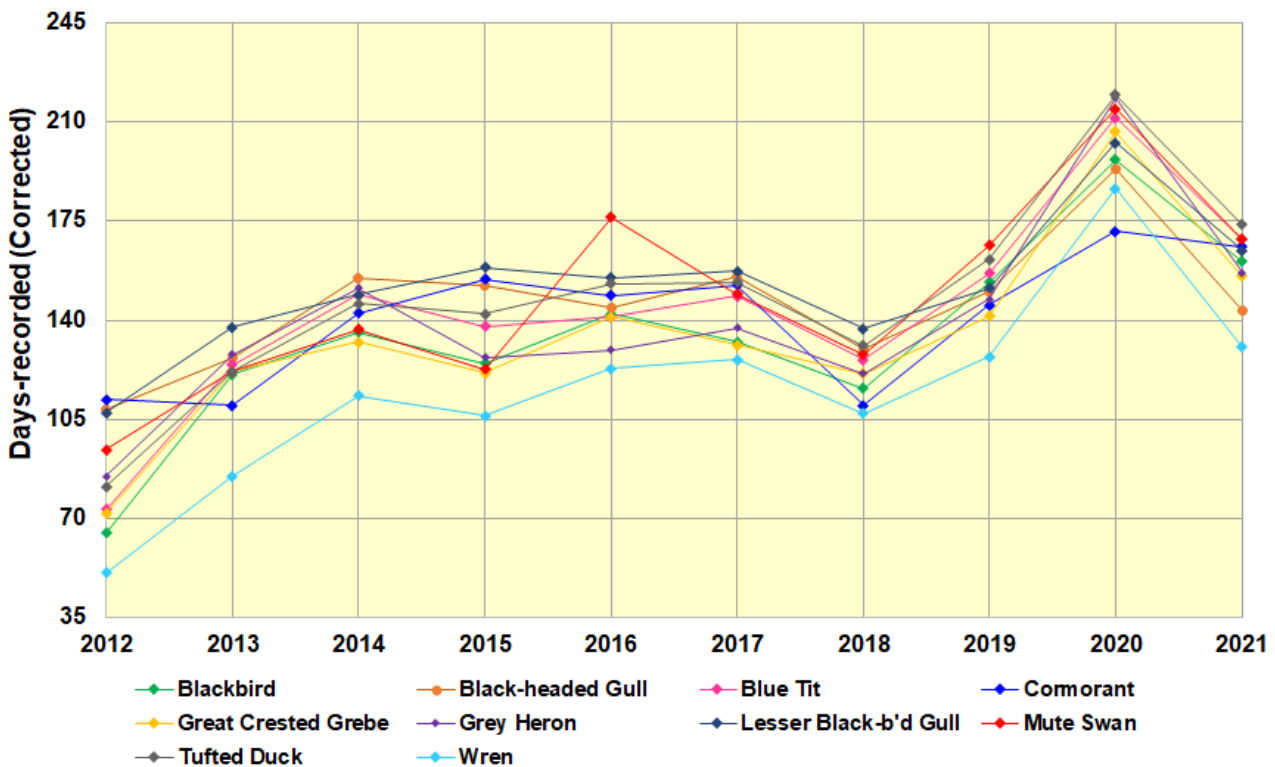


Figure A3. Days-recorded (Corrected) plotted against year for selected species that are usually encountered in a normal visit to Tyttenhanger GPs. Raw data for days-recorded were corrected for the coverage in each of the years relative to the maximum coverage of 324 days in 2018.

Finally, although probably obvious, it is also worth mentioning that even when coverage is good there is still very high heterogeneity in the number of records that are generated (and captured!) on any given day – a demonstrated by the data from 2020 presented in Figure A4. While not immediately obvious from the plot, there were 119 of the 323 days covered in this year that generated less than 10 records i.e., indicating that on many days the most common species were not recorded.

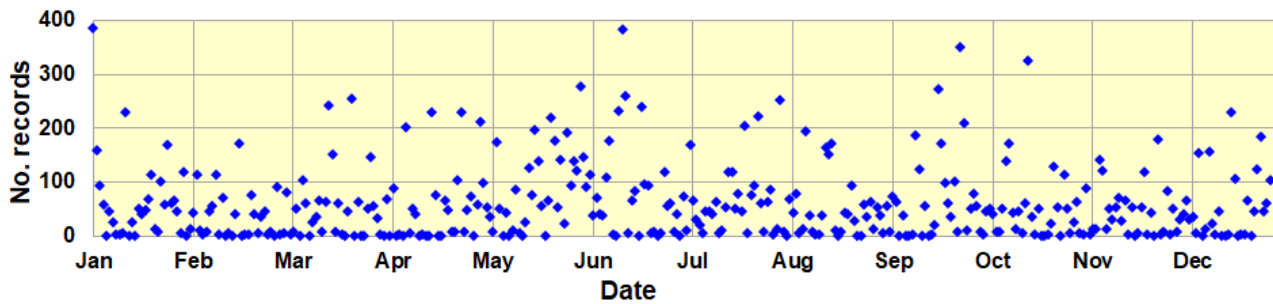


Figure A4. Numbers of recorded individual captured on each day of 2020.

Discussion

Looking back across the 18 years we have been compiling reports for Tyttenhanger GPs, we can see that along with the changing avifauna of the site there has also been a steady, but less noticeable, change in the ways in which data are collected. First there was the introduction of the Herts Bird Club (HBC) website in October 1998²⁴ and its online submission form providing an alternative to the older paper-based system. By early 2004, the online submission form had been modified to allow for the input of 10 species on a single page and also had a drop-down menu for the “Site name”²⁵ - features that would have saved time with data input, but still not conducive for submitting full lists. Then between July 2008 and August 2009 the HBC website was updated again²⁶ and allowed for the addition of multiple species in a much easier and time-efficient manner. By this time many observers had also started to use BirdTrack – with records from this platform being first made available to the HBC and the Tyttenhanger editors in 2005. The introduction of eBird and the provision of records from this database to the Herts Bird Club (and hence to us) in 2018 probably made the addition of complete lists more straightforward and was also the first platform to allow the capturing of records directly in the field – a feature now also available through BirdTrack.

While all of the above changes have meant it is becoming easier to capture complete lists from a visit to Tyttenhanger GPs, the overwhelming evidence is that this is probably the exception rather than the rule. Under this scenario we therefore have to look for other explanations for why so many species were recorded on more days than any other year – even after adjusting for variation in the total coverage. As suggested in the 2020 report, changes in the way in which observers captured their data – and in particular the extent to which the more common species were reported – may have had a lot to do with the observed phenomenon. However, returning again to the list of “top performers” in 2020 (see Table above), there is also an indication that many species may have benefitted from better coverage of the area away from the Main Pit – especially Garden Wood, Colney Heath Common and the wooded areas around Willows Lake. While it is difficult to tell from the data available that this is the case there is indirect evidence that these areas were better covered/reported. First, the HBC breeding-records initiative produced a substantial increase in breeding records during this year, with an increase in the range of species for which records were received as well as the number of records. There is also some indication that more observers were involved in the generation of the breeding records and that more species were reported from a lot of visits.²⁷ All of these factors would undoubtedly contribute to increases in the number of days recorded for many species.

Conclusion

While 2020 set records for many species in the number of days-recorded there is nothing to suggest that 2020 was actually any better than any of the years in the recent past in the context of species actually increasing in abundance. Rather, the data strongly suggests subtle changes in the areas that observers visited (as part of the breeding-records initiative) and the extent of data captured (species reported) during those visits.

²⁴ The Internet Archive's Wayback Machine - <https://web.archive.org/web/20020604150537/http://www.hertsbirdclub.org.uk/> provides a platform to access selected copies of the Herts Bird Club Website from June 2002. Archived material on this web-page go back as far as 1998 i.e., Bi-monthly summaries and systematic lists.

²⁵ The first version of the Site names that we can find is from the website dated 25th January 2004 on the Wayback Machine time-line but which shows records up to the 11th February 2004. – but which show. The names included in the drop-down list that relate to Tyttenhanger GPs were: Bowmans Lake, Colney Heath (no separate site for Colney Heath Common), Coppice Wood - Tyttenhanger, Coursers Farm nr London Colney, Coursers Lane – Colney Heath, Tyttenhanger GP and Tyttenhanger Farm. There was no ability to insert a different site name – which would need to have been added in the comments box for each species.

²⁶ These are the dates from the Wayback machine between which the changes was implemented. Further delving into our own archives of spreadsheets made available to us by the HBC revealed that the changeover from the old to the new website was around the 15th July 2009.

²⁷ Unfortunately, due to revisions in the HBCs privacy policy 2020 was the first year we were unable to access observer information as part of the data provided. The metadata that is included along with the Birdtrack and eBird records does however suggest that there was an increase in the number of species-reported submitted from each visit.

APPENDIX 4

SPECIES YEAR-LISTS FOR TYTTENHANGER GRAVEL PITS 2004-21120

The following is a list of species that have occurred at Tyttenhanger Gravel Pits and for which we have located records. The year lists and totals have been revised in accordance with the records accepted by the Hertfordshire Rare Bird Committee for the years up until 2020. Species shaded in yellow have not been seen in the period 2004-21 and records shaded in blue are first records for the site. Note, in the case of some species (e.g. Whooper Swan, Barnacle Goose) the first record is taken as the first recorded year after the species was admitted to the relevant category of the British List.

The list also shows the first year (First Rec'd/First) for which we are able to find records for each species. Most of these dates are drawn from the Hertfordshire Bird Report – but we would suggest that anybody with earlier records for any of the species listed contact the editors. The column “Sig. count” (or Sig.) indicates the number of birds that constitute a statistically significant count; “All” indicates that all counts of this species are notable and/or that there are insufficient records to determine a value for this parameter.

Species	First Rec	Sig. count	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Mute Swan	1987	≥17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bewick's Swan	1985	All	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Whooper Swan	2004	All	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
White-fronted Goose	1993	All	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Bean Goose	2011	All	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Greylag Goose	1986	≥27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Canada Goose	1984	≥175	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Barnacle Goose	2006	All	1	0	1	1	1	0	1	1	0	0	1	1	1	1	1	1	0	0
Brent Goose	1996	All	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
Egyptian Goose	1993	All	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1
Shelduck	1986	All	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
Mandarin Duck	1988	All	1	0	1	0	1	1	0	0	1	0	1	1	1	1	1	1	1	1
Wigeon	1983	≥11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gadwall	1987	≥40	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Teal	1983	≥39	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mallard	1983	≥84	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pintail	1985	All	1	1	1	1	0	1	1	1	1	0	1	1	1	0	1	0	0	0
Garganey	1986	All	0	0	1	0	1	0	0	1	0	0	0	0	1	1	0	1	0	0
Shoveler	1986	≥30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Red-crested Pochard	1988	≥All	1	0	0	0	0	1	1	1	0	0	0	0	1	1	1	1	1	1
Pochard	1986	≥13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tufted Duck	1983	≥37	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Scaup	2007	All	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Lesser Scaup	1996	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Common Scoter	2000	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0

Species	First	Sig.	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Goldeneye	1983	All	1	1	1	0	1	1	1	1	1	1	0	1	1	0	1	1	1	0
Smew	1997	All	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
Goosander	1988	All	0	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	0
Red-b'd Merganser	2018	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Ruddy Duck	1989	All	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
Red-legged Partridge	1983	All	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Grey Partridge	1983	All	0	1	1	1	1	1	1	1	0	1	0	0	1	0	1	0	1	0
Pheasant	1996	≥15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Little Grebe	1984	≥4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Great Crested Grebe	1983	≥21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Black-necked Grebe	2002	All	0	0	0	0	0	0	1	0	0	1	1	0	1	0	0	0	1	1
Cormorant	1989	≥39	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Shag	1988	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spoonbill	2018	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Bittern	1996	All	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0
Great White Egret	2013	All	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1
Little Egret	1999	≥7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cattle Egret	2019	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Grey Heron	1983	≥11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Black Stork	1990	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
White Stork	2006	All	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Glossy Ibis	2009	All	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
Honey-Buzzard	1987	All	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Kite	2004	≥3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Montague's Harrier	2011	All	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Marsh-Harrier	1991	All	1	0	0	1	0	1	1	1	0	0	0	1	1	0	1	1	1	1
Hen Harrier	2018	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Goshawk	1996	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sparrowhawk	1985	≥2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Buzzard	1991	≥5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Osprey	1988	All	0	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	0	1
Kestrel	1984	≥2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Merlin	1996	All	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Hobby	1983	≥3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Species	First	Sig	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Peregrine Falcon	1994	All	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Water Rail	1994	≥3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Moorhen	1992	≥20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Coot	1987	≥100	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Common Crane	2019	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Oystercatcher	1985	≥4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Avocet	1988	All	1	1	0	0	1	1	0	1	1	0	1	1	0	1	0	0	0	0
Stone Curlew	2002	All	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Little Ringed Plover	1983	All	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Ringed Plover	1983	All	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
Golden Plover	1985	≥210	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Grey Plover	1987	All	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Lapwing	1983	≥300	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Knot	1986	All	1	0	1	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0
Sanderling	1986	All	1	1	1	0	1	1	1	0	0	1	1	1	0	1	1	0	0	0
Little Stint	1987	All	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Temminck's Stint	1988	All	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
Curlew Sandpiper	1987	All	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
Dunlin	1983	≥4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
Ruff	1984	All	0	1	1	1	1	0	1	1	1	1	0	1	0	1	1	0	0	0
Jack Snipe	1985	All	1	1	1	1	1	1	0	1	0	1	0	0	1	0	1	0	0	0
Snipe	1985	≥15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Woodcock	1995	All	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Black-tailed Godwit	1987	All	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bar-tailed Godwit	1987	All	1	0	1	0	0	0	0	1	1	0	1	0	0	1	1	0	0	0
Whimbrel	1986	All	1	0	1	1	1	1	1	1	1	0	0	0	0	1	1	0	0	0
Curlew	1986	All	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	1
Spotted Redshank	1985	All	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
Redshank	1983	All	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Greenshank	1983	All	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Green Sandpiper	1984	≥5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wood Sandpiper	1985	All	0	0	0	1	0	1	0	0	0	0	1	1	1	0	1	0	1	0
Common Sandpiper	1983	≥4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Turnstone	1991	All	1	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0

Species	First	Sig	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Mediterranean Gull	2001	All	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	0	1
Little Gull	1987	All	0	0	0	0	1	0	0	0	1	1	0	0	1	1	0	0	0	0
Black-headed Gull	1984	≥400	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Common Gull	1996	≥75	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lesser Black-b'd Gull	1996	≥40	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Yellow-legged Gull	1996	All	0	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1
Caspian Gull	2006	All	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0
Herring Gull	1984	≥21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Iceland Gull	1998	All	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Great Black-b'd Gull	1996	≥2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Kittiwake	1993	All	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0
Little Tern	1988	All	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0
Black Tern	1987	All	1	1	0	0	1	1	0	1	1	0	0	1	0	1	0	1	0	0
White-w'd Black Tern	2017	All	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Sandwich Tern	1996	All	1	0	0	0	0	0	1	1	1	0	0	1	0	0	1	0	0	0
Common Tern	1984	≥13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Arctic Tern	1992	All	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Feral Pigeon	1996	≥100	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Stock Dove	1984	≥14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Woodpigeon	1987	≥278	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Collared-Dove	1983	≥8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Turtle-Dove	1986	All	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Ring-necked Parakeet	1993	≥59	0	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1
Cuckoo	1983	All	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Barn Owl	1997	All	0	0	1	0	1	0	0	0	1	1	0	1	1	1	1	1	1	1
Little Owl	1996	≥2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tawny Owl	1985	All	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Long-eared Owl	1993	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Short-eared Owl	1998	All	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
Swift	1996	≥50	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Kingfisher	1984	≥2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hoopoe	2013	All	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Green Woodpecker	1983	≥4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Great Spotted Wood'r	1990	≥3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Species	First	Sig.	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Lesser Sp'd Wood'r	1958	All	1	1	1	1	0	1	1	1	1	1	0	0	0	0	1	0	1	1
Wryneck	2010	All	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Short-toed Lark	1991	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skylark	1995	≥25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sand Martin	1983	≥50	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Swallow	1988	≥50	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
House Martin	1996	≥60	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tree Pipit	1987	All	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
Meadow Pipit	1984	≥42	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rock Pipit	1992	All	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	0
Water Pipit	1992	All	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Yellow Wagtail	1983	≥8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Grey Wagtail	1989	≥3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pied Wagtail	1994	≥12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Waxwing	2010	All	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0
Wren	1996	≥8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dunnock	1996	≥8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Robin	1996	≥10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Nightingale	1998	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Black Redstart	1988	All	1	0	0	0	1	0	1	1	0	0	0	0	1	1	0	0	0	0
Redstart	1989	All	0	0	1	1	1	1	1	0	1	1	1	0	1	1	1	0	0	1
Whinchat	1989	All	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Stonechat	1985	≥3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wheatear	1984	≥4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ring Ouzel	1987	All	0	0	0	1	1	0	1	0	1	0	0	0	1	0	0	0	0	0
Blackbird	1996	≥11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Fieldfare	1984	≥120	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Song Thrush	1996	≥5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Redwing	1987	≥94	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mistle Thrush	1984	≥12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cetti's Warbler	2018	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Grasshopper Warbler	1985	All	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Sedge Warbler	1984	≥4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Reed Warbler	1996	≥8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Blackcap	1996	≥8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Species	First	Sig	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Garden Warbler	1996	≥4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lesser Whitethroat	1987	≥3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Whitethroat	1984	≥12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dartford Warbler	2006	All	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wood Warbler	1994	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chiffchaff	1996	≥8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Willow Warbler	1990	≥5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Yellow-b'd Warbler	2019	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Goldcrest	1996	≥5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Firecrest	1987	All	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	1
Spotted Flycatcher	1996	All	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pied Flycatcher	1998	All	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
Penduline Tit	2018	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Long-tailed Tit	1996	≥19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Blue Tit	1996	≥20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Great Tit	1996	≥18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Coal Tit	1996	≥3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Willow Tit	1991	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marsh Tit	1990	All	1	1	1	1	0	0	1	0	0	0	1	0	0	1	0	0	0	0
Nuthatch	1986	≥3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1
Treecreeper	1996	≥2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Red-backed Shrike	1996	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jay	1996	≥5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Magpie	1992	≥20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Jackdaw	1996	≥113	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rook	1996	≥37	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Carrion Crow	1988	≥50	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Raven	2009	All	0	0	0	0	0	1	0	1	0	1	1	1	1	1	1	1	1	1
Starling	1988	≥200	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
House Sparrow	1996	≥12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tree Sparrow	1983	All	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chaffinch	1991	≥32	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Brambling	1999	All	1	1	1	1	1	1	1	1	0	0	1	0	0	1	1	1	1	1
Greenfinch	1996	≥15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Goldfinch	1984	≥26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Species	First	Sig	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Siskin	1996	≥50	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Linnet	1983	≥80	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lesser Redpoll	1994	≥20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mealy Redpoll	1998	All	0	1	1	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0
Crossbill	1991	All	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Bullfinch	1996	≥4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hawfinch	2011	All	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	0
Snow Bunting	1988	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellowhammer	1983	≥20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Reed Bunting	1986	≥7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Corn Bunting	1987	All	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
TOTAL			137	136	142	132	137	135	139	140	138	133	132	129	139	144	144	133	132	126

