The Birds of Tyttenhanger Gravel Pits - 1945-2023

20th Anniversary Report
including the 2023 Bird Report

Edited and produced by
Ricky Flesher and Peter Christian

Dedicated to Steve Blake (1949-2025)

Overview

A Very Brief Birders-History of Tyttenhanger GPs

Up until the early 1970s the Tyttenhanger GPs site comprised a mixture of arable and grazing land with scattered woodland and the River Colne meandering gently through Colney Heath Common, on towards London Colney and eventually flowing into the Thames. Organized bird recording would have begun with the first breeding-bird survey that started in the late 1960s and ran through until 1973, and then became part of the first Hertfordshire Bird Atlas (1967-73). If somebody had drawn up a list from that survey and a few earlier records we've since located, the list would have stood at around 60 species - with many notable omissions. By the end of those first surveys gravel-extraction from the site had begun and as this proceeded it left more suitable habitat for species that favour open, shallow water. The next ten years saw the gravel extraction shape many of the features still recognizable today such as the Fishing Lake, the Main Pit and the Gravel Works , at which time the site also come to the attention of a few local birders.

Systematic, regular recording from the middle of 1983 onwards was to generate the data captured, stored and subsequently used for this report. The Herts Bird Club had started their stand-alone bird reports in 1982, WeBS counting commenced on-site in 1987 and digitization of data also took-off around this time. The second Hertfordshire Bird Atlas surveys were completed between 1988 and 1992 and the decade from 1984-1993 saw Tyttenhanger GPs hosting breeding *Ringed* and *Little Ringed Plovers*, *Lapwing*, *Redshank*, *Lesser Spotted Woodpecker*, *Willow Tit* along with significant *Sand Martin* and *Tree Sparrow* colonies. Rarities-wise it had hosted Hertfordshire's first accepted record of *Short-toed Lark* (1991) and produced records of several Hertfordshire rarities; *Honey Buzzard* (1987), *Shag* (1988), *Temminck's Stint* (1988), *Snow Bunting* (1988), *Black Stork* (1991) and *Ashy-headed Wagtail* (1991) , so by the end of 1993 the Tyttenhanger GPs list stood at around 175 species.

The site was now a well-established port-of-call on the Hertfordshire birding landscape and over the next decade (1994-2003) continued to provide many county highlights. The Herts Bird Club challenge in 1996 inspired the first Tyttenhanger Bird Report and also produced Hertfordshire's first *Lesser Scaup*. The report had a lot to cover besides the Lesser Scaup with the autumn of 1996 and the ensuing *wader passage* through Tyttenhanger GPs being one of the highlights of Hertfordshire birding in the late 20th century. Over the decade to the end of 2003 the site-list grew to 182 species and continued to produce good county records: *Red-backed Shrike* (1996), *Snow Bunting* (1996) *Iceland Gull* (1998*), Common Scoter* (2000) and *Stone Curlew* (2002). This decade also saw the first on-site breeding of *Shelduck* (1994), *Common Tern* (1996) with *Sand Martin* breeding at its peak.

The Herts Bird Club launched another challenge in 2004 which provided the incentive again for the production of a Tyttenhanger GPs bird report. While the year didn't produce a first for Hertfordshire, and failed to live up to the year-list from 1996 (145), it did launch the modern annual report series. New species were added fairly regularly in the decade from 2004 to 2013 and included *White Stork* (2006), *Dartford Warbler* (2006), *Caspian Gull* (2006) (which eventually came to be the first accepted Hertfordshire record), *Glossy Ibis* (2009) (the first county record since 1887), *Wryneck* (2010), *Waxwing* (2010) *Bean Goose* (2011), *Montagu's Harrier* (2011), *Great White Egret* (2013) and *Hoopoe* (2013). On the breeding-birds front the first ever *Oystercatcher* chick hatched in Hertfordshire appeared at Tyttenhanger GPs in 2007 (after many years of unsuccessful prospecting), and the *heronry* on the Main Pit was established in 2009. By the end of 2013 the Tyttenhanger GPs list stood at 198 species and we'd produced our first Anniversary (10th) edition of the Tyttenhanger GPs bird report.

The list then stalled for a few years before being unlocked by the site's first *White-winged Black-Tern* (2017). There then followed a rush of additions in 2018 including *Red-breasted Merganser*, *Spoonbill*, *Hen Harrier* and *Cetti's Warbler*. But it was another reed-bed speciality, *Penduline Tit,* that was the star of the year and another first for Hertfordshire. The years since have added *Cattle Egret* (2019), *Common Crane* (2019), *Yellow-browed Warbler* (2019) and finally *Bearded Tit* (2022) to bring the site-list to 208. Other highlights in the decade to the end of 2023 included the first confirmed breeding of *Red Kite* (2014), *Buzzard* (2019) and *Pochard* (2022).

The five years up until the end of 2023 has seen the site change substantially in nature with increasing growth around the Main Pit restricting visibility and in-filling with sediment from gravel extraction at Coursers Road impacting the attractiveness for waterbirds. All gravel pits go through a natural succession and as habitat changes so do the birds. Overlay the physical changes with the more widespread changes across the county and the UK, and we now have an avifauna at Tyttenhanger GPs that has changed substantially over the last 41 years. Gone now are the likes of *Grey Partridge*, *Turtle Dove*, *Willow Tit*, *Marsh Tit* and even Hertfordshire last *Tree Sparrows*, but regulars now include *Red Kite*, *Little Egret*, *Cetti's Warbler* and *Raven* with annual visits from *Great White Egret* and occasional records of *Caspian Gull* and more recently *Firecrest* and *Hawfinch*.

This report is a summary of more than 250,000 individual database entries from Tyttenhanger GPs from the first in 1945 through until the end of 2023. The records have been pulled together into a single database for the first time and analysed on a species-by-species basis to provide a snap-shot of the history of each of these 208 species at Tyttenhanger GPs. Summaries are provided of the exotic/escaped bird species recorded and the mammals, amphibians, reptiles, butterflies, dragonflies and damselflies that have also been recorded on-site. This report also contains a history of the Tyttenhanger GPs database construction and graphic summaries of all WeBS counts since 1987. The 2023 report in the current series is embedded in this report along with important records through 2024 until the middle of 2025. This is the last report in the current series and provides a one-stop summary of Tyttenhanger GPs birding history for the period 1945-2023.

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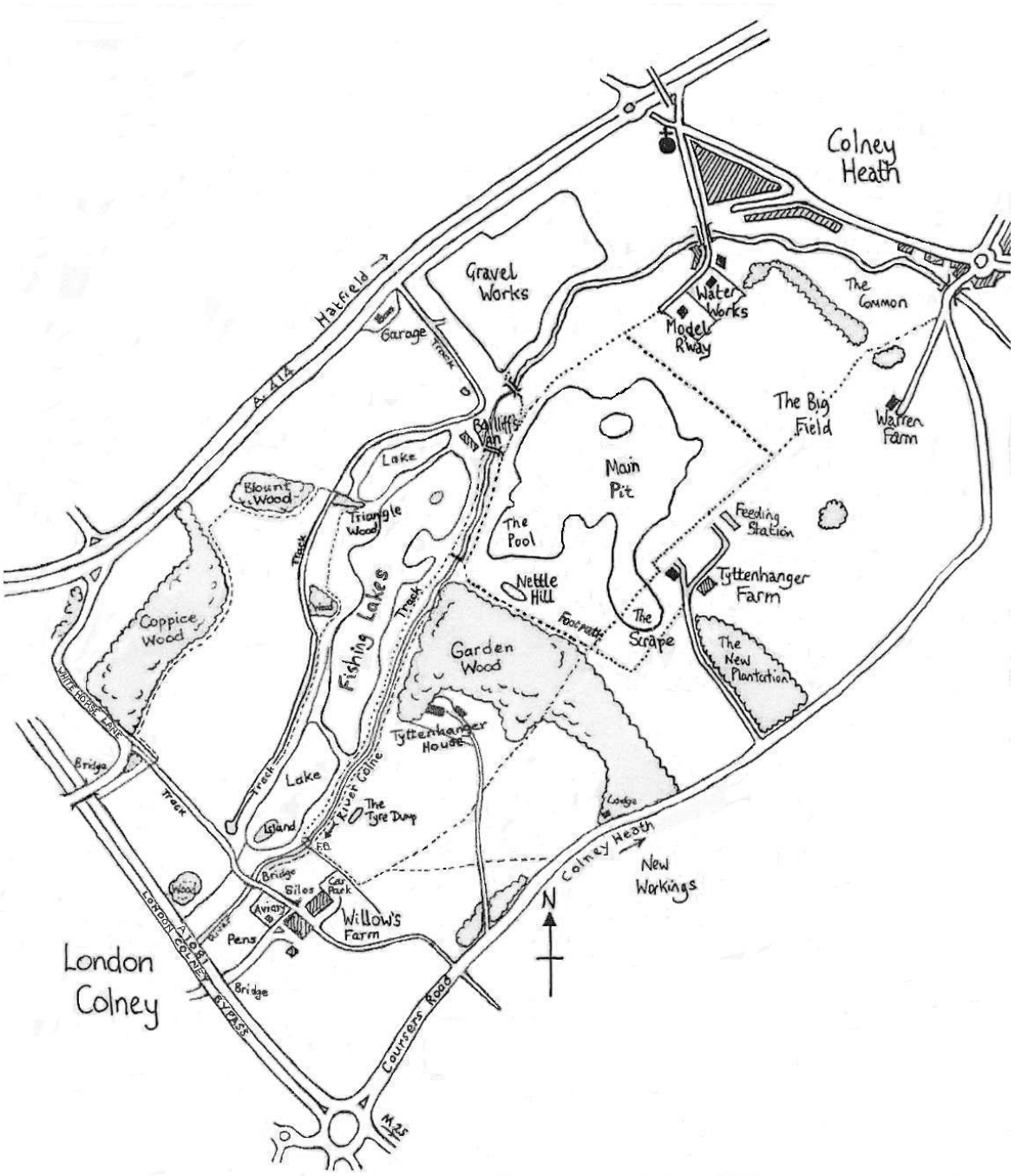


Figure 1. *Map of the recording area covered in the current report. This map is a revised version of that shown in Brew (1997) and is the best representation of the situation in 2013, since when, relatively little has changed to the overall layout. A previous version of the map with a superimposed grid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

Introduction

The first report for the site known locally as Tyttenhanger Gravel Pits (Tyttenhanger GPs) was produced in 1996 – driven by a desire to capture the large number of records generated in the first Herts Bird Club year-challenges. The next year-challenge was in 2004 and as a response, a small group decided to produce a report for Tyttenhanger GPs. This was the first of what was to become the current series of reports and was to stretch for 20 years to the report you are reading now.

During these 20 years the Report has had a number of editors and contributors but, has tended to follow the same general format. The one exception to this format was the 2013 (10th Anniversary Report) which also included a summary section for all of the species that had been observed at Tyttenhanger GPs at that time, along with the 2013 report for the relevant species. Ten years later and we are going to return to a format similar to that of 2013 which will provide summaries for all of the species recorded on the Tyttenhanger GPs site…along with a few that haven't.

As mentioned in the 2022 report this will be the last full report we are undertaking – which in itself is part of the reasoning behind inclusion of the historical summaries. However, during the last couple of years we have also been working on a longer-term project to summarise the *Breeding Birds of Tyttenhanger* in a single document. This project led to unearthing several new sources of data for the period prior to 2004 and led us to look at the Tyttenhanger GPs avifauna in a slightly broader geographical context. The original time-frame for the *Breeding Birds of Tyttenhanger* (1983-2020) started to shift in both directions and we decided we would extend that time-frame to match what we were anticipating to be the 20th anniversary of the current report series in 2023. As mentioned above, since taking the reins in 2004, we have tried to follow the same general format to that used in the original report. However, 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 the similar layout and content helps in making comparisons across the span of years and previous reports but have also been able to reflect the ever-changing nature of Tyttenhanger GP's birds.

The core of this report is undoubtedly the Systematic List and the analysis that goes with it. Along with the full Systematic List we have continued to provide

details of the recording area, public access to the site, a short review of 2023, as well as summary data across the period 1983-2023. Previously we have found that 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. For this final report we have switched to a landscape format to better include data for longer periods. An outline and explanation of some of the analytical methodologies can be found in the section *"Data Collection, Analysis and Presentation*".

It would be remiss of us not to mention the release of this report is a little delayed due initially to the completion of the long-promised "Breeding Birds of Tyttenhanger GPs". This 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… all of which took longer than anticipated. Nevertheless, we hope you get as much enjoyment from reading the report as we did compiling it, and if you did enjoy it 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 things, then please let us know.

Finally, sadly the final stages of report-preparation saw the demise of our great friend and birding-mate, Steve Blake. Many Tyttenhanger regulars will remember Steve and his enthusiasm for birding at Tyttenhanger GPs, elsewhere in the UK and abroad, and some of these reminiscences can be found on page *222**. At a personal level we are both deeply saddened by the loss of Steve but also grateful for the many hours we got to spend with him in the field and the many wonderful memories he left behind.

Ricky Flesher (rickyflesher2001@yahoo.com)
Peter Christian (tyttenhangerpete@hotmail.co.uk)

August 2025

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 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. 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 park at Willows Farm and access the site from there – either across to Garden Wood or along the River Colne/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-owner and the quarrying operations. This is particularly so around the Main Pit and it should be noted the workings access track is not a public right of way and there are a number of remotely controlled security cameras along the conveyor belt along 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 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 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.

Taxonomy and Nomenclature

The systematic order used is similar to that used in previous reports and is effectively that of the 2004 Hertfordshire Bird Report; the nomenclature for common names follows that currently used in the Hertfordshire Bird Report. While the taxonomic order is slightly out of keeping with current thinking and other reports (most notably the recent Hertfordshire Bird Reports) we have decided to keep close to what we have used for the last 20 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 British List"* (2022).

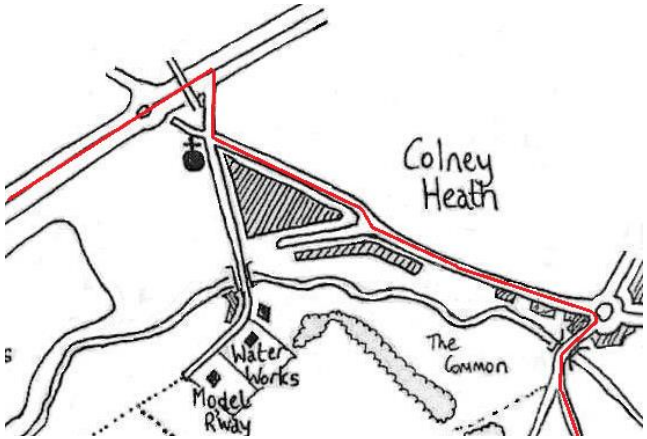
Submission of Records

Observers are encouraged to submit their records for the site (and for Hertfordshire generally) *via* the Herts Bird Club (HBC) website. Such reporting will ensure 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 - however, please note 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.

* The photo accompanying the dedication on page 1 was kindly provided by Rupert Evershed.

Colney Heath Common

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 to the right. Certainly, the inclusion of the OS grid reference in some records submitted through the Herts Bird Club website has made data capture from the on-site parts of Colney Heath a little easier in recent years, However, if observers are able to add a little bit more information about the exact location this is also useful. For instance, if records are from Colney Heath Common i.e., includes all of the area shown above south of the marked (red boundary) if entered under that name is a great help. The other option is to enter data as Tyttenhanger GPs – but to include the note "Colney Heath Common" in the comments – or if using the Herts Bird Club website then the drop-down menu now provides differentiation between Colney Heath Common and Colney Heath Village.



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 do not include them in with the Tyttenhanger GPs dB. Nevertheless, if anybody is interested in records from Coursers Road and/or compiling a summary for the site then they should contact the editors. In addition, it has become apparent during the compilation of recent reports there is also "leakage" of data from Coursers Road 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 other sources of information (e.g., the Herts Bird Club Database) do not 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.

Data Collection, Analysis, Statistics, Standardization and Presentation

Data Collection

This report has utilised data from the Herts Bird Club database, Bird Track, eBird, Hertfordshire Bird Report, London Bird Report, the Herts Bird Club Bi-monthly Bulletins and from the personal records of some regular visitors. These have been collated into a single spreadsheet we refer to as the Tyttenhanger GPs dB – an overarching database for the period 1945-2023[1] - Note, we have usually only captured those records for which a specific date can be assigned[2] so we have not currently entered records from e.g. WeBS counts, where only a monthly maximum is given. In addition, there is some degree of interpretation involved e.g. where a comment states "male present from the 11th to the 15th" – we have only entered records for the 11th and the 15th, erring on the conservative side in such instances. Notwithstanding this general consideration regarding specific dates, where a record still has value in a more general context, we have attempted to integrate this into the database. While the data have been combined into a single dB, it is really comprised of two separate components. The period from 2004 until 2023 is covered by data used to generate the current series of reports and come from an era in which data have become progressively easier to capture; these data are generally more extensive than for the earlier period. A full description of the construction of the Tyttenhanger GPs dB is provided in *Appendix 2* and readers are directed there for more information. The following provides a short summary of the salient features of the two parts of the database

Data Collection Prior to 2004. A summary of the number of dB entries and days of coverage for the period 1983-2003 is shown in *Table 1* with a graphic summary of the days covered provided in *Figure 2*. Data from prior to 2004 has come from a variety of sources – the Hertfordshire Bird Club records database (1988-2003), the Hertfordshire Bird Reports from the period 1983-2003[3] the Birds of Hertfordshire (Smith *et al*., 2015), some retrospective entries from eBird and Birdtrack, as well as data from the notebooks of some regular observers active in the period. Further

[1] Data for 2024 became available towards the end of compiling this report and so has now been added to the Tyttenhanger GPs dB along with the records used in compiling *Appendix 5 and 6.*

[2] The older versions of the Herts Bird Club website (up until 2004) only allowed for records to be submitted individually i.e., a new record had to be submitted for each species. In many cases, the comments section of the form was used to add information such as "*also on 16th*", "*with Pied Wagtails*", "*Pair with 4 young*". In such cases we have extracted the additional data from these comments and included them in the database.

[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.

details of the sources and nature of these data can be found in *Appendix 2*. While this is our final annual report, we should stress we will still be collecting and collating further records from this period for incorporation into the Tyttenhanger GPs dB and so are grateful for any data you wish to share for this purpose.

Table 1. *Database entries and days of coverage for the period 1983-2003.*

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
No. of dB Entries	811	1193	842	677	1092	1584	1024	861	815	1286	1580	1173	1001	2890	2807	1180	650	734	1268	1292	3752
Days of Coverage	50	61	79	79	125	194	181	138	158	175	202	162	152	277	290	182	113	106	164	150	241

Data Collection 2004-2023. Summary data from this period is shown in *Table 2* and a graphic summary of the days covered in *Figure 2*; 2002 and 2003 are included in this table as coverage was similar in these years to others in this period.

Table 2. *Database entries, number of observers, days of coverage for the period 2002-23. NK = not known.*

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
No. of dB Entries	1292	3752	8836	12204	13737	9487	11415	9493	6907	7067	5548	7086	8782	9734	10869	15291	15016	20905	21851	9789	8882	5060
No. of Observers	NK	29[4]	49	42	59	50	57	49	76	72	58	60	55	55	67	72	72	80	80	52	49	42
Days of Coverage	150	241	239	263	278	276	276	272	287	288	275	277	289	293	306	320	326	326	323	246	232	177
Species recorded	117	124	137	136	142	132	136	135	139	140	138	134	132	129	140	143	143	133	132	125	128	115

Data Collected - 2023. This year saw a further dramatic fall in the number of records submitted with the number of recorders also showing a further decline from the peak years of 2019 and 2020 (Table 2). There does appear to be a slight reduction in the number of duplicated records again – for which we are eternally grateful – but this does not explain the difference between this year and last - but a quick look at the number of days-covered readily provides an explanation. This year showed a further substantial decline from the low of 2022, and with just 177 days this is the lowest coverage since 2002 - and the only year in the period 2004-23 in which coverage has been less than 50% of the year (48.4%). A summary of the coverage for the year can be seen in *Figure 2* (middle panel) and is discussed further in the section *Coverage - 2023*.

Finally, a request for the future. While this is our last report it is possible that somebody at a later date may wish to revisit the data and/or start again from where we have left off. While we realise that less people are vising the site than in the past, more worryingly we have also seen the quality of the data-captured deteriorate over the years. The advent of platforms that make it easy to construct a simple list for a visit seems to be driving what many observers appear to be doing. While this information works at larger-scale levels, for local-scales such as the Tyttenhanger GPs (and our reports) the absence of a count or additional information such as location or on site/breeding details, makes everything much more difficult. So please, whatever platform you are using for data capture, put in a count and put in any details that may be of future interest. Remember data-storage is now cheap and more is never too much.

Description-Species and Other Notable Records. With changes in the data provided to us for the compilation of the Tyttenhanger GPs bird reports, along with changes in other sources of information, we include a brief summary of how we deal with description-species and other notable records. First, 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 Reports – which also includes data for records not proven and records not assessed (see *Records not Accepted or Assessed)*. This now allows access to virtually all of the records for Tyttenhanger GPs along with the outcomes of any rarity decisions.

[4] This is probably an underestimate of the number of observers for this year and was deduced from records extracted from the information available through the Internet Archive’s Wayback Machine i.e. the Bi-monthly bulletins and systematic lists.

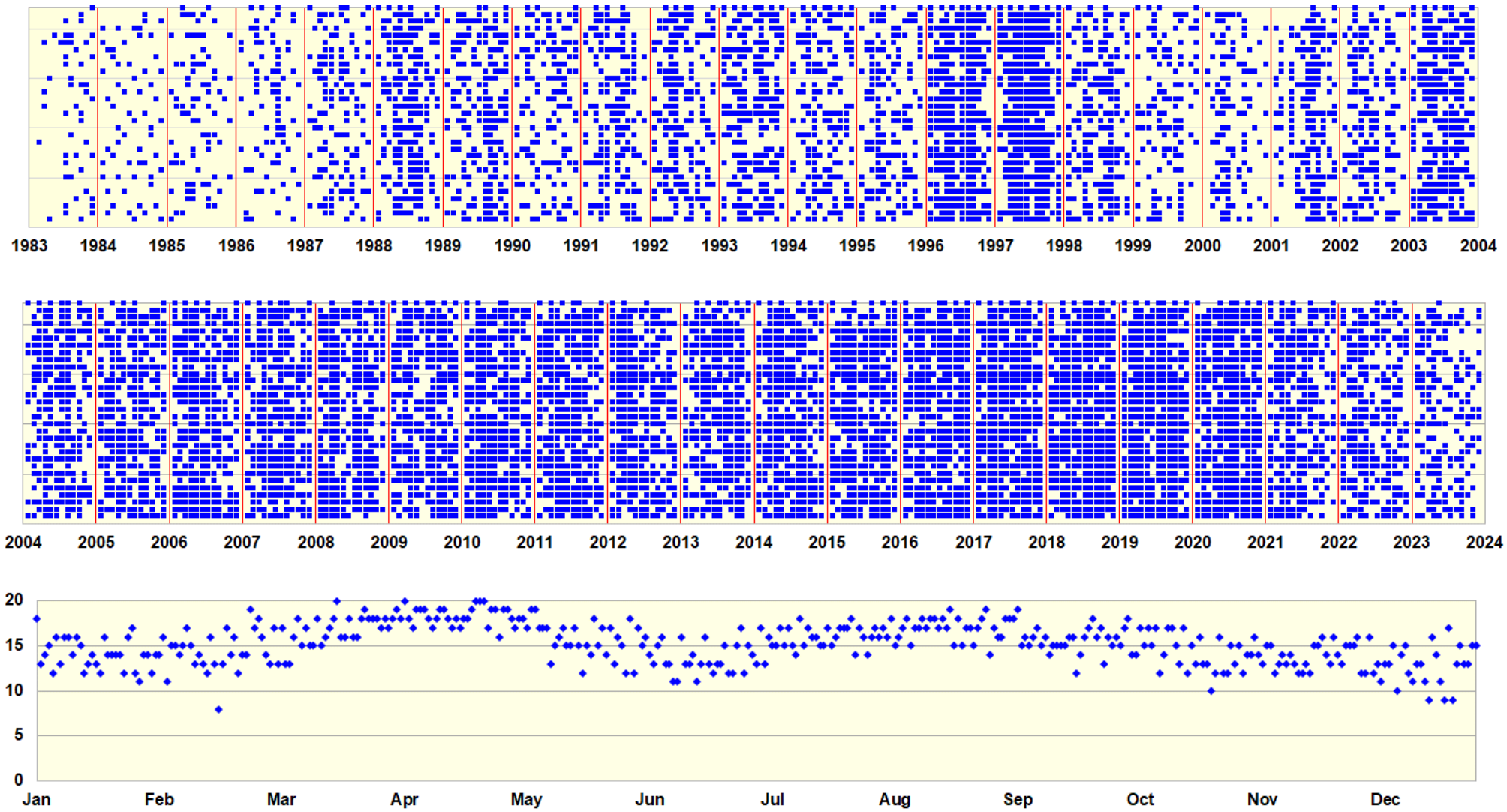


Figure 2. *Plots showing days covered in each month from 1983 to 2003 (upper panel) and 2004-23 (middle panel). The lower panel shows the number of years in which each individual day has been covered.* ***Note****, all data used in all three plots have been coverted to standard days.*

So, with access to the relevant data the current process for dealing with description-species and other notable records is as follows:

- First, if the bird is a national or Hertfordshire 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 but 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 Hertfordshire Bird Report and are taken as not proven[5].

- 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. Again, the first reference point would be the Hertfordshire Bird Report, but in a broader, county-wide 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 if the date/number/comments are correct. In the recent past this function has been provided through the Herts Bird Club as records have been provided without observer details.

Finally, in previous reports the names of contributors have been included with records of description-species and other notable records. In this report this practice has not been continued without the explicit consent of the observer.

Analysis and Statistics Used

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 made 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; entries ascribed to different observers (when these data are provided)[6] are retained. As indicated above, the basic unit from which we generally work is the daily maximum count. However, a number of other statistics are used in our analyses and we provide a summary of how these are calculated below along with a brief description of how it may be used and similarity to other statistics. The following list is alphabetical.

Arrival. In many instances when looking at the temporal distribution of an occurrence it is useful to think of an arrival/arrival-date e.g. a long-staying bird is found on the 6th September – which is then taken as the arrival-date and all days it is present as days-recorded. See also *Occurrence*.

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 (rather than means) are calculated from these data (see *Appendix 1* for a summary of arrival and departure dates for all regular visitors for the period 2004-23) as these are less sensitive to outliers. Also, when there are no autumn records in a particular year for a summer migrant then a late spring date may appear to be the "latest" departure date. 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.

However, where possible we have been back and analysed the available data to ensure 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*") i.e., the statement will generally appear in a form such as "records between X and Y are considered highly notable". We would expect that 5% or less of all records would fall between these notable dates.

Average Count. For some species this can be a useful relative measure of abundance and is calculated from Bird-days/Days-recorded. We have avoided using this parameter when there is a relative high proportion of daily maxima that are no-counts.

Bird-days. Bird-days are the sum of the daily maximum count in a given period. This measure is 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 if we have used the statistic because

[5] Records that are entered through the Herts Bird Club Records submissions page will invariably make it through to us in the annual data and will still invariably be listed in the Sighting archive for future searches. However, if no description is ever submitted then it falls into the category in the HRBP Report of "records not assessed". The same would also be the case for records that come from Birdguides (via Birdtrack) and eBird – although in the latter case there may be some moderation before the record is included in the database.

[6] It is also possible from the comments and location data to deduce when two dB entries are the same record i.e. a duplicated record. When there is any doubt the dB entries may be duplicates then they are both retained i.e. only clearly identified duplicates are removed.

many of the records have been drawn directly from the Hertfordshire Bird Reports 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 occurrences. Conservatively this would therefore be a minimum of 6 bird-days (2 birds, three dates) – but would only constitute a single occurrence (if we believed all sightings had a high probability of being the same birds. Note, bird-days have been used less frequently in the recent past as the parameter is heavily affected by days of coverage.

Count-rate. - Effectively the inverse of the no-count rate; it is sometimes used in preference to the latter.

Daily Maximum Count. The maximum count for a species on a given day. The daily-maximum can be equal to zero i.e., the only records for that day did not provide a count.

Database (dB) Entry. 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., it 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 species have (or have not) been reported through time. See also *Records*.

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. Reductions in coverage in the recent past has meant that this statistic has invariably been standardized for coverage in the current report (see *Standardization of Occurrence Data).* Note, days-recorded can include days on which no-count has been made i.e. the species is still recorded on that day but the record does not include a count. See also *No-count.*

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:

<u>*Mean*</u> – 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.

<u>*Median*</u> - when the number of data points is small (and even 20 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.

No-count. The advent of on-line tools for data capture (see *Appendix 2)* offered the opportunity for reporting the presence of a species (no-count) rather than reporting a presence and a number (count). The percentage of records that include a count vs those for which no count is provided is termed the no-count rate. As the latter can be calculated from either total number of database entries or days-recorded (which include no-counts) we have stated which of the methods have been used when the statistic is mentioned.

Occurrence – this is used 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 record 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 "two 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 occurrence – irrespective of the total number of days they were present. See also *Arrival* and *Records*.

***Records*. T**his is a term we have tried to avoid for many years (without much success) as there has been some confusion in the past as to what constitutes a "record". However, for the purposes of this report we have used the term "record" to refer to any discrete entry in the Tyttenhanger GPs dB. In the past this term has been used as a synonym for "occurrence" but in this final report we have tried to tidy-up this confusion and used occurrence/arrival whenever possible. This slightly revised definition also means that the term is now virtually synonymous with database entry. See also *Occurrence*, *Arrival* and *Database (dB) Entry*.

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 counts[7] i.e., the highest 5% of daily maximum counts are 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.*

Standard Day. Dates converted to a date that takes account of leap-years are referred to as "standard day" for plots where data across multiple years are combined e.g. see *Figure 22*.

Standard Week. For some analyses standard weeks have been calculated using the Excell "*Weeknum*" function. These analyses have not been standardized for coverage across the weeks.

[7] 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.

WeBS Counts and Monthly Maxima Data. For a number of waterbird species there are records from the national Wetland Bird Survey (WeBS) scheme published in the Hertfordshire Bird Reports that go back to 1987, and in a few instances e.g. Canada Goose, Mallard and Teal , back to 1983/84. Data from 2009 onwards can be found on the *WeBS page* on the Herts Bird Club website. While most of the WeBS data have not been captured into the Tyttenhanger GPs dB, because WeBS counts are conducted on pre-determined dates it is possible to back-track and link a specific count to a date. For the period up to the end of 2003 we have extracted some significant counts and incorporated those into the Tyttenhanger GPs dB when we found the dates on which counts were made (see section *Other Resources* for more information). When time allows the remainder of these records will be integrated into the Tyttenhanger GPs dB. The data in the Hertfordshire Bird Reports up to 1997 (inclusive) also provide additional monthly maxima data and from 2004 onwards there are monthly maxima data derived from the annual report data. Overall there are a variety of sources from which monthly maxima data are available. However, despite the range of sources, there are still a large number of gaps where WeBS counts weren't made or where additional data are not available. For those species where we have made a comparison between WeBS counts and monthly maxima from other sources (primarily data from 2004-23) we have found it is unusual for WeBs counts to be greater. For this reason, we have generally tended to use either the WeBS data alone (see *Figure 14* and *Appendix 3*) or monthly maxima data from the Tyttenhanger GPs dB. Although we have generally avoided mixing data - as they are derived by quite different methods – in some instance we have used a mixture of data as we feel this provides a better picture of the changing patterns of abundance e.g. Little Grebe in *Appendix 3*. See *Summary Figures* for an explanation of how the figures are constructed and *Appendix 3* for issues surrounding the 2023 WeBS data.

Standardization

Over the years we have found days of coverage, number of visits and the number of records can vary quite substantially. To be able to make useful comparisons between years it is valuable to have methods for standardizing the data. We have employed methods over the years that have attempted to standardize the data and to take account of the many idiosyncrasies around the way that observers do, or don't, record particular species, and, for the natural variation arising from large agglomerated datasets like the Tyttenhanger GPs dB. These standardization methods are basically of two types as far as frequency of occurrence is concerned i.e. observer-based and coverage-based. Each is treated separately below.

Observer based Standardization - Recording Frequency. Originally developed for the common birds of prey to provide standardization between years and compensate for reporting biases, we initially used the records from a frequent observer to calculate the reporting frequency for a 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. We generally only apply this approach when we know the species in question is almost always recorded by the observer used.

Coverage Based Standardization - Recording Rate. While recording frequency has proven useful in the past in this report we have also used a parameter called Recording Rate more frequently than in the past. This statistic uses the total number of days-recorded as the numerator and the days of coverage for the year as the denominator. This is the simplest form of standardization to apply to the analyses we have used over the years, although it is sensitive to changes in observer biases and may often be a better indication of this than it is of a species occurrence (see *Appendix 2* for further discussion of this).

Table 3*. Month-by-month coverage, 2004-23 median and correction factors for each month in the period 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days-covered	437	408	508	551	495	413	488	522	475	451	417	401
Correction	1.26	1.35	1.08	1.00	1.11	1.33	1.13	1.06	1.16	1.22	1.32	1.37

Correction Indices for Coverage. As can be seen in *Figure 2* coverage is not consistent across years and/or through the year. For this reason, we have frequently used indices of relative coverage to standardise the data either across years, months or more specific periods e.g. April to September or winter periods spanning two years. The example of monthly indices is shown in *Table 3* and shows the number of days of coverage for each month in the period 2004-23, the correction is calculated from the maximum unit-value being used as the numerator and the unit in question as the denominator. The correction index for March is calculated as follows: the maximum value for any month is taken as the numerator i.e. 551 for April. The value for March (508) is then divided by the maximum value i.e., 508/551 = 1.08. It is also worth noting that while absolute values are useful when comparing different parameters such as corrected days-recorded and corrected significant counts (which comprise 5% of all daily maxima – see *Daily Maximum Count*) we have found it useful to standardize these parameters to percentages for graphic presentation as explained in *Summary Figures* below.

Standardization of Abundance Data. While much of our previous analysis has been based around the occurrence of a particular species, in many cases we also get data on the numbers of individuals present. Monthly maxima have been commonly used for some species and these are discussed in the section *WeBS Counts and Monthly Maxima Data* above. However, for some species it is also useful to have an idea of relative abundance along with that for frequency of occurrence. *Bird-Days* provide an idea of the relative number of birds that may have been present

in a given period, but we have found that calculation of average count corrects for occurrence while indicating relative abundance i.e. average count = bird days/days-recorded. Note days-recorded that do not produce a count are not included in this calculation.

Breeding Records

Around 30 species undoubtedly breed, or attempt to breed at Tyttenhanger GPs in most years- 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/Probable Breeding" from "Confirmed Breeding" – and have generally focussed our reporting on the latter 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)

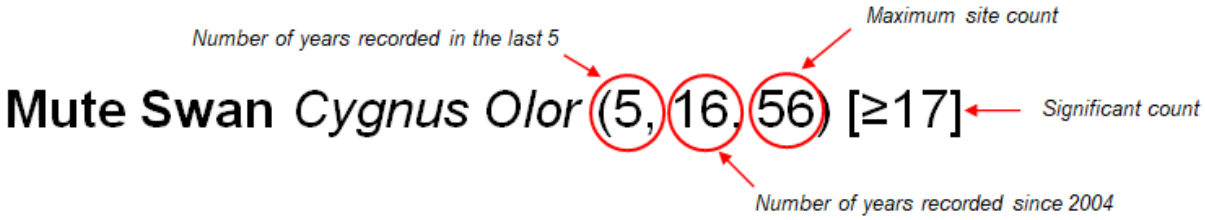
The above also indicates the BTO codes (in brackets) for each of the criteria. It is worth noting that the BTO also include several other codes for confirmed breeding (Used nest/eggshells (UN), Distraction display (DD), evidence of an occupied nest (ON) and a nest with eggs (NE)) which we would consider 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.

Adult bird carrying food (FF) - one of the BTO categories for confirmed breeding Photo courtesy of Andrew Steele.

Finally, a request regarding breeding records. It has become apparent in the last couple of years there are some limitations around the way that breeding records are captured through BirdTrack and eBird and the codes 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 the BTO guidance is useful[8]). While a single code such as FL 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 that it is also useful to indicate if the count includes young birds or not. Further details around breeding records and their interpretation can be found in the Breeding Birds of Tyttenhanger 1967-23 (2025).

Presentation

Hyper-links. We have been using hyper-links to external websites for several years now, but this report also includes hyper-links for navigation within the report itself. Links within the report are shown by *italicised* text, external links are underlined. Further information on external links for references can be found in the *References* section.



Species Summaries. Further to previous years the systematic section of the report shows (as demonstrated to the left) the scientific name of each species followed by three numbers in brackets and another figure in square brackets. 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 indicates what constitutes a significant count (as described above in *Analysis and Statistics Used*. As there are insufficient records/counts for many species to make this

[8] FL - Recently **FL**edged 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.

statistic meaningful, other text may be included in this box – which is explained below:

- [All] – all records of this species are currently considered notable.
- [≥17] – indicates that counts of 17 or more birds are considered statistically significant. May be combined with the following if current status indicates a change in occurrence in the recent past e.g., the example for Common Tern below shows the 2004-23 significant count value ([≥17), followed by the [All] statement to indicate all records are currently considered notable

Following the header line is a summary of the species' status at Tyttenhanger. This summary is presented in italics and provides 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] [All]
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/year-around. Many of these species may also be described as *"Common resident/visitor".*
- *Regular visitor* - occurs in all/most years and usually on multiple occasions. May not be present in all months of the year.
- *Frequent visitor* – occurs more than twice a year on average – but still may not occur in some years.
- *Irregular visitor* – occurs on average once or twice in most years.
- *Infrequent/Scarce visitor* – has occurred more than ten times but less than one record per year on average.
- *Rare visitor* – has occurred on less than ten 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 post-2003. The availability of fully digitised records meant that values such as these, can be more readily calculated and updated.

Body of the Text. The text for most species has been divided into four sections; **2023**. **Pre-2004, 2004-23** and **Breeding**. However, for those species with fewer than 25 days-recorded (or occurrences) we have generally tended to summarise all records under a single heading of **Summary**. **Postscripts** have also been added for the years after 2023 for any notable records, although it should be noted full records were not available at the time of writing and so the HBC Sightings Archive provided most of the information; no data from after June 2025 is included in these postscripts[9]. . Notable data for **Coursers Road** has also been included where relevant. See also *Corrections and Additions to Previous Reports*. The text is followed by a banner which indicates the appendices that apply to this species and also any other comparative figures/tables for this species. The following example is for *Little Ringed Plover:*

Additional Information: *Appendix 1* – Migrant Arrival and Departure (*Figure 90); Appendix 4* – Year Lists (*Figure 78*).

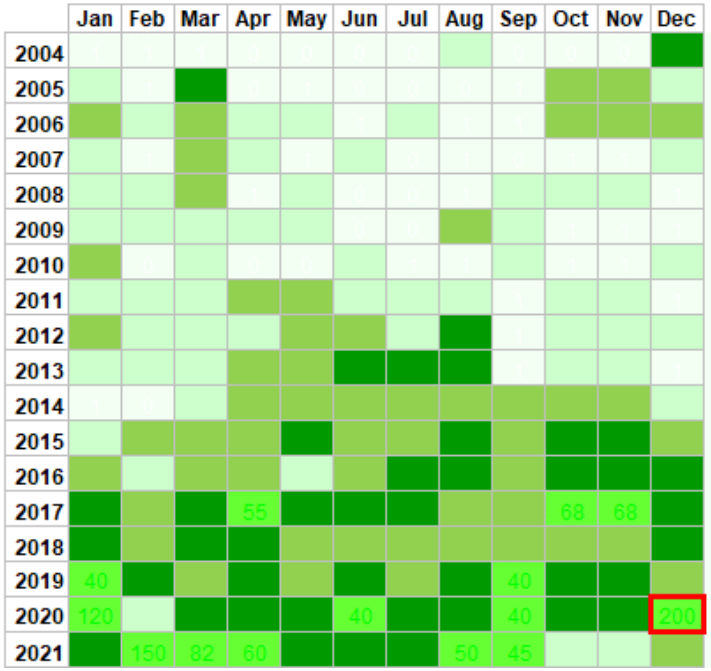
[9] Data for 2024 were provided by the Herts Bird Club in May 2025 and we were able to make use of these data to update/add postscripts, we have also retained the original data and links that were included as we felt this was more in keeping with any data we used from early 2025. It is also noted the WeBS data for 2023 were not originally included with the data from the Herts Bird Club which wasn't noticed until very late in the preparation of this report. *Table A3-1* contains the WeBS data for 2023 alongside the original calculated of monthly maxima for the relevant species. All data in the relevant tables in the Systematic list have been updated accordingly; the WeBS data are yet to be incorporated into the Tyttenhanger GPs dB.

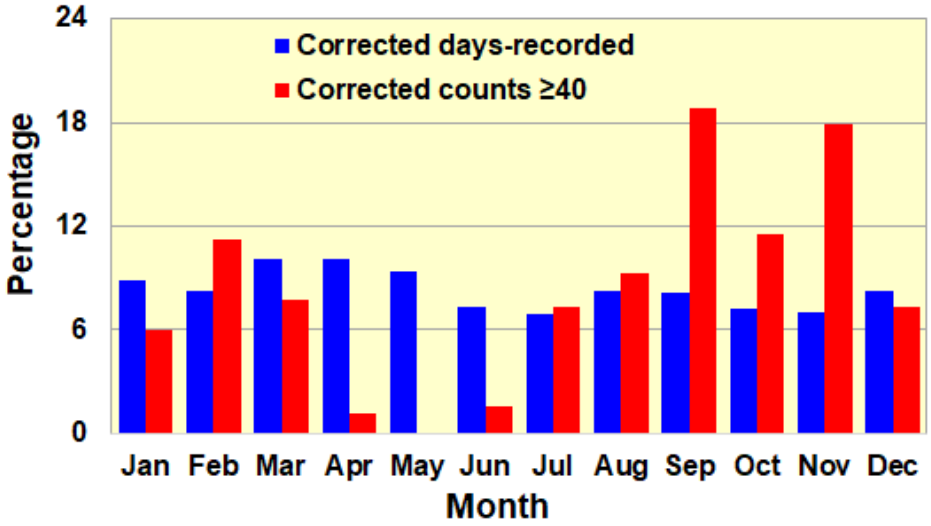
Summary Tables. A change in this final report to a landscape rather than portrait format was inspired by the desire to show data for all years in the period 2004-23. So, in contrast to much of the recent past you will be able to see all of the summary data for this period for the once and final time! Fortunately, this format also works for data from the period prior to 2004 and so we are able (where appropriate) to show all data from this period in tabulated form. However, having made the change it should be pointed out that in many cases we have avoided the use of tables completely and have opted instead for the use of figures to present the data.

Summary Figures. We have attempted to follow the same basic plan for generating figures where the same basic data is used. The types of data/figures commonly used are outlined below with a brief description of their construction and use.

Monthly Maxima and WeBS Counts. Plots for monthly maxima and WeBs counts have generally been produced under a similar protocol. The original data (the maxima data rather than all records) are used to generate categories which are then provide the basis for the figure. Usually, we have used five categories, reflective of the following percentiles in the maxima data: 0 to 24%, 25-49%; 50 to 74%, 75-94% and ≥95%. For WeBS counts we have also added an additional category where no count was made (i.e. usually shown in the tables as nc – indicating there was no visit and therefore no count made. An example of these plots is shown in *Figure 14*.

Arrival and Departure Dates for Summer and Winter Visitors. The arrival and departure dates for visitors have mostly been produced from data collected in the period 2004-23. This timeframe is used because the coverage and data-capture in these years has generally been more likely to capture arrival/departure dates for these species than in earlier years. The plots have generally followed the pattern (illustrated to the right) showing the scatter of spring (usually in green) and autumn (blue) dates with the median for the two groups shown on the centre line if the plot.





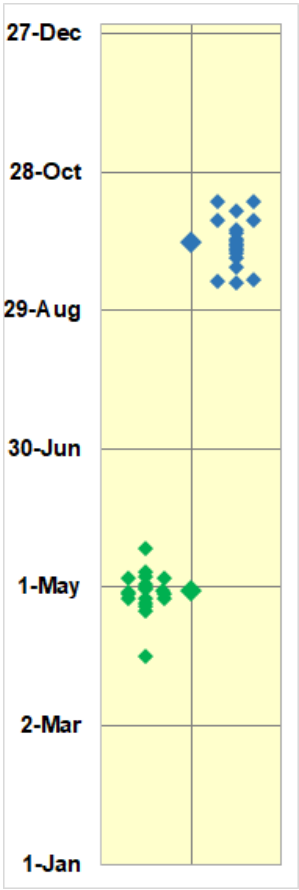


Figure 3. *Examples of standard figures used for WeBS counts/monthly maxima (left) (key not included in this instance), monthly percentages of days-recorded and significant counts (above) and arrival and departure dates for summer/winter visitors (right).*

Monthly Distribution of Days-Recorded and Significant Counts. Issues with standardizing occurrence and abundance data alongside each other have led us to settle upon using a standard methodology and format. For most month-by-month analyses we have corrected the month-by-month data for days-recorded and significant counts by the correction factors shown in *Table 3* i.e., a relative correction for the days of coverage for each month in the period 2004-23 (see *Coverage Based Standarization*). These corrected values are standardized to a percentage of the total so both parameters can be shown on the same scale; as a rule we have used the blue columns to indicate days-recorded (occurrence) data and red columns for the signifnicant counts (abundance data).

Review of the Year - 2023

Physical features

Most of the major physical features on-site are still much as they have been in the recent past, however, there have been some changes to the extent and nature of these features as time has gone by. First, the water level in the Main Pit is constantly fluctuating, but for the last few years has remained consistently high – this year was no exception. 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. However, much more worrying is the accumulation of sand in the south-eastern part of the Main Pit i.e. The Scrape (Figure 4). This is the result of the water being constantly pumped into the Main Pit from the workings on the other side of Coursers Road and now appears to be severely affecting the habitat around and in the Main Pit.

***Figure 4**. Images taken in 2024 of the accumulating sand in the south-eastern part of the Main Pit. Photos courtesy Ricky Flesher.*

As noted previously, the vegetation around the main pit has continued to grow and, in the absence of any substantive management, visibility over many areas of the Main 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. However, again, there are suggestions the infilling of the Main Pit with sand from the Coursers Road may also be impacting the reed-bed.

Weather - 2023

Overall, the weather in 2023 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, although this year's rainfall was slightly higher than the long-term (2001-23) median, the only month with a significantly higher rainfall was March (240.5% of the normal March rainfall[10]). Air-frost duration for the year was close to the long-term median and showed the usual pattern of a slightly colder first winter period (Jan-April) and a less cold second winter period (September to December). Overall, the winter of 2022/23 proved to be close to the long-term median (38.8 days of air-frost) with 38.1 days of air-frost (*Table 4*).

***Table 4.** Annual rainfall (mm) and air-frost (days) for the period 2006 to 2023. Median values for the two parameters for the period 2001-23 are show in the final column.*

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Median[11]
Rain	23.4	79.7	108.3	89.9	72.8	99.5	48.6	805.7	1014.7	740.1	727.7	726.5	776.3	857.4	900.2	805.7	707.4	974.8	**805.7**
Air frost	44.7	30.9	44.7	48.1	80.5	27.8	43.3	55.6	24.4	29.5	43.0	40.0	37.1	37.7	26.9	51.0	34.4	34.3	**38.2**

Coverage - 2023

This year produced the lowest coverage since 2002 and the context of this can be seen further in the section *Data Collection*. It is tempting to speculate on the reason(s) behind the significant

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

[11] Data were for the period 2001-21 were originally extracted from a Met Office site, no longer available. So data for the south of England from https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-and-regional-series was extracted for the period 2016-23. These data were compared original 2001-21 data and found to differ only slightly in the shared years (2016-21), therefore, data from previous analyses were retained for 2001-21 and data used from the current site for 2022 and 2023.

drop in coverage this year and, while most such phenomena invariably result from 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 to the Fishing Lakes management, have all resulted in the site becoming generally less attractive from a birding perspective.

Table 5. *Days of coverage in 2023 along with the median values for the period 2004-23 and the cover in 2023 expressed as a percentage of the mean coverage for the period 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2023	16	18	18	22	16	13	11	12	19	12	10	10	177
Median (1)	23	20	26	28	24	23	26	28	25	24	22	21	**278**
% Mean (2)	72.2	87.7	69.8	79.0	63.5	61.8	43.8	44.7	79.2	51.9	46.7	48.6	

(1)The Median for each month is calculated from the period 2004-2023 (2) Days of coverage in 2023 expressed as a percentage of the mean coverage for the period 2004-22.

With declining visits, 2023 produced just 177 days of coverage; there were no months with full coverage and coverage in each month was lower than the long-term median (2004-21) - especially poor were July, August, November and December (*Table 5*). Not only was coverage low but total number of database entries generated was low, and records per day of coverage was very low (*Table 6*)[12]. Against this framework of poor coverage and poor data capture, the following specific points have been noted:

- Nine months of the year (Mar-Aug and Oct-Dec) produced record lows for coverage in the period 2004-23.
- The coverage for each of the four quarters of the year were 76.9% (Jan-Mar), 69.9% (Apr-Jun), 56.6% (Jul-Sep) and just 50.4% (Oct-Dec) when expressed as a percentage of the mean from 2004-2022.
- The data in *Table 6* shows that not only was coverage low, but records per day of coverage was low indicating recording/data capture was poor. The number of records captured per visit (rather than per day of coverage) was 19.0, in contrast the number of entries per visit from a regular observer known to enter full lists was 40.3 – supporting the suggestion recording/data capture was poor.
- The overall coverage for the year was just 63.5% of the long-term mean. As corrections for coverage are based around the maximum rather than the mean (see *Standardization*) this year was even poorer than may be indicated by the mean value.

Table 6*. Month-by-month analysis of the total number of records (database entries) and records per day of coverage for 2023 along with the overall records per day of coverage for the period 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Records 2023	550	601	341	937	466	272	299	195	752	350	195	101
Records per day 2023	34.4	33.4	18.9	42.6	29.1	20.9	27.2	16.3	39.6	29.2	19.5	10.1
Records per day 2004-22	38.5	32.3	44.7	52.7	43.4	33.4	30.6	35.9	39.7	33.5	36.0	32.8

Review of Birding - 2023

January; the year got off to a reasonable start with a **Great Black-backed Gull** and two **Water Rails** on the 1st and a single **Goosander** on the main pit on the 4th. A **Peregrine** on the 13th, was followed by what would prove to be the bird of the month - an adult **Yellow-legged Gull** briefly in the evening on the 21st. The end of the month provided some interest by Willow's Farm Lake on the 27th with two **Raven** seen and a **Brambling** heard flying over.

February; the **Caspian Gull** on the 1st was unfortunately over at **Coursers Road** while a female **Stonechat** was in the Maize Field on the 5th. The first **Oystercatcher** was on the Fishing Lakes on the 10th to be joined on the 19th by the second bird for what turned out to be another successful breeding year. An adult **Yellow-legged Gull** in the evening of the 10th was followed by a **Great Black-backed Gull** on the 15th and a **Peregrine** on the 18th and 25th. While not a highlight in previous years a **Snipe** on the 27th proved to be the first of only four records for the year while there was a female **Stonechat** (the month's earlier bird?) at Willows Farm on the 26th with a male by the Main Pit on the same day. Also of note this month was the largest ever February count of **Black-headed Gull** - an impressive 1,000 birds on the 19th - and the start of the breeding season with the first **Grey Heron** occupying nests on the Main Pit.

March; two adult **Yellow-legged Gull** on the Main Pit on the 8th with two later in the day(the same birds?) was the starting-highlight of the month but was out-done by a 2nd winter **Iceland Gull** on the same day. Undoubtedly this bird-of-the-year (just the second site record) was seen again on the 16th, 18th but apparently seen by only a couple of observers it did little to boost the lists of most regulars. The end of the month saw the first of several records of **Shelduck** and twenty **Siskin** by the Main Pit on the 19th along with three **White Wagtail** by Willow's farm on the 21st.

[12] Ideally this statistic (records/day of coverage) would be based on the number of visits rather than the number of days of coverage. However, at the present time it is not possible to calculate the number of visits for all years and so we have left days of coverage as the denominator in the calculations.

Review of Breeding Birds - 2023

Since the Heronry was established on the Main Pit in 2009, the beginning of the breeding season has been marked by **Grey Herons** nest building – and this year was no exception with the first nests noted on the 4th **February**. This month also saw other breeding activity in the form of courtship and display (D) from **Collared Dove** (seen copulating) and **Great Crested Grebe**.

This year was unusual with no confirmed breeding records in **March** - although there were signs of probable breeding with both **Carrion Crow** and **Jackdaw** nest-building and further activity noted with singing **Chiffchaff**, **Willow Warbler** and **Cetti's Warbler**.

April saw increased activity with further occupied nests/nest-building reported for **Mute Swan**, **Great Crested Grebe** and **Magpie** before the first young of the year – a brood of seven **Coot** – were reported on the 22nd. A **Robin** carrying food was also seen on the 22nd and the month closed with four broods (3,2 1 and 1) of **Grey Heron** being reported on the 29th.

Confirmed breeding records in **May** this year were very thin-on-the-ground with just a brood of **Coot** on the Deep Lake (FL), a **Kingfisher** carrying food/faecal sac (FF) and a family party (FL) of **Pied Wagtail**. However, the month did see displaying (D) **Greenfinch** and **Sparrowhawk** along with nest-building (B) by **Long-tailed Tit**, and **Blue Tit**, the regular **Oystercatcher** pair behaving in an agitated fashion (A) and **Red Kite** seen carrying nesting material (B) on two separate occasions.

June started well with a family party (FL) of **Grey Wagtail** in the horse paddocks on the 2nd, the first **Canada Geese** young were seen on the 3rd with further first appearances of young **Blue Tit** (10th), **Great Tit** (10th), **Robin** (10th) and **Great Crested Grebe** (27th). Other notable reports this month were of the **Oystercatcher** nest on the 28th and a **Yellow Wagtail** nest being visited (N) on the 27th.

Additions to the list of confirmed breeding species for the year came in **July** with the first young of **Mallard** (1st), **Moorhen** (1st), **Coal Tit** (23rd), **Mute Swan** (8th), **Oystercatcher** (9th) while a report of **Whitethroat** with food/faecal sac was made on the 9th.

August saw the first **Tufted Duck** young of the year (13th) – which surprisingly seem to be the only young produced this year and also the only species recorded breeding in August.

September a family party (FL) of **House Sparrow** reported on the 2nd was the most unusual record for the month (just the seventh year in the period 2004-23 breeding has been confirmed) with the only other records of note being the presence of young **Great Crested Grebe** and **Tufted Duck**.

In summary, this year produced the lowest ever total of confirmed breeding records for the period 2004-23 – just 46 – with the next lowest being 70 in 2018. The confirmed breeding records came from just 20 species, also the lowest number for the period 2004-23 but just marginally less than the 23 species in 2022. Despite the disappointing numbers, this year did have a couple of bright spots, the most notable being:

- **Oystercatcher** nesting and producing young again; for the 4th consecutive year and in seven of the last ten years.
- **Cetti's Warbler** singing right through the summer months (March to June) indicating a permanent presence and the likelihood of breeding in the near future – albeit breeding for this species is notoriously difficult to confirm!

Table 7 *Summary of confirmed breeding records and species for which any confirmed records were submitted.*

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Records - Confirmed Breeding	4	0	10	3	10	13	2	4	**46**
Breeding species recorded	1	0	6	3	8	9	1	3	**20**

Confirmed Breeding Birds of Tyttenhanger – 2023. Species shown in below were confirmed breeding species as defined by the current Bird Atlas categories - see *Breeding Records*. Those species for which records of fledged young were submitted are shown by (FL).

Blue Tit (FL)	Coal Tit (FL)	Great Tit (FL)	House Sparrow (FL)	Mallard (FL)	Oystercatcher (FL)	Tufted Duck (FL)
Canada Goose (FL)	Coot (FL)	Grey Heron (FL)	Kingfisher	Moorhen (FL)	Pied Wagtail (FL)	Whitethroat (FL)
Carrion Crow	Great Crested Grebe (FL)	Grey Wagtail (FL)	Magpie	Mute Swan (FL)	Robin (FL)	

April; there were two **Raven** on the 3rd, followed by a **Green Sandpiper** on the 9th (one of only two records for the year) while **Coursers Road** produced another record of an **Iceland Gull** on the 14th - which seems to have been the same bird seen in March. A **Tawny Owl** was heard by the Model Railway on the 29th, and a **Black-tailed Godwit** flew over Willow's farm at 08.31 am on the same day. A male **Shelduck** was seen on several dates through the month as it shuttled between Tyttenhanger GPs and **Coursers Road**. Three **Hobby** seen on the 30th during the

Herts Bird Club spring-challenge were thrown into the shade by a possible **Red-footed Falcon** seen at 7.00 am and then again around midday. Although the bird was photographed the image did not prove sufficient enough to be accepted by the Herts Rare Birds Panel; a copy of the image can be found with the section on *Records not Accepted or Assessed*.

May; three **Whimbrel** seen on the 1st were probably the highlight of the month with one flying over at 08.30 am followed by another two around midday. There was a **Shelduck** on the 1st and 8th and a male **Mandarin** on the Main Pit on the 6th. A late-arriving **Common Sandpiper** on the 6th was subsequently seen on the 7th and 8th.

June; although usually a quiet month it proved to be quieter than usual this year with the only visiting bird of note a **Great Black-backed Gull** on the 23rd. Breeding records did however brighten things slightly with evidence of nesting for both **Oystercatcher** (ON) and **Yellow Wagtail** (N) and a family party of **Grey Wagtail** on the 2nd.

July; a female **Marsh Harrier** on 2nd proved a good start to the month along with a single **Raven** on the 8th. The highlight of the month was the two young **Oystercatchers** that first appeared on the 9th and were then seen through the month and into August before seeming to fledge later in that month. Breeding aside, things were quiet until the end of the month when a **Common Sandpiper** appeared on the 29th.

August; A juvenile **Little Ringed Plover** on the back of the Main Pit on the 13th proved to be the only record for the year, and was followed by an interesting record of an adult **Peregrine** and a begging youngster by Willow's farm on the 18th – the young bird was ringed and possibly came from the brood ringed at St Albans Cathedral this year. A **Common Sandpiper** on the 18th was the only other notable record for the month.

September; the beginning of the month produced the last **Common Sandpiper** of the year on the 1st, the first **Great White Egret** on the 3rd, along with a **Peregrine** on the same day. There were five records of **Raven** for the month with two on three dates and singles on two dates – possibly indicating breeding close-by? A **Firecrest** found in Garden wood on the 12th was seen again on the 15th and 16th, ten **Siskin** were around the main pit on the 17th, and the month ended with a single **Barnacle Goose** from the 27th to the 30th.

October; Raven were seen on three dates in the month with two birds on the 15th, there was a **Barnacle Goose** by Willow's farm on the 7th (September's bird returning?) and fifteen **Siskin** on Colney Heath Common on the 15th. A flurry of **Great White Egret** records came in the latter half of the month with three on the 18th and four on the 21st, then singles on the 22nd and 23rd before the month finished with six **Lesser Redpoll** and a **Peregrine** on the 23rd.

November; two **Stonechat** were noted by Willow's Farm on five dates between the 2nd and 29th and there was single **Lesser Redpoll** on the 8th and 22nd. A small murmuration of 1000+ **Starling** was seen over Garden wood on the evening of the 8th, and the second record of **Green Sandpiper** for the year was a single bird on the 11th. A 1st winter **Caspian Gull** in the pre-roost in the failing light on the 16th was the first and last record for this species for the year.

December; the two **Great White Egret** on the 12th, 21st, 27th and one on the 29th and 30th were typical for this month over the last several years, there were also two **Stonechat** near Willow's Farm on the 29th which provided a bit of extra interest. A **Firecrest** in Garden wood on the 29th was the 4th day-recorded for the year with the remaining interest provided by four **Lesser Redpoll** near the Main Pit on 30th.

The total number of species recorded this year was just 115 – the lowest in the period 2004 to 2023 (*Appendix 4*) and the lowest based on records in the Tyttenhanger GPs dB since 2001. Despite the low total there were still a few species not recorded in 2022 that appeared this year – **Goosander**, **Black-tailed Godwit**, **Iceland Gull** (second site-record and the first since 1998) and **Firecrest**. On the other side of the coin there were a number of species recorded in 2022 that were not recorded this year – **Brent Goose**, **Garganey**, **Goldeneye**, **Cattle Egret**, **Golden Plover**, **Woodcock**, **Bar-tailed Godwit**, **Curlew**, **Redshank**, **Greenshank**, **Sandwich Tern**, **Barn Owl**, **Little Owl**, **Whinchat**, **Spotted Flycatcher**, **Pied Flycatcher** and **Bearded Tit.** Given the prevailing conditions around the Main Pit and the associated problems along with low coverage, the future looks quite gloomy for the site. However, it is worth bearing in mind there is a good link between days of coverage and number of species recorded (see *Table 2* for data – plot not presented here) and if coverage increases the year lists will probably increase; and who knows maybe even some new species will be added to the current Tyttenhanger GPs list of 208.

Corrections and Additions to Previous Reports

Additions and changes to previous reports are included in 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 part of the species text and are shown in bold as **Correction** or **Addition** (see also *Presentation – Body of the Text*).

References

The following includes hyperlinks to previous reports and to other general references relating to Hertfordshire Birding. Specific references have been used throughout the report and these are generally hyperlinked; where possible the hyperlinks for these references are through the year e.g. 1998 Hertfordshire Bird Report. If you have any trouble obtaining any of the Tyttenhanger GPs annual reports then please contact the editors for further information.

Brew, M. (ed) (1997) Tyttenhanger Gravel Pits Bird Report for 1996. (Available on request from the editors).

Christian, P. Flesher, R. and Knight, G. (2006) Tyttenhanger Gravel Pits Bird Report for 2004 (Available on request from the editors).

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Flesher, R., Christian, P. and Blake, S. (2010) Tyttenhanger Gravel Pits Bird Report for 2008.

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van Koughnet, J. (1895) A History of Tyttenhanger. Marcus Ward and Co., London. [available to read through the Internet Archive [13]]

Photo courtesy of Rupert Evershed

Contributors and Acknowledgements

This report would not have been possible without the records observers have generously made available to the wider birding community and so first thanks must go to them. A large debt of thanks is also due to Alan Gardiner and Graham Knight who made available the Tyttenhanger records from the Herts Bird Club database and BirdTrack/eBird – without which there would have been many serious “gaps” in the current report. Thanks also to Marcus Brew for permission to use the vignette of the Sand Martins (previously the cover illustration for the 1996 and 2004 reports); photographs are individually acknowledged where this has been requested by the contributor. Many thanks as well to Anne-Marie Wilkes proof-editing – although the editors accept

[13] The copy that can be viewed through the Internet Archive is inscribed to “Lord Aldenham from Jane C E Koughnet”; the Aldenham baronetcy is named for the Hertfordshire village.

full responsibility for any errors (and rogue exclamation marks) that have made it through to the final version. Contributors of records in 2023 were as follows (list kindly provided by the Herts Bird Club):

Tony Blake	Rupert Evershed	Clive Harding	Michael Murphy	Clifford Smout	Harry Whyte
David Booth	Ricky Flesher	Marcus Hunt	Toby Moran Mylett	Tom Speller	Aidan Williams
Derrick Crump	Peter Foster	Michael King	William Paterson	Andrew Steele	Barry Wilson
Mark Cutts	Sam Fuller	Axel Kirby	Steven Pearce	Mark Taylor	John Yates
James Dixon	Alan Gardiner	Sam Lawrie	Rupert Pyrah	Tyttenhanger Birders	Geoff Young
Simon Errington	Jeff Gooding	Chris Leonard	Chris Ruis	Saul Underwood	
Lee Evans	Dawn Graves	John Marchant	Mark Smith	Simon West	

Apologies if you submitted records for 2023 and your name doesn't appear on the above list. Likewise, if you would prefer that your name not be included in any future reports then we encourage you to contact 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 X account (@TyttGP). 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 - 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 – Reports back to No. 1 (1922) are available through the Biodiversity Heritage Library – the last available being 2015. It is worth noting the term "Tyttenhanger GP" was not in use in this report before 1983 so older records for the site are difficult to find.

"**Wayback Machine**"-. This site provides access to a number of older versions of the Herts Bird Club website through the Internet Library.

NBN Atlas - The National Biodiversity Network Atlas allows their database to be searched for all biological records. See *Appendix 5* for more details.

WeBS Counts. Counts from the national Wetland Bird Survey (WeBS) are included for the site in the annual Hertfordshire Bird Reports from 1987 to 2008, after this the records are available through the Herts Bird Club webpage Wetland Bird Survey (WeBS). Because WeBS counts are carried out on pre-determined dates it is possible to work backwards and assign dates to WeBS counts – which is some cases we have been able to do for some records (see the section *WeBS and Monthly Maxima*). The following is a summary of the external links that will take you to the source of the dates we have been able to find: 1983/84, 1984/85, 1985/86, 1986/87, 1987/88, 1988/89, 1989/90, 1990/91, 1991/92, 1994, 1995 (Partial) 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008. From 2009 onwards the dates can be found on the Herts Bird Club webpage Wetland Bird Survey (WeBS). Clearly there are some counts for which we have been unable to find dates at the present time but would be interested if anybody else is able to identify dates for the relevant gaps.

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

SYSTEMATIC LIST

Mute Swan *Cygnus olor* (5, 20, 56) [≥14]

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

2023. Numbers of this species have been low for the last three years - with the maximum this year of 12 in the January WeBS count (maxima in 2021 and 2022 were 11 and 13 respectively) *(Table 8).* An occupied nest was reported in April but then there were no further reports of breeding until the 8th July when "*two large young*" were reported. There were no further reports of young birds which suggest this family were either passing through on the River Colne or the young were predated (or maybe even both!). Numbers in the autumn and early winter often increase, although this was not the case this year with all months in the latter half of the year falling below the 2004-23 median values (*Table 8)*.

Table 8. *Summary month-by-month date for Mute Swan*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	12	5	4	11	4	6	5	6	7	7	6	9
Median 2004-23	8	6	6	8	10	9	9	8	11	11	9	12
Maximum 2004-23	18	23	25	15	18*	22*	20*	24	30	24	28	26
Maximum 1983-2003	36	20	20	20	23	18	11	15	36	37	48	56
Corr'd days-rec. (%)	8.5	6.9	8.7	8.8	9.1	8.4	7.6	8.0	8.4	8.7	8.2	8.8
Corr'd counts ≥14. (%)	5.4	4.4	1.2	0.5	3.0	5.0	3.7	4.6	12.5	13.8	22.1	23.7

* Includes young birds.

Pre-2004. This species is generally present all year around – with slightly increased numbers in the winter months. The first entry in the Tyttenhanger GP dB is from 1988 but WeBS recording for the site did commence in 1987. The WeBS data (*Figure 5* – see also *Appendix 3*) show this species was at its peak on-site in the period 1997-2003 and the highest count prior to 2004 was 56 birds on the 6th December 2003 – which is also a site record.

2004-23. Daily maximum counts from the period 2004-2023 show ≥14 birds is significant while *Figure 6* shows the annual distribution of significant counts as a percentage of total counts for period 2004-23. While corrected days-recorded range between 93 (2012 – 79 days-recorded) and 220 (2020 – 219 days-recorded), there is a much greater variability in the distribution of significant counts i.e. several years have produced none whereas some years (2005, 2006, 2019 and 2020) have produced more. Likewise, through the

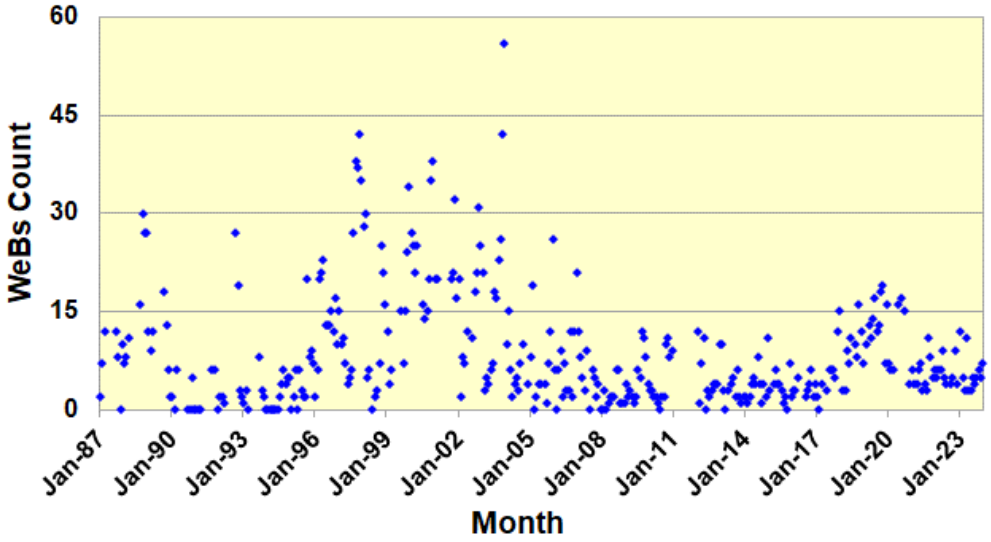


Figure 5. *WeBS counts for Mute Swan for the period 1983-2023.*

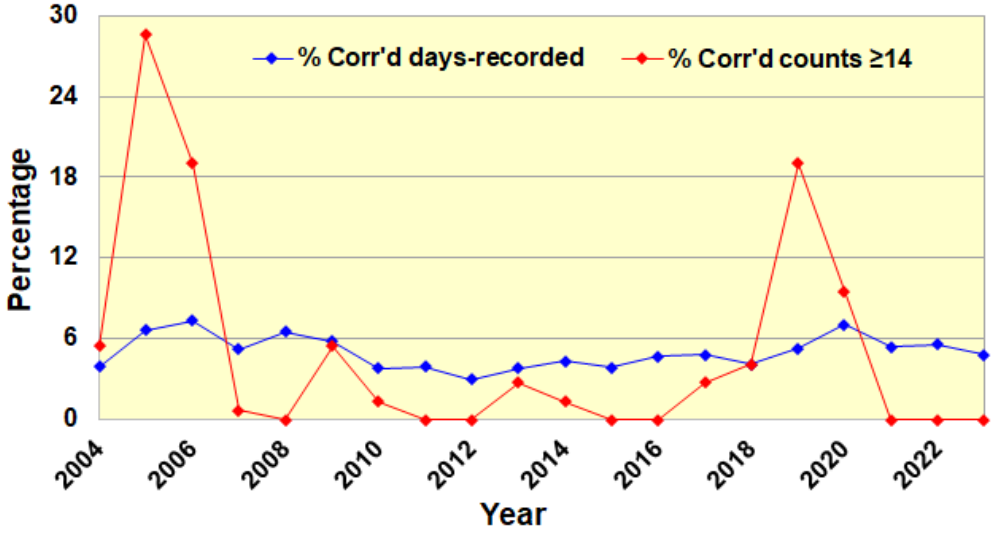


Figure 6. *Percentage of corrected days recorded and percentage corrected significant counts (≥14 birds) for the period 2004-23*

year, (*Table 8*), while there is little variation between months in days-recorded there is a clear peak in numbers of significant counts from September through until December and a clear trough in the summer months (March-May). The maximum count in the last 20 years was of 30 birds on the 7th September 2019.

Breeding. Mute Swans have bred on-site in all years since 2002 with confirmed breeding records also from 1996 and 1997. Usually, 1-2 pairs are present in breeding years, although the site hosted four (successful) pairs in 2018.

Additional Information: *Appendix 3* - WeBS counts; *Appendix 4* – Year Lists. See also *Table A2-1* and *Figure A2-3*.

Whooper Swan *Cygnus cygnus* (0, 4, 4) [All]

Infrequent winter visitor with many occurrences attributed to feral birds from Bedfordshire; only two occurrences are considered to involve wild birds.

2023. Not recorded.

Summary. Prior to 2004 there was just one occurrence, a single bird on 25th November 2001. Most of the records in this period were presumed to have come from the feral population around Luton Hoo and these birds were regularly seen in the Tring area. The 2001 occurrence at Tyttenhanger GPs was treated in the Hertfordshire Bird Report as one of these birds and further records have a somewhat checquered history with respect to their provenance. The 9th October 2004 saw four birds present which were considered to be wild birds and part of an influx that came into the country around this time (see the Hertfordshire Bird Report, 2004). Records followed in the next two years with two birds on the 17th December 2005, a single bird on the 3rd February 2006 and then the last occurrence of two birds on the 12th December 2006. The 2005 birds were considered to be wild, the single bird in February of 2006 to be of uncertain origin and the December bird in 2006. was not mentioned at all in the Hertfordshire Bird Report.

Additional Information: *Appendix 4* – Year Lists.

Bewick's Swan *Cygnus columbianus* (0, 2; 9) [All]

Scarce visitor. A total of six days-recorded between 1985 and 2012 involving at least 20 birds.

2023. Not recorded.

Summary The first record of this species was of a single bird seen on the 5th January 1985. This was then followed by records of five on the 28th February 1988 and then nine (2 adults and 7 juveniles) on the 20th November 1988. The last 20 years has seen a further two occurrences with a single bird staying between the 15th and 25th March 2008 and then 4 birds seen on the 8th December 2012.

Additional Information: *Appendix 4* – Year Lists.

Bewick's Swan present from 15th-25th March 2008. Photo courtesy of John Dingemans.

Bean Goose, photographed on the 26th November 2011. *Photo courtesy of Simon West.*

White-fronted Goose *Anser albifrons* (0, 1, 3) [All]

Scarce visitor. A total of 15 days-recorded involving at least eight birds and including two birds present for 13 days in November/December 2011.

2023. Not recorded.

Summary. The first records for the site were from 1993 with three birds on 28th February and then three birds again on the 6th March. There was a gap of over 18 years before the next record with a single bird seen on the 16th November 2011 and the following day, and then two birds (1 adult and 1 juvenile) on the 21st November which were reported for the rest of the month and on the 1st December.

Additional Information: *Appendix 4* – Year Lists.

Bean Goose (Tundra) *Anser fabalis rossicus* (0, 1, 1) [All]

Rare visitor having occurred just once.

2023. Not recorded.

Pre-2004. The only record for the site was of a 1st winter bird that flew in at 10.45 am on the 26th November 2011 and then flew off at 12.40 pm. The bird did subsequently return - an hour or so later - whereupon it was present until the 1st December.

Postscript. At the time of our final revision (early 2025), this was still the last record in Hertfordshire (see The Herts List).

Additional Information: *Appendix 4* – Year Lists.

Greylag Goose *Anser anser* (5, 20, 70) [≥29]

Has become a very frequent visitor in the recent past with some associated records of confirmed breeding.

2023. While many other species are no longer finding the site attractive, this species still seems to have a soft spot for the place, and despite this year's low coverage the numbers have been relatively good and generally above the long-term median (see *Table 9*). There was no confirmed breeding this year but there were seven significant counts (≥29 birds), all of which were in September and included counts of 55 on the 16th and 63 on the 15th. The latter was the second highest count on-site, a new record for September and the highest in this month since the 3rd September 2016. The August maximum of 24 birds on the 1st was also a record for the month.

Table 9. *Summary data by month for Greylag Goose for the period 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Corr'd days (%)	8.4	7.0	12.5	11.7	7.6	5.2	6.4	10.0	8.7	7.7	8.1	6.7
Corr'd counts ≥29 (%)	9.2	13.2	11.9	1.2	0.0	1.6	0.0	6.4	12.7	6.0	17.7	20.1
Maximum 2023	26	18	13	7	3	24	24	11	63	3	19	21
Maximum 2004-23	45	46	44	29	21	30	24	37	63	37	40	70

Pre 2004. The first on-site record for this species comes from the Hertfordshire Bird Report of 1986, with 4 birds reported flying up-river on the 19th April. Days-recorded from then until 1999 were relatively thin on the ground, with a further 19 days and a maximum count of 12 birds on 26th January 1997. There is then a gap of 5 years in the Tyttenhanger GPs dB until 2004, whether the species didn't occur in this period or whether it became more common and therefore less notable (and/or data were not captured) is uncertain. However, the fact that it went unreported in the Hertfordshire Bird Reports between 1988 and 1993 seems to suggest the latter.

2004-23 Following the county trend since 2003 this species has become more common on-site – as shown in *Table 10* – and has been recorded in every year since then, with occurrence and numbers increasing dramatically since 2007. Occurrence and significant counts (≥29 birds) are not evenly distributed through the year (*Table 9*) with peaks in occurrence in March/April and August, while significant counts are skewed towards the winter months and are unusual between May and July. The record count on-site is of 70 birds on 3rd December 2017.

Table 10. *Summary data for Greylag Goose in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Days-recorded	9	5	31	19	70	118	88	56	60	64	58	83	109	126	104	107	96	41	79	54
Rec. rate (%)	3.8	1.9	11.2	6.9	25.7	43.5	30.7	19.4	21.8	23.1	20.1	28.1	35.6	39.4	31.9	32.8	29.7	16.7	34.1	30.5
Counts ≥29	0	0	0	0	0	0	0	0	2	0	0	0	16	25	10	1	0	1	12	7
Maximum	5	2	8	6	23	26	20	17	30	28	27	19	38	70	50	45	20	30	37	63

Breeding. As numbers have increased in the county then so has the number of breeding pairs. It is therefore not surprising this species has bred on site, although maybe a little surprising that this only happened in 2013 and 2014 – before the major peak in occurrence (Table 10).

Additional Information: *Hybrid Geese*; *Appendix 4* – Year Lists.

Greylag (Domestic) Goose *Anser sp.*

2004-23. A group of white domestic-type geese first appeared around the Fishing Lakes in 2005 – presumably as escapes/releases from Willows Farm. Since that time the population has fluctuated but has managed to breed in most years – the exceptions being of 2006, 2012, 2015, 2016 and 2021 and 2023. Despite a number of issues over the years surrounding how these birds were actually recorded, the following provides a summary of the records held in the Tyttenhanger GPs dB.

***Table 11**. Days-recorded, maximum count and whether breeding was confirmed or not for the period from 2005-23 for Domestic (White) Geese at Tyttenhanger GPs.*

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Days-recorded	4	1	11	2	2	12	23	17	26	30	32	42	49	53	67	67	8	19	7
Maximum Count	14	13	18	24	24	30	36	46	51	50	30	30	27	25	22	20	5	6	4
Breeding	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	Yes	No

The last three years has seen a dramatic drop in numbers of the resident group and in 2023 there were just 4 birds reported with - no indications of breeding *(Table 11)*.

Postscript 2024. An interesting breeding record from this year as shown in the picture to the left.

Additional Information: *Hybrid Geese*.

Playing away? A brood of hybrid geese young seen in 2024 – the confirmed hybridization between apparent wild-type Greylag and Domestic (White) Geese at Tyttenhanger GPs. Photo courtesy of Ricky Flesher.

Brent Goose *Branta bernicla* (1, 4, 48) [All]

Scarce visitor with just eight occurrences - although single birds have stayed for multiple days in three instances.

2023. Not recorded.

Pre-2004. The first record for the site was of 48+ birds that flew over on the 7th April 1996 – which is still the largest count for the site and for the county. This record was closely - followed in 1997 by a bird that was present between 24th and 28th January followed by 4 birds seen on the 16th October of the same year. There was then a gap of nearly seven years until a single bird was present (often with Canada Geese) from the 4th May to 21st May 2003.

2004-23. Records in this period all involve single birds and were on the 28th January 2006, the 16th to 18th March 2010, the 4th October 2014 and finally, the 11th March 2022. Where it has been noted, all records have referred to the dark-bellied race *bernicla*.

Brent Goose photographed on the Fishing Lakes on the 11th March 2022. Photo courtesy of Rupert Evershed.

Additional Information: *Hybrid Geese*; *Appendix 4* – Year Lists.

Canada Goose *Branta canadensis* (5, 20, 449) [≥156]

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.

2023. A bit of a mixed year for this species with monthly maxima generally below the long-term (2004-23) median values but with some significant exceptions (see *Table 12*). July produced a count of 91 birds – not in itself significant but six broods of 5-5-3-4-3-4 young were noted this month – the same number of broods as 2022. September produced a count of 310 birds – the best of the year and substantially higher than the long-term median (225) – while November produced a count of 208 birds – the second highest ever for this month (*Table 12*).

Table 12. *Monthly maxima for 2023 and the relevant median values and maxima for the period 2004-23*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	65	80	37	22	21	40	91	170	310	160	208	106
Median 2004-23	66	59	50	23	43	50	68	193	225	87	73	51
Maximum 2004-23	180	150	80	63	62*	106	100	449	400	315	250	150
Maximum 1984-2003	182	235	89	31	25	41	102	320	315	332	270	350

* Includes young birds

Pre-2004. Records in the Tyttenhanger GPs dB indicate the large post-nuptial gatherings of this species during their moult (August-September) has been a feature of the site for many years. The first records in the dB are from 1987 and from here-on there are over 60 significant counts (≥156 birds) in the period 1987-2003 representing 20.7% of all counts – with most of these significant counts being in the August-September window. Surprisingly however, the maximum count in this period was of 350 birds on the unusual date of the 9th December 2001.

2004-23. As indicated above, the largest counts for this species are generally made in the period August-September (see *Figure 7*) which produced 84.8% of significant counts in this period. Unsurprisingly the record count for the site was also made in this window i.e. 449 birds on the 28th August 2016. *Figure 8* shows the percentage of corrected days-recorded and significant counts for the years from 2004-23 and, while there is some variability between years in occurrence[14], there is much greater variability in abundance (significant counts). Noticeably the last six years had shown a substantial decline in significant counts despite a relatively consistent pattern of occurrence.

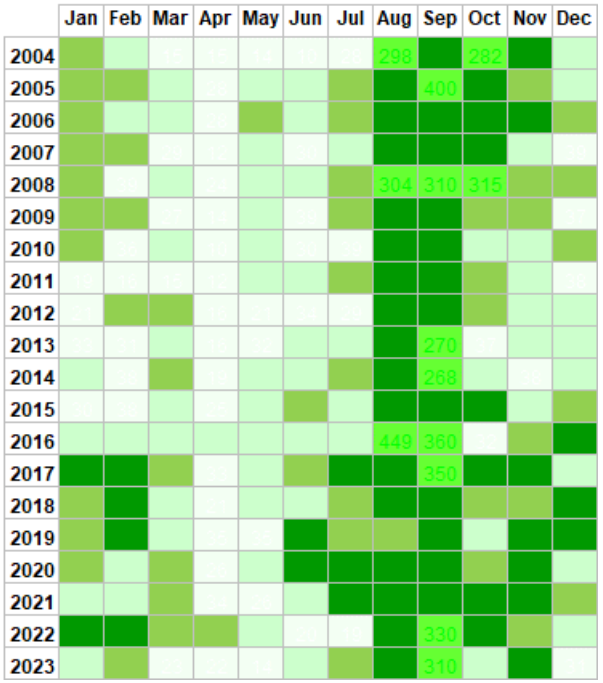


Figure 7*. Diagram summarising monthly maxima data for Canada Goose in the period 2004-23.*

Breeding. This species has frequently been confirmed breeding on-site and since the first records in 1987 breeding has been reported in all years with the exception of 1992, 1996, 1999, 2001 and 2002.

Photo courtesy of Gill Merritt

Additional Information: *Appendix 3* - WeBS counts; *Hybrid Geese*; *Appendix 4* – Year Lists.

[14] If all years were the same then we would expect to see 5% of corrected days-recorded in each year. While there is some variation between years (range 3.5% to 8.8%) it can be seen in the plot this is relatively small i.e. frequency of occurrence does not change significantly through the years. However, when we look at the proportion of significant counts per year, it is quite a different picture with a range between 0% and 22.6% - indicating birds are much more abundant in some years than in others.

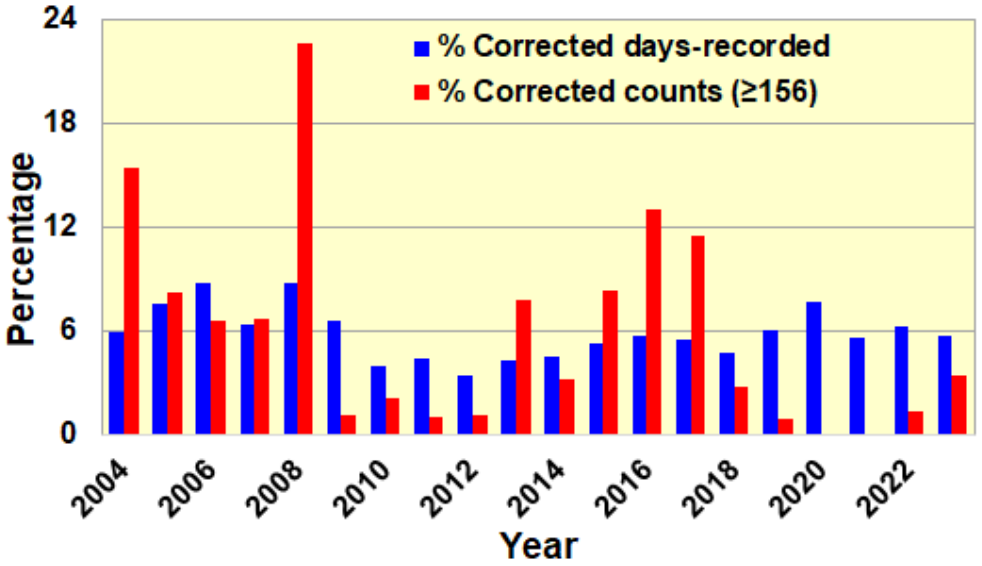


Figure 8. *Plot showing the percentage of the total number of corrected days-recorded and significant counts from the period 2004-23 for Canada Goose.*

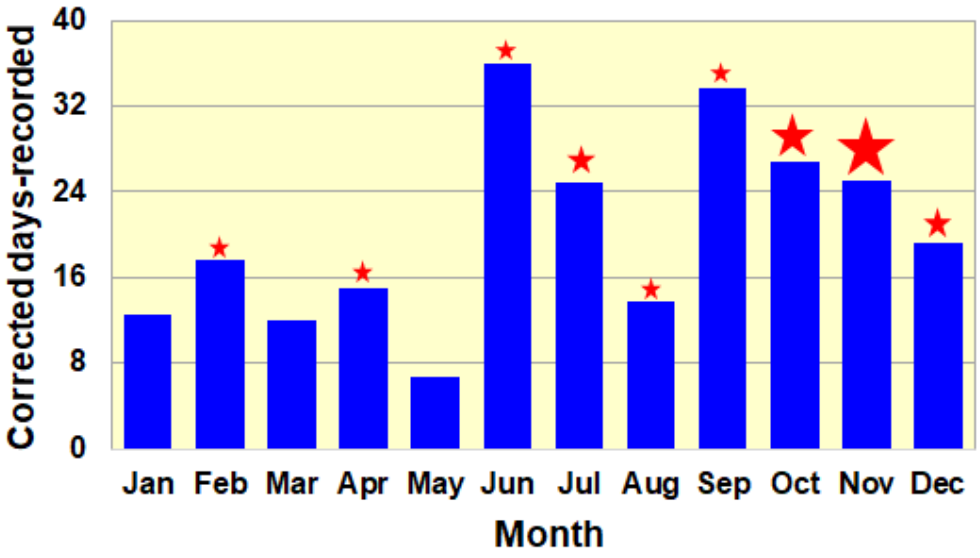


Figure 9. *Month-by-month distribution of corrected days-recorded for Barnacle Goose (2004-23). Months-producing counts of ≥2 birds are indicated (★) – the size proportional to the number of counts i.e., range of 1-4.*

Barnacle Goose *Branta leucopsis*(3, 14;12) [≥2] [All]

Frequent/irregular visitor with highly variable pattern of occurrence, most birds probably coming from the rapidly expanding Category C population[15]*. Most occurrences are of single birds with counts of two or more birds comprising just 10.4% of counts.*

2023. A bird found with Canada Geese on the 27th September was present until the 30th, after which there was another record (presumably the same bird) on the 7th October.

Pre-2004.: First recorded at Tyttenhanger GPs in 1987, the feral population in Bedfordshire was not recognised as part of the Category C population in the British Isles until 2005. For the latter reason the species is treated in the Herts Bird Reports as an exotic/escaped species up until this time which may well have influenced how the species was reported. Nevertheless, records prior to 2004 are as follows: one bird on the 20th and 26th September 1987; three birds on the 19th and 20th May 1990; single birds on the 14th March and 19th and 23rd September 1993, a single bird seen on 11 dates between the 21st November 1993 and 13th February 1994 – which was joined by a second bird on the 3rd and 5th December 1994. The remaining records in this period are all of single birds on the following dates – the 27th March 1994; the 10th and 12th May 1995, the 17th September 1995; the 14th September 1996, the 13th August 1997, the 10th October 1997, the 23rd November 1999 and the 6th May 2003. This makes a total of 26 days-recorded before 2004.

Table 13*. Days-recorded for Barnacle Goose in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Days-recorded	2	0	3	1	7	0	11	2	0	0	20	1	35	83	28	1	0	0	3	4

2004-23. Since 2003 most years have generated between zero and three days-recorded, however there have been several years with considerably more records (see *Table 13*). Despite the variability in the pattern of occurrence the vast majority of days-recorded in this period (91.9%) have involved just a single bird. Also notable from the period 2004-23 are the following:

[15] http://onlinelibrary.wiley.com/doi/10.1111/j.1474-919X.2005.00470.x/abstract;jsessionid=E3461C9D5C618E72ABBC0672A4F05196.f04t01

- There has been a total of 201 days-recorded in this period, which after correction for coverage have the monthly pattern of occurrence shown in *Figure 9.*
- A flock of 12 birds seen on both the 13th and 30th July 2006 is the record count for the site.

The period between the 12th February 2016 and the 5th May 2018 produced a total of 146-days recorded. This appears at first sight to be a single bird that made frequent visits. However, substantial gaps in the days recorded are noted between June and September 2016 and January and June 2017, and in addition, the period between 17th September and 10th January 2017 produced 14 days-recorded – six of which involved counts of two or more birds suggesting the simplest explanation may not necessarily be correct.

Additional Information: *Hybrid Geese*; *Appendix 4* – Year Lists.

Egyptian Goose *Alopochen aegyptiaca* (5, 18; 10) [≥6] [All]

Irregular visitor, becoming more regular. Can occur in all months of the year with counts of 6 or more birds being significant - all records are still considered notable.

2023. In keeping with the other regularly-occurring geese this species seems to be doing relatively well. With 56 days recorded this year (corrected to 103 days to account for coverage) there were records from every month – with a large number from the Willows Farm/Fishing Lakes end of the site - and a maximum count of 8 birds on the 4th October. There were 6 significant counts this year (≥6 birds) scattered across the year with one each in January, February, March, September, October and November. Also notable this year was a report of a bird in the company of two others on the 29th of December that was missing a foot.

Pre-2004. Admitted to Category C of the British List in 1971 from the introduced population in north Norfolk, it has subsequently spread to much of the south-east of England. In Hertfordshire the first recorded breeding was surprisingly in 1938 but a breeding population did not fully establish until the early 2000s and was generally quite scarce up until then. The first record at Tyttenhanger GPs was on the 9th April 1990 - when it was still treated as an escape in the Hertfordshire Bird Report; the next record was 3 years later with three on the 14th November 1993 and the final record in this period was of eight birds on the 26th August 1998. It is possible there were more records in this period but uncertainty about the status of birds in Hertfordshire may have resulted in under-reporting or poor data-capture.

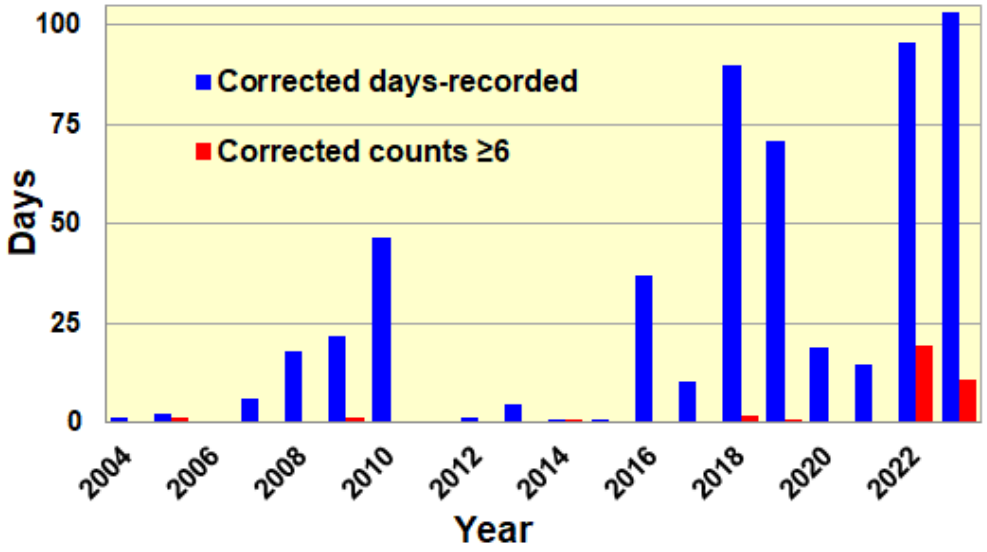


Figure 10. *Corrected days-recorded and corrected counts of ≥ 6 birds for Egyptian Goose in the period 2004-23*

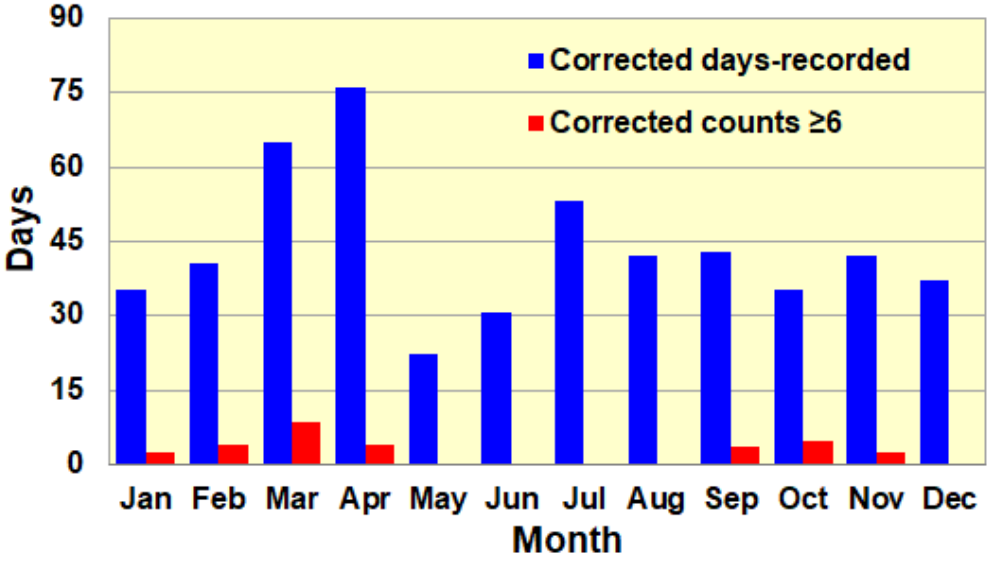


Figure 11 *Corrected days-recorded and corrected counts ≥6 birds by month for Egyptian Goose in the period 2004-23.*

2004-23. Since 2004 this species has shown a variable pattern of occurrence as shown in *Figure 10* but has clearly become a more frequent visitor over the last several years. The monthly pattern of days-recorded (*Figure 11*) is suggestive of a weak spring passage[16] and then a post-breeding dispersal. Interestingly, the daily maximum count for this species shows a rather odd distribution i.e., 23.2% of days-recorded comprise just a single bird, but 49.9% have a maximum count of two birds. This pattern is most pronounced in those years with greater than 30 days-recorded and taken with the year-to-year variability suggests that pairs visit repeatedly over a period of time before moving on. The latter model is supported by records from 2010 in which the 38 days recorded between the 5th February and 12th December all involved two birds with over 30% of the records noting the presence of a rather distinctive hybrid (see *Hybrid Geese*). Counts of six or more birds are considered significant and while only 26 have been made these show a monthly distribution in keeping with that for-days recorded *(Figure 11)*. In contrast, it is notable that of the 26 significant counts 14 were made in 2022 with 2023 producing the next best total with six; the maximum on-site count was ten birds on the 1st October 2005 *(Figure 10)*.

Additional Information: *Hybrid Geese*; *Appendix 4* – Year Lists.

Mandarin *Aix galericulata* (5, 15, 4) [All]

Irregular visitor, becoming more regular in the recent past; all records are notable.

2023. A male on the Main Pit on the 6th May was the only record for the year.

Table 14. *Monthly distribution of days-recorded for Mandarin (1988-2023).*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Days-recorded	0	2	8	8	11	2	4	7	5	6	0	1	**54**

Pre-2004. A male on the 3rd May 1988 (in the Hertfordshire Bird Report as a pair) was the first site-record with males subsequently recorded on the 17th-28th March 1990, 25th October 1991 and the 16th April 1993. There then followed a gap of nearly 9 years before the next report on the 17th March 2002, when the first female for the site was reported on the 19th May 2002 followed by four birds on the 4th and 19th September 2003 (a site-record count).

2004-23. Since 2003 birds have been seen in most years i.e., 15 of the last 20, with just one or two days-recorded in most years but with good years in 2003 (6 days), 2004 (5 days), 2008 (5 days), 2017 (7 days) and 2018 (8 days).

Summary. Since the first bird in 1988 there have been a total of 54 days-recorded (involving a total of 60 birds). For those birds where the age/sex was reported (40 birds), 22 were males and 18 were female-types. *Table 14* shows the distribution of all days-recorded for the period 1986-2023 and shows a slight bias towards spring records with a decided lack of reports in the winter months (November to February).

Additional Information: *Appendix 4* – Year Lists.

Shelduck *Tadorna tadorna* (4, 19, 12) [All]

Previously a regular visitor (in small numbers) that has also bred in two years since first recorded in 1986. Historically counts of ≥4 birds are statistically significant but a recent decline in numbers means that all records are now considered noteworthy.

2023. Recorded on a total of eight days between the 19th March and 8th May all counts were of single birds apart from a count of two birds on the 15th April. **Coursers Road** produced 41 days-recorded from the 27th February to 6th August with a maximum count of two birds on 12 dates - including reports of two juveniles in late July/early August that were presumably not bred locally i.e. no other records support breeding in the Tyttenhanger area this year.

Pre-2004. The first records for the site are from August 1986 with records every subsequent year through until 2003 - with the exception of 1999. As shown in *Figure 1*2 there have been several peaks and troughs in the occurrence of this species with overall numbers driven by birds being present in the breeding season i.e. those years with most days-recorded are those where pairs have been present through much of the breeding season. The marked decline in the late 1990s has no apparent driver, although it is possible that levels of disturbance may

[16] This species is a rather early breeding species and so the March-April peak may suggest birds are wandering in the search for suitable nest sites.

have discouraged potential breeding birds. However, the decline since 2012 is undoubtedly due to the decreasing site-suitability of Tyttenhanger GPs as a breeding site, the greater suitability of other sites in the Upper Colne Valley and the general decline in the Hertfordshire breeding population[17]. The maximum on-site count was of 12 birds during the breeding event of 1994 (see *"Breeding"* below).

Table 15. *Days-recorded for Shelduck in the periods 1983-2003 and 2004-23 and counts ≥2 birds for 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Days rec'd 1983-2003	13	22	46	73	52	13	4	9	6	8	7	10	**263**
Days rec'd 2004-2023	41	98	132	141	99	42	5	23	5	11	3	5	**605**
Counts ≥2 birds 2004-23	9	49	88	121	79	33	1	8	1	0	1	0	**390**

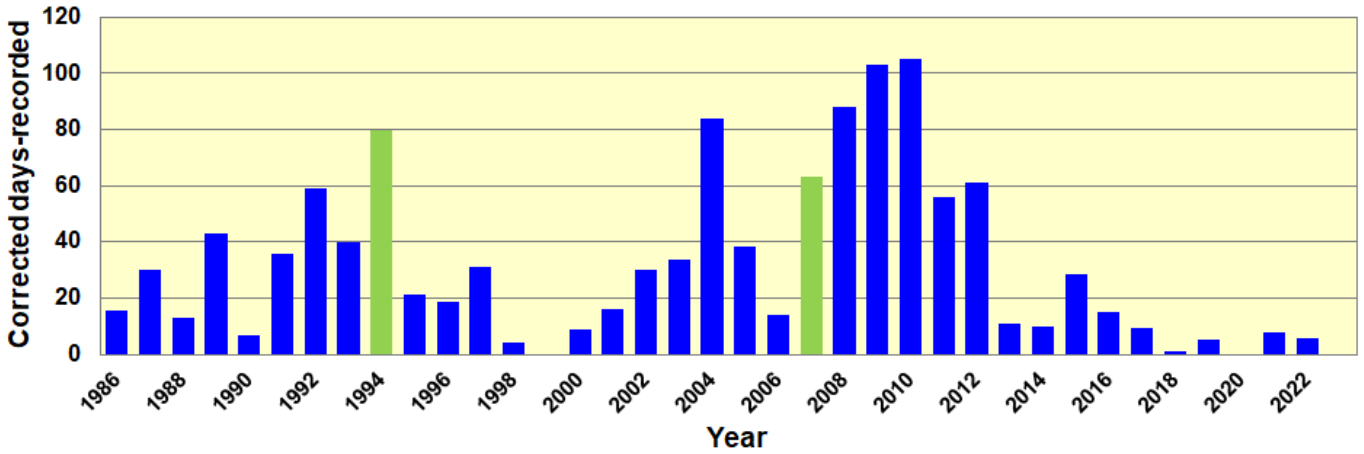


Figure 12. *Corrected days- recorded for Shelduck from 1986-2023. The years shown in green are those years in which breeding was confirmed.*

2004-23. With the major driver for the occurrence of this species in the Upper Colne Valley being the small breeding population, it is no surprise the pattern of occurrence shows a marked bias towards the early part of the year when birds are seeking suitable nesting habitat. In fact, daily maxima of two or more birds account for 64.5% of all days-recorded and is particularly noticeable in the period between March and June. Records after the end of June are rather irregular and, in most instances, (34 of 44 days-recorded) occurrences outside the July-October window often refer to juvenile bird(s). In fact, all 11 days-recorded for October are from 2015 and are all of a single juvenile bird on various dates between the 2nd and 18th October (also reported on the 22nd, 23rd and 24th September). The maximum count in this period was of seven birds on the 26th April 2010.

Breeding. Despite the presence of birds on-site throughout the summer months in many years (*Table 15*) there have only been two instances when this species has bred on-site i.e. 1994 and 2007. In the former the parents hatched ten young – which contributed to the highest on-site count of 12 birds – at least four of which fledged i.e. eight young were still present on the 9th July, four of which were able to fly at the time, the last relevant record being of 4 juveniles on the 16th July. The second breeding pair to hatch young was in 2007, but after hatching on the 8th June the single chick didn't appear to survive past the 17th June.

Additional Information: *Appendix 4* – Year Lists. See also *Table A2-2*.

Gadwall *Mareca strepera* (5, 20, 117) [≥40]

Recorded throughout the year, it became more common in the late 2010s but has declined in recent years. An irregular breeding species that first breed in 1989.

2023. Ostensibly a poor year with just 72 days recorded, after correction for coverage it was very similar to 2022 but continued the downward-trend from the peak of 2018-19 (see *Figures 13* and *14*). Despite the recent decline, monthly maxima were still above the 2004-23 median in seven months (*Table 16*) and the average count was 11.3 compared to a median of 7.5 for the period 2004-23 (data not shown). The highest count of the year was of 110 birds on the 9th July (a July record) with 52 birds also counted on the 2nd of the month.

Pre-2004. The first record in the Tyttenhanger GP dB is from 5th April 1985 (two birds) with the next record not coming until the 13th September 1987. Inclusion of Tyttenhanger GPs into the WeBS counts in 1987 produced low counts (invariably under 10 birds) in subsequent years through until 1997, in many cases no birds at all were counted (see *Figures 13*). The first double

[17] Since 2013 there have only been two successful breeding attempts in Hertfordshire – 2019 at Rye Meads (the young failing to fledge) and 2022 at Coursers Road GP.

figure count for this species was of 11 birds on the 19th October 1997, with numbers improving steadily after this through until the end of 2003 - the best count to this point being of 34 birds on the 12th January 2003. Interestingly, the relative scarcity of this species at Tyttenhanger and the Upper Colne Valley generally was not seen elsewhere in southern Hertfordshire and even in the late 1980s sites in the east of the county (Cheshunt GPs in particular) were regularly producing counts of 100 birds or more. By the late 1990s these sites were joined by Stocker's Lake and Tring in producing regular three-figure counts, but it was to be some time before Tyttenhanger GPs produced its first three-figure count.

Table 16. *Month-by-month summaries for Gadwall for 2023 and the periods 2004-23 and 1983-2003. See also Figure 19.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	10	20	12	8	4	20	110	30	30	22	12	2
Median 2004-23	19	15	18	9	7	16	18	24	17	19	11	15
Maximum 2004-23	64	64	61	50	14	52	110	62	100	117	107	66
Maximum 1983-2004	34	30	20	14	8	6	7	9	10	11	20	13

* Includes young birds

2004-23. The period 2004-2023 has seen this species wax and wane at Tyttenhanger GPs - both in terms of days-recorded/recording rate (see *Figure 13* and *15*) and abundance (*Figure 14* and *16*). The last few years have shown a slight decline in overall numbers since the obvious peaks of 2017 and 2018 and despite the stellar breeding year in 2021 (*Table 17*), numbers continue to fall. While numbers have fallen, the recording rate appears to have been reasonably stable in the recent past *(Figure 15)* suggesting less birds but occurring with the same frequency as before. As alluded to above, a three-figure count did eventually come with 117 birds counted on the 24th October 2017 – which still remains the highest on-site count. Nevertheless, further three-figure counts were made in October and November 2017 and then in September and October 2018 (see *Table 16*). The distribution of corrected days-recorded and significant counts is illustrated in *Figure 19*, showing reasonably consistent occurrence through the year but with peaks in numbers in September and November.

Breeding. Despite the low numbers prior to the mid-2000s this did not preclude breeding and there were confirmed records in 1989 (a female with 6 young) and 2003 (a single brood of one young) – both years seeing the first young reported on the 1st August. However, from 2004 onwards this species has become a more frequent breeder with broods produced in ten of the last 20 years with at least four and possibly five broods produced in 2021 *(Table 17).*

Postscript 2024. While the maximum count in December 2023 was the lowest recorded for the month since 2000, initial thoughts considered this due to low coverage. However, data from 2024 shows numbers appear to have declined further with the first count of ten or more birds not until the end of June, and with no records of breeding. Maybe the golden days for this species at Tyttenhanger GPs have passed?

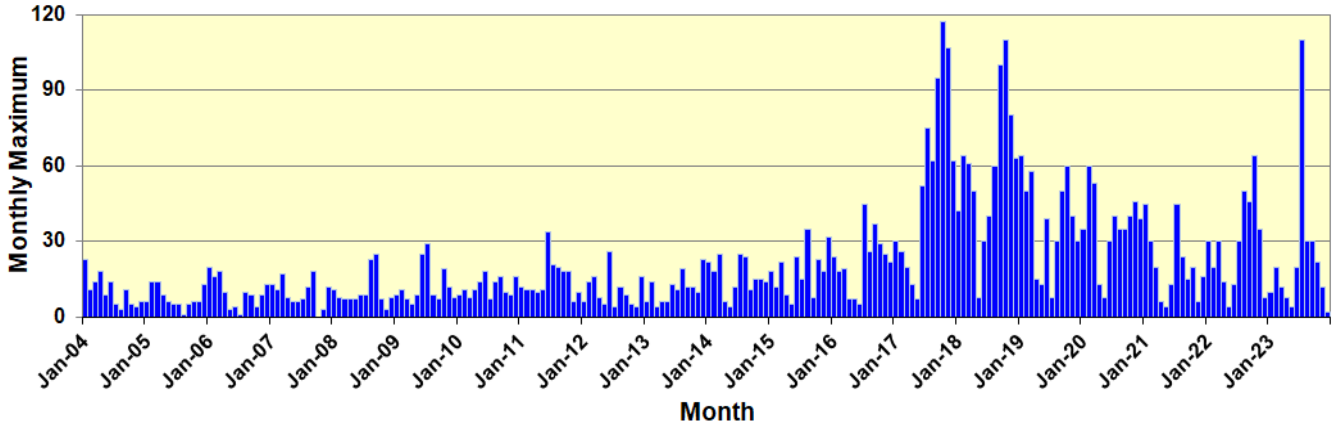


Figure 13. *Monthly maxima for Gadwall in the period 2004-2023. See also Figure 16 for the annual distribution of significant counts.*

Table 17*. Confirmed breeding of Gadwal at Tyttenhanger GPs in the period 2004-23; the number of broods are shown in brackets.*

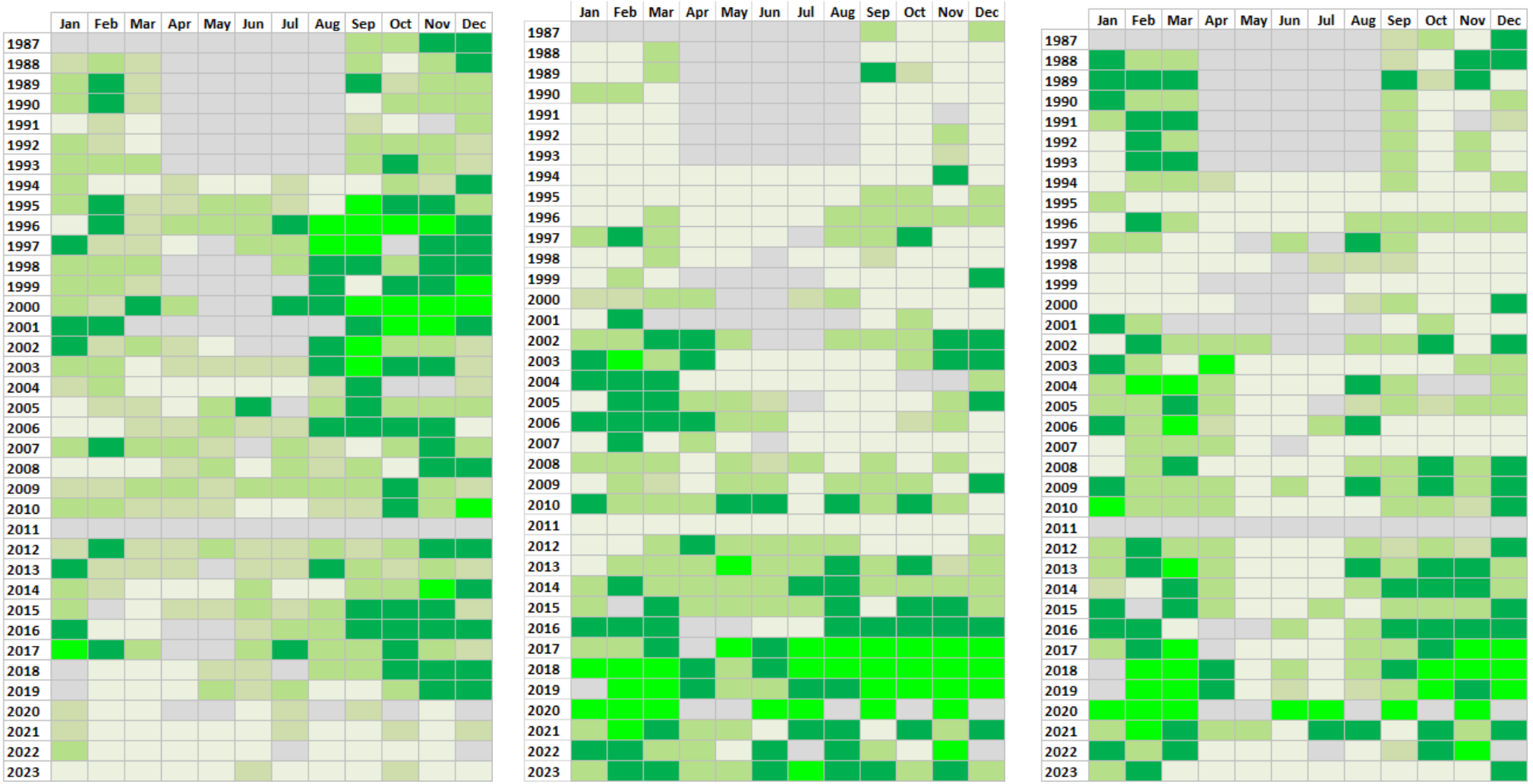
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Breeding	Yes (1)	Yes (1)	Yes (1)	Yes (1)	No	No	No	No	No	Yes (1)	Yes (2)	No	Yes (1)	Yes (1)	No	Yes (2)	No	Yes (4)	No	No

Additional Information: WeBS Counts – *Figure 14; Appendix 4* – Year Lists. See also *Table A2-1, Table A3-1* and *Figure 19* and.

a. Mallard

b. Gadwall

c. Teal



Mallard	Gadwall	Teal
No count		
0	0	0
1 to 30	1	1
31 to 55	2 to 7	2 to 6
56 to 110	8 to 29	7 to 29
≥120	≥30	≥30

Figure 14. *Summary of WeBS counts for the period 1987-2023 for the species shown above with the corresponding key shown to the left. Further details regarding the plots can be found in the section Monthly Maxima and WeBS Counts and plots for other species can be found in Appendix 3.*

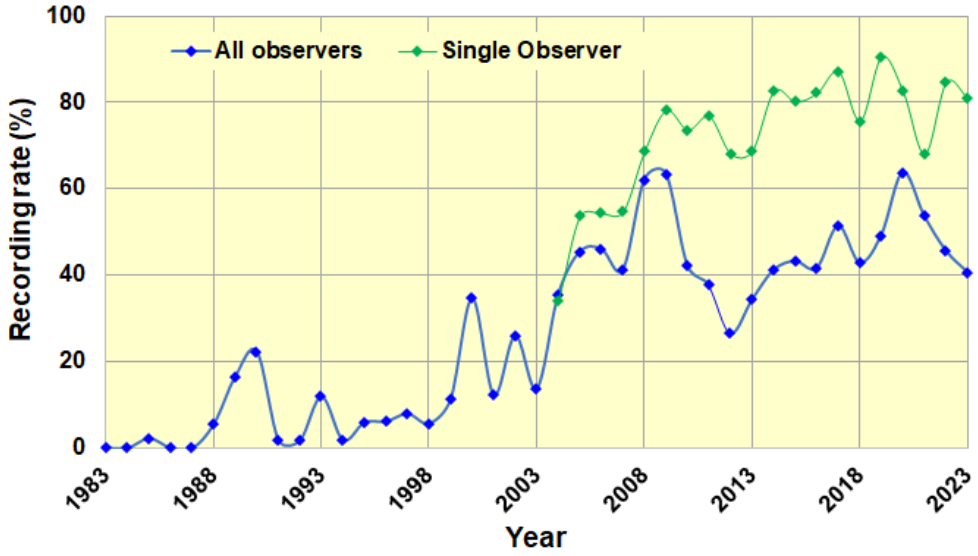


Figure 15. *Recording rate for Gadwall in the period 1983-2023 (multiple observers) along with data from a single observer for the period 2004-23.*

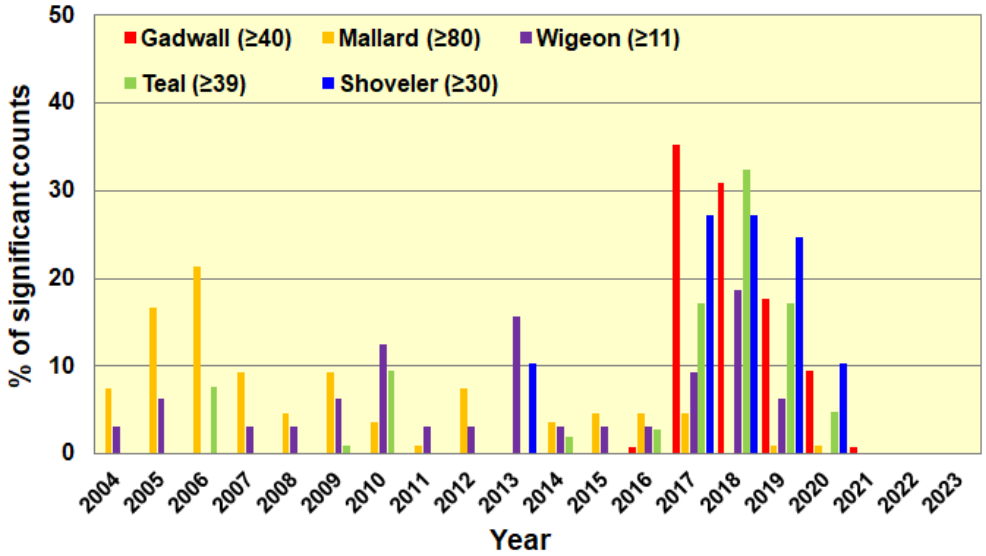


Figure 16. *Distribution of significant counts - by year - for the dabbling ducks Gadwall, Wigeon, Mallard, Teal, and Shoveler at Tyttenhanger GPs. To standardise the data the number of significant counts in each year for each species are shown as a percentage of the total number of significant counts.*

Wigeon *Mareca penelope* (5, 20, 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 considered significant.

2023 With just three days recorded for the year – all in the second winter period (counts of single birds on the 8th September, 29th September and 28th October) – the poor end to 2023 had clearly carried through into this year's first winter period. This is the only winter (2022/23) since WeBS counts started in 1987 which has failed to produce a day-recorded. Ironically, every month of the year, apart from November and December, had failed to produce a count for this species sometime in the period 2004-22 and this year managed to complete the set., with both November and December drawing blanks. All-in-all a rather sad end to the on-site narrative for this species in the modern era.

Pre-2004. Wigeon is very much a duck of autumn and winter (see *Figure 19*) which generally occurs in relatively small numbers compared to the other regular dabbling ducks. The first record in the Tyttenhanger GPs dB is from the 12th November 1983, with a total of just two records in the Tyttenhanger GPs dB until the start of WeBS reporting in September 1987. early years did produce a count of 44 birds on the 5th January 1985 which wasn't to be beaten for a further 12 years. From 1988 to 2003 recording rates for this species ranged between 1.7% and 14.8% with a median value of 5.3% - compared to a range of 4.0% to 22.5% in the period 2004-23 (median 10.9%). However, as this is primarily a winter duck, a partial analysis was also carried out for winter periods i.e., from October to March (inclusive). The latter analysis showed the winter of 1996/97 was particularly notable producing 14 site-significant counts (≥11 birds) with 4 of these being of 40

birds or more i.e. 40 on the 20th January 1997, 44 on the 18th October and 29th November 1996 and 77 (a site record) on the 13th January 1997. Interestingly the good numbers in the latter winter were observed across most Hertfordshire sites (see Smith *et al.,* 2015, p46) but strangely not at the county's premier site - Tring Reservoirs. Most of the remaining period through until 2003 was fairly ordinary for this species, although the winter of 2002/03 did produce several site-significant counts – albeit the maximum was only 19 birds on the 12th October 2002 (see *Figure 17*).

Table 18. *Monthly statistics for Wigeon from the period 2004-23 including monthly maxima for 2023, median and maxima for the period and maxima for the period 1983-2003.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	0	0	0	0	0	0	0	0	1	1	0	0
Median 2004-23	5	2	2	0	0	0	0	0	6	7	4	5
Maximum 2004-23	44	7	10	4	3	6	6	10	16	21	12	33
Maximum 1983-2003	77	5	10	2	1	0	0	3	29	44	44	19

2004-2023. The winter periods (October to March) from 2003/04 until 2019/2020 show a reasonably consistent pattern of occurrence for this species (see *Figure 18*) - although the winter of 2012/13 was especially poor producing just four days recorded (corrected for coverage to 6 days). The winters of 2013/14 and 2018/19 were clearly the best in this period – the latter proving to be a peak before the decline over the following winters ending in the complete blank in 2022/23. As mentioned above, this species tends to occur at Tyttenhanger GPs in relatively small numbers and of the 651 days-recorded in this period 69.0% of those days produced counts of just 1-3 birds. Counts of 11 birds or more are significant and the distribution of these counts between 2004 and 2023 can be seen in *Figure 17* – with 2010, 2013 and 2019 clearly being the best years[18]. The best count in this period was 44 birds on the 27th January 2007.

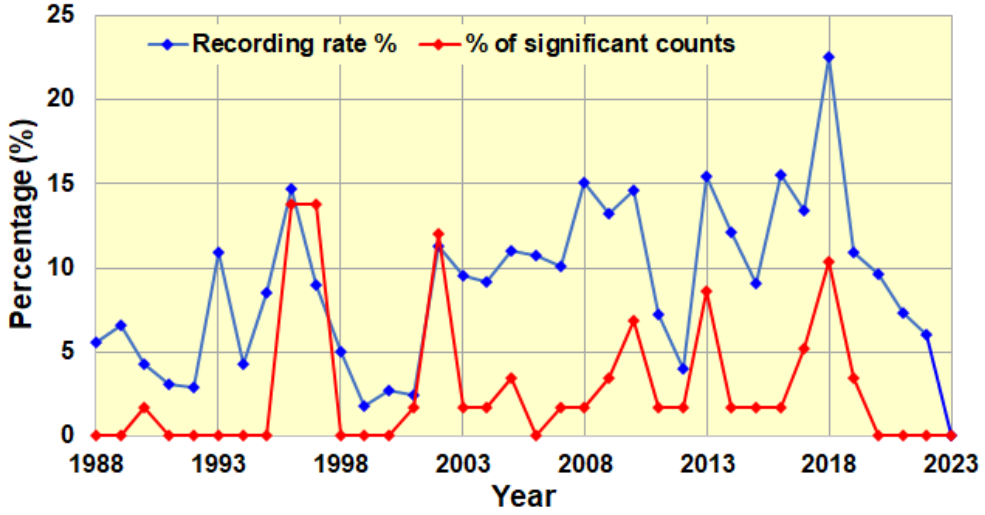


Figure 17. *A summary of recording rate and percentage of the total number of significant counts for Wigeon in the period 1988-23*

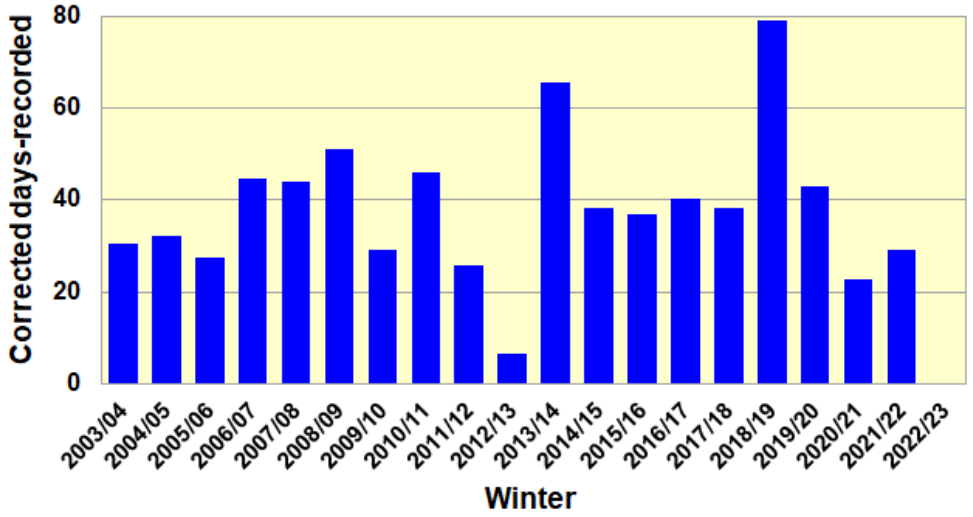
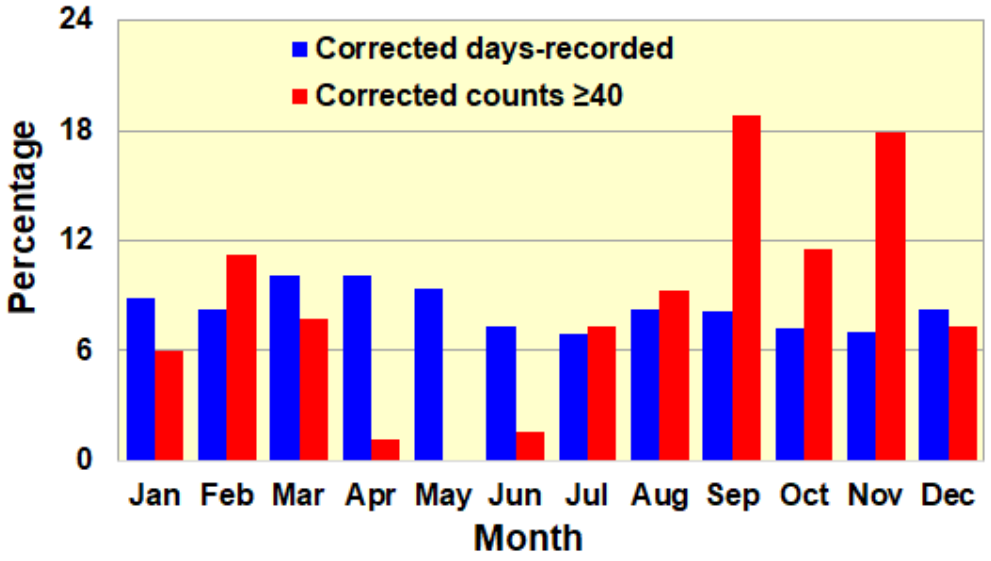


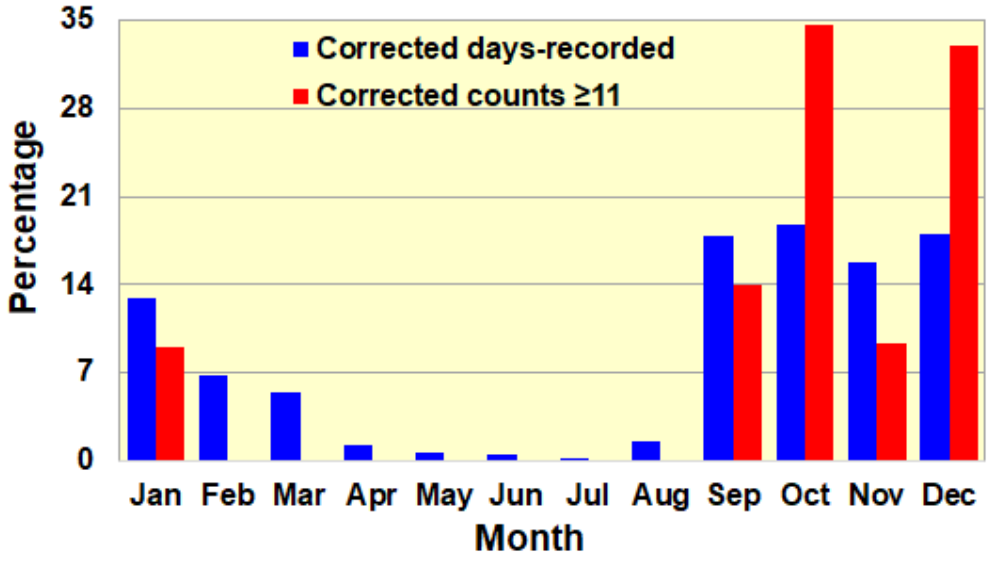
Figure 18. *Corrected days recorded for the winters from 2003/04 to 2022/23 for Wigeon. The result in 2022/23 is not an omission of data i.e. there were no days-recorded in this winter.*

Additional Information: *Appendix 1* – Migrant Arrival and Departure *(Figure A1-1); Appendix 3* - WeBS counts*; Appendix 4* – Year Lists. See also *Table A2-2*, *Figure 16* and *Figure 19*.

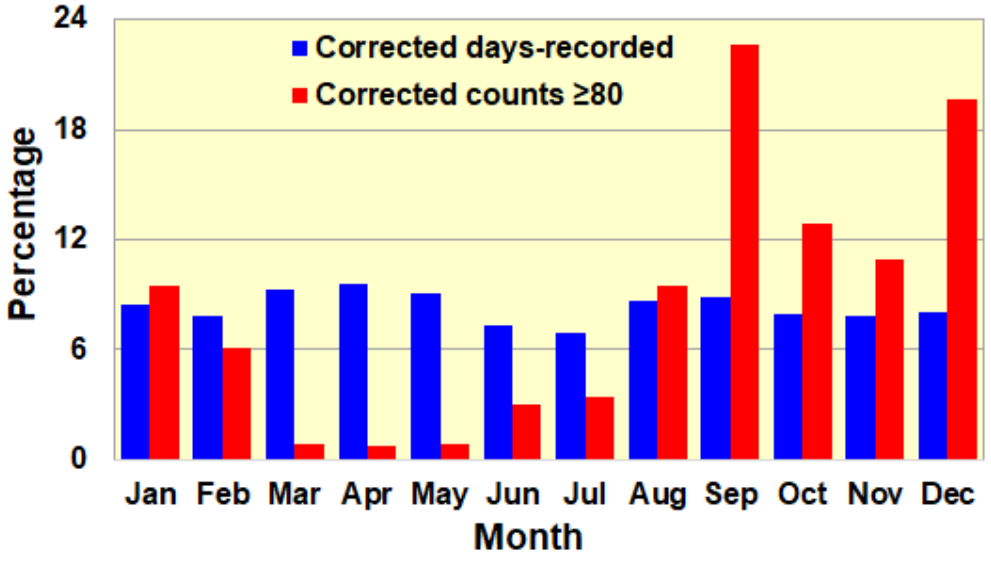
[18] Analysis for *Figure 17* is based upon calendar years rather than winter periods as the period before 2003 was not amenable to analysis by winter period.



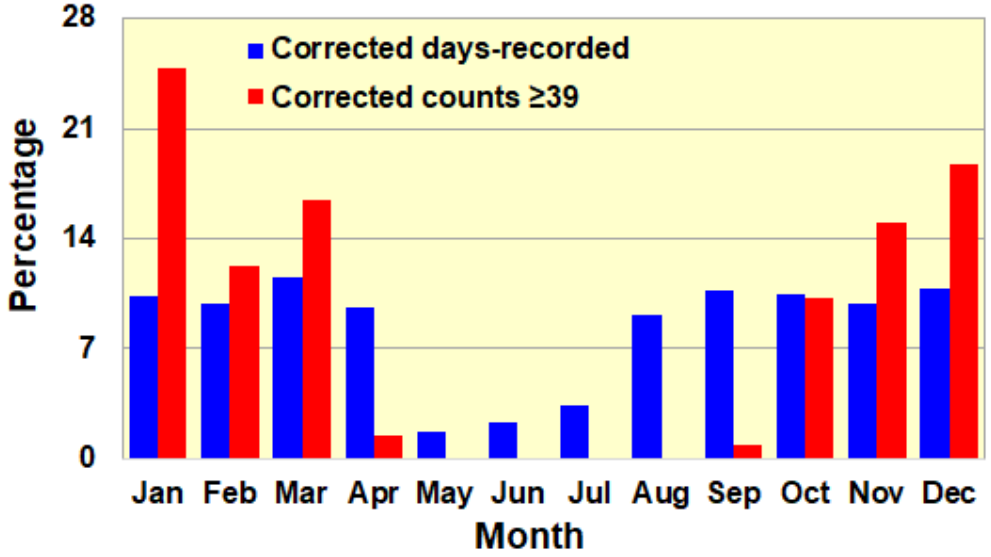
A. *Gadwall*



B. *Wigeon*



C *Mallard*



D. *Teal*

Figure 19. *Monthly distribution of the percentage of corrected days-recorded and significant counts for A. Gadwall, B. Wigeon, C. Mallard and D, Teal. Data for all plots are from the period 2004-23.*

Mallard *Anas platyrhynchos* (5, 20, 250) [≥80]

Common breeding resident present throughout the year. Birds were released for wildfowling in the 1990s through into the 2000s with the practice of larger releases ceasing around 2007.

Table 19. *Monthly maxima for 2023 with corresponding median and maxima for the period 2004-23 show along with the number of significant counts (≥80 birds) from the same period and monthly maxima for 1983-2003.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	15	12	10	20	16	21	43*	15	18	29	10	30
Median 2004-23	56	40	23	25	47	50	40	70	57	63	62	75
Maximum 2004-23	168	101	83	81	92	120	105	193	250	152	146	165
Counts ≥80 2004-23	10	6	1	1	1	3	4	12	26	14	11	19
Maximum 1983-2003	110	75	60	45	40	60	100	230	250	225	200	250

* Includes young birds.

2023. Although there were just 2 broods reported this year (one of 2 young on the 29th April and the other of 6 on the 1st July) the count of 43 birds on the 1st July suggests there may have been some earlier broods that went unrecorded i.e. see the monthly maxima for June and August (*Table 19*). Breeding aside, numbers were generally low this year and it failed to produce a significant count (≥80 birds) - which is the third year in a row this has occurred, the last significant count being in August 2020 (see *Table 19* and *Figure 20*).

Pre-2004. Monthly maxima data for this species go back to the second half of 1983, although regular WeBs reporting for Tyttenhanger GPs (summarised in *Figure 14*) didn't commence until 1987. The maximum count in this period was of 250 birds on the 18th December 1983 and 21st September 1987 (record site-counts) with other counts of 200 or more made on the 13th November 1983, 13th October 1996, 24th August 1997, 17th September 2000, 22nd October 2000, 17th December 2000, 8th September 2002 and 7th October 2001. While the practice of releasing birds for wildfowling may have affected some of the above counts, a pattern of higher counts during late autumn and early winter seems to hold even in those years before and after releases occurred (see *Figure 14*)[19]. In addition, it is worth noting the good winters between 1995/96 and 2001/02 were generally amongst the better winters across the whole of the county (see Smith *et al.*, 2015, p53) again indicating releases were not the sole driver behind numbers at Tyttenhanger GPs.

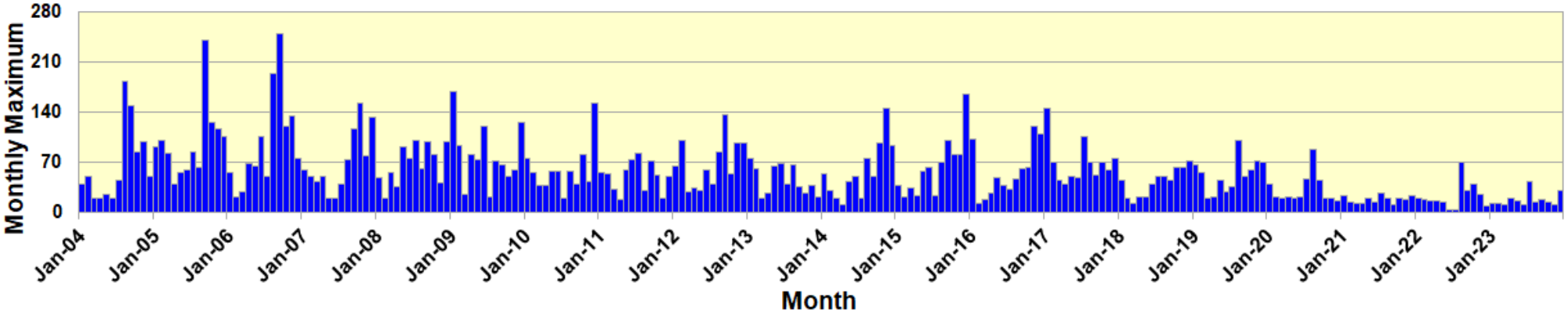


Figure 20. *Monthly maxima for Mallard in the period 2004-2023.*

2004-23 This period produced more consistent reporting although reporting rate still ranged between 23.3% and 65.1% (median of 46.0%), suggesting this species is generally under-reported.[20]. The maximum count on-site of 250 birds in this period was reached on the 16th September 2006 - equal to several counts in the previous period (see *Pre-2004* above). The majority of significant counts (≥80 birds) in the period 2004-23 were in the latter part of the year, with peaks in September and December (*Figure 19*). As autumn releases for wildfowling/game-shooting did not stop

[19] The Tyttenhanger GPs dB indicates in the comments-made that releases in numbers of 100 or more birds were certainly occurring in 1996 and 1997 but there are no comments after this time despite monthly maxima data suggesting large releases were possibly still on-going through until 2002. While the release of *Red-legged Partridge* for shooting was still occurring through until 2007 it seems the practice for Mallard had ceased before this – although opportunistic shooting of wildfowl was still an on-going practice for as long as the gamebird shoots continued.

[20] There is no indication that natural variation in numbers – and especially the lower numbers over the summer months – is a major factor for this as reporting rates across the 12 months of the year range between 30.8% and 39.1% (median of 37.1%) – albeit June (31.3%) and July (30.8%) show slightly lower rates

until 2007 this may have affected the number of significant counts at this time of the year. However, the only specific records in the Tyttenhanger GPs dB referencing release numbers are of 250 birds released on the 26th July 1997[21] and 130 on the 1st September 1996, with further indication of smaller releases coming from records of domestic-type Mallard in 2008, 2009 and 2010. Numbers slowly declined after 2007 (*Figure 20* and *Figure 14* – WeBS data) and have fallen quite dramatically in the last few years probably a result of several factors e.g., decline in habitat suitability, increased disturbance (especially around the Fishing Lakes), decreased coverage and poor visibility around the Main Pit.

Breeding. Prior to 2000, breeding records in the Tyttenhanger GPs dB are relatively few with the first record from 1988 mentioning a bird "incubating a tennis ball". Subsequently, there are confirmed breeding records from four of the six years between 1993 and 1998 with the 1988-92 Hertfordshire Bird Atlas also showing confirmed breeding. From 2000 this species has been a regular breeder on-site and breeding has been confirmed in all years with multiple broods in most years - 2006 (15 broods), 2009 (10 broods) and 2010 (10 broods) proving to be the most productive; as overall numbers have declined breeding has slowed considerably and in the last three years there have been a total of just 4 broods.

Additional Information: WeBS Counts – *Figure 14* ; *Appendix 4* – Year Lists. See also *Table A2-1, Table A2-3, Table A3-1, Figure 16* and *Figure 19*.

Teal *Anas crecca* (5, 20, 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) - all counts from this latter period are considered highly significant.

Table 20. *Monthly maxima for Teal in 2023 along with summary data from 2004-23 and 1983-2003.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	34	16	17	12	1	0	0	1	16	6	1	10
Median 2004-23	30	21	25	9	1	1	2	8	17	16	17	24
Maximum 2004-23	76	120	62	50	10	5	6	25	59	62	88	100
Maximum 1983-2003	54	50	55	17	2	4	6	10	25	31	49	85

2023. Although this year failed to produce a significant count (≥ 39 birds), the first four months of the year were reasonably good and produced a high count of 34 birds on the 1st January, followed by double figure counts in the following three months (*Table 20*). Records in the summer months were relatively scarce this year and it seems good numbers in the May-July window is now a thing of the past (*Figure 21*). The latter half of the year still managed to produce 16 days-recorded (for a total of 41 for the year), but with a maximum count of just 16 birds (10th September) it was a relatively poor return. The latter is especially true for the final quarter when November and December produced their lowest counts since 2002 and October the second lowest in the period 2004-23.

Table 21. *Summary statistics for Teal in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Days-recorded	93	103	116	106	145	132	101	79	74	77	99	96	108	125	135	127	142	70	88	41
Rec. rate (%)	38.9	39.3	41.7	38.4	53.3	48.7	34.9	27.3	26.9	28.4	34.3	32.4	35.6	38.9	41.7	39.6	44.0	28.5	37.9	23.2
Counts ≥39	0	0	8	0	0	1	10	0	0	0	2	0	3	18	34	18	5	0	6	0
Ave. count	6.0	5.9	9.9	4.2	4.2	7.9	11.3	4.9	6.8	9.6	10.7	5.6	11.4	17.9	23.8	17.0	10.5	4.9	11.1	6.5
Maximum	28	26	55	30	23	39	72	31	28	33	55	23	48	62	120	70	59	32	100	34

Pre-2004. As with most regular wildfowl, WeBS recording for this species began in the latter part of 1987 *(Figure 14)*. However, unlike many other species there are a number of database entries in this period through until 1990 and, as several of these are from the London Bird Report, it suggests it was relatively uncommon at the time. The suggestion is supported by the analysis in Smith *et. al.* (2015, p52) which indicates a small but consistent winter population[22] in Hertfordshire through the 1980s to the mid-1990s. The WeBS counts from this period (see *Figure 14*) show good numbers in the years from 1987 to 1997, with the Tyttenhanger GPs dB containing over 15 counts of 30 or more birds through this period and a maximum of 85 birds on the 24th

[21] There was a count of 53 made on the 25th July with a note that states "250 released the following day" – which were probably responsible for the counts of 230 and 250 on the 24th September and 21st September.

[22] Generally between 300 and 400 across the 10-12 major sites in the county.

December 1990. Numbers appear to drop in the period 1997-2003 – possibly reflecting the gap in the Hertfordshire Bird Club dB from 1998-2000 (see *Appendix 2*).

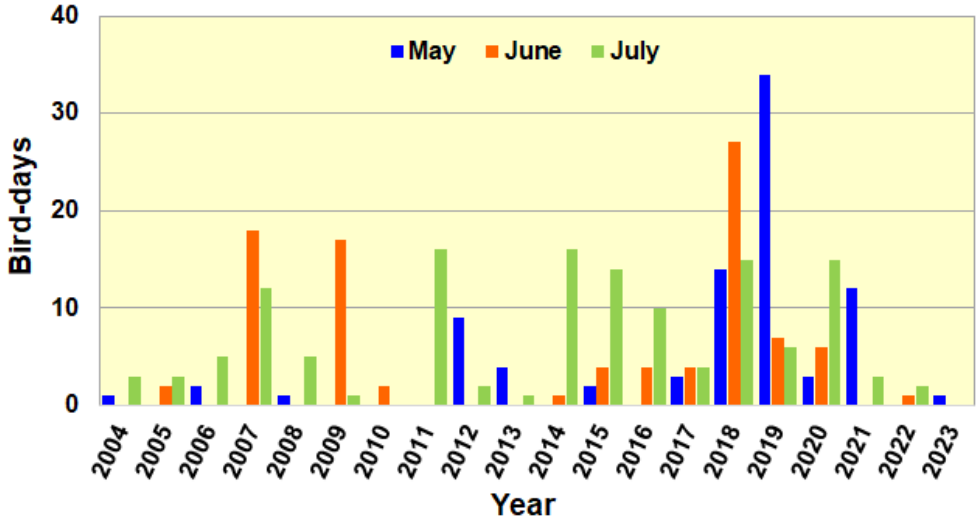


***Figure 21**. Bird-days across the summer month for Teal in the period 2004-23.*

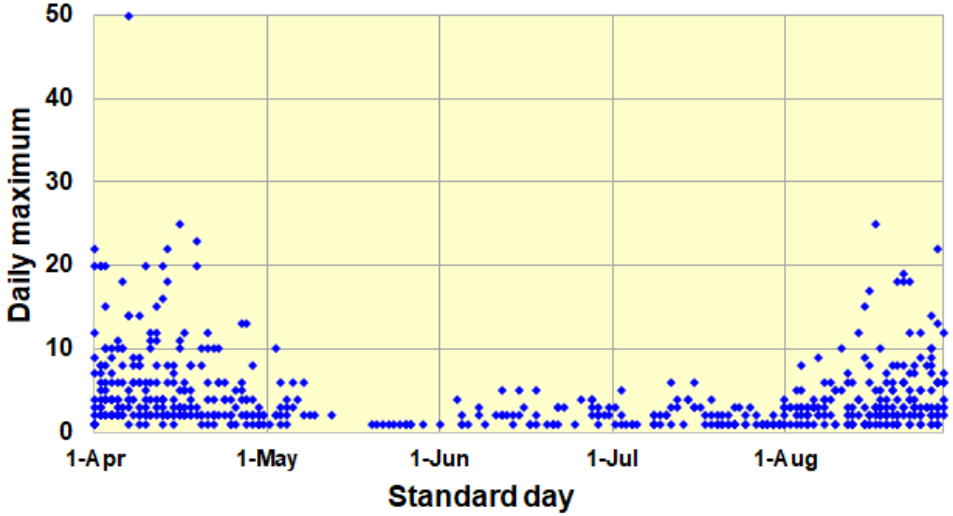


***Figure 22**. Plot showing all the counts for Teal in the period 2004-23 against the standard day from the 1st April to the 29th August.*

2004-23. The period from 2004 to 2023 has seen variable fortunes for this species with clear peaks and troughs as indicated in *Table 21*. However, it is clear the major peak was between 2017 to 2020 – especially in terms of numbers i.e. other years showed comparable numbers of days recorded/recording rate (the period from 2004-2009 for example) but the average counts were much lower. Interestingly this peak was a general phenomenon noted for most other common dabbling ducks i.e., Gadwall, Shoveler and Wigeon (see *Figure 16*) suggesting the site was particularly suitable at this time for dabbling ducks generally. Despite the tendency for birds to be present throughout the year, this species is ostensibly a winter-visitor - most common between November and January with some evidence of spring passage (*Figure 19*). The peak in numbers between 2017 and 2020 was also matched by a tendency for this species to over-summer at Tyttenhanger GPs (*Figure 21*), although summer records (May-July) have generally been quite common in this period -albeit in smaller numbers *(Figure 14* and *22)*.

Breeding. A rare breeding species in Hertfordshire (the last confirmed breeding was at Tring during the 1967-73 Hertfordshire Bird Atlas) records in the summer months have always garnered interest and as indicated above, records in the May to July window are always of interest at Tyttenhanger GPs. Most years Tyttenhanger GPs tends to produce records in the May to July window with the frequency of occurrence and numbers tending to increase from May to July[23]. Summaries of the bird days and counts in the April-August window are shown in *Figure 21* and *Figure 22* respectively. This tendency to over-summer undoubtedly led to the 2008-12 Hertfordshire Bird Atlas showing this as a probable breeding species in TL10X (almost certainly due to birds being coded as P- "Pair present in suitable nesting habitat"). There is however no evidence this species has ever bred at Tyttenhanger GPs and it still has not bred in the county for over 50 years.

Additional Information: WeBS Counts – *Figure 14*; *Appendix 4* – Year Lists. See also *Table A2-1*, *Table A3-1, Figure 16* and *Figure 19.*

[23] Total days-recorded and bird days respectively across the period 2004-23 are as follows: May = 37 and 84, June = 41 and 92 and July = 69 and 131.

Pintail *Anas acuta* (0, 11, 10) [All]

Previously an irregular to frequent winter visitor/passage migrant; the recent past has seen this species become scarce on-site.

2023. Not recorded.

Pre-2004: First recorded on the 17th February 1985 there are subsequent records in 1988, 1994, 1996, 1997 2000, 2002 and 2003 - most involving single birds but with a record count prior to 2004 of seven birds on the 10th January 2002 and two birds on the 13th September 2002 *(Figure 23)*. The 19 days-recorded in this period produced 26 bird days and involved at least 20 birds.

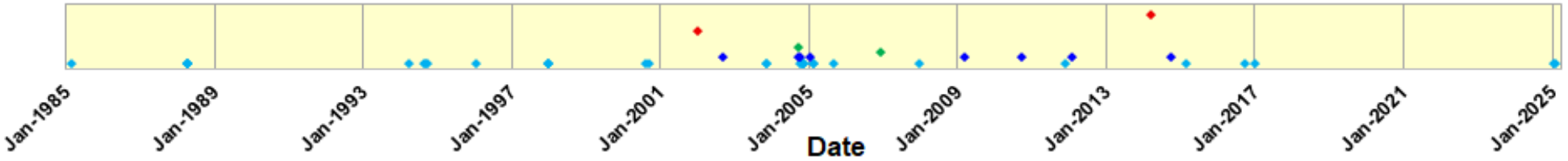


***Figure 23**. Distribution of days-recorded for Pintail between 1985 and early 2025 (see Postscript). The vertical is proportional to the number of birds, counts of single birds (♦) are shown along with counts of two (♦), three-four (♦) and more than four (♦).*

2004-23 A relatively frequent visitor in 2004 and 2005 (*Figure 23*), subsequent years up until 2016 tended to produce just one or two records – mostly of single birds– the clear exception being the ten birds seen on the 30th March 2014 (a record count for the site).

Summary. There have been 42 days-recorded for this species (19 before 2004), involving at least 60 birds (20 prior to 2004) with males and females reported at a ratio of 17:16 birds i.e., many reports have not included the sex of the birds. The last record on-site in this period was on the 24th December 2016. A summary of records for this species in the period 2004-2023 is shown in *Table 22* and *Figure 23*. The decline of this species on-site would appear to be primarily due to habitat unsuitability, and while there has been a general decline (37%) of this species in WeBs counts across England over the last 25 years[24], the species still occurs frequently at its long-term preferred sites in the county (around Tring especially) and less frequently at other sites.

***Table 22.** Days-recorded and bird-days for Pintail in the years 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Days-recorded	8	4	1	1	0	1	1	1	1	0	2	1	2	0	0	0	0	0	0	0
Bird-days	13	5	3	2	0	2	2	1	2	0	12	1	2	0	0	0	0	0	0	0

Postscript. January and February 2025 saw a pair moving around the general Tyttenhanger-Coursers Road- Coopers Green area with the male seen at least twice at Tyttenhanger GPs on the 22nd and 26th January – the first on-site record since December 2016. The occurrences at Tyttenhanger GPs are included in *Figure 23*.

Additional Information: *Appendix 4 – Year Lists*.

Shoveler *Spatula clypeata* (5, 20, 62) [≥30]

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

2023. Although 53 days-recorded (a recording-rate of 29.9% - *Table 24*) was a reasonable overall return, the lack of a significant count (≥ 30 birds), relatively few counts of 10 or more birds and a lack of birds in the summer months (May-July) (*Table 23* and *24*) suggest the decline from the peak years of 2017-2020 is on-going. Nevertheless, a longer-term perspective (*Figure 26*) shows the species still occurring more frequently and at higher numbers than it did in the last century. The maximum count for the year was of 25 birds on the 30th September; the absence of records in May and June is another indicator this species is not faring as well on-site as it did in the past.

[24] See Austin et al., (2023) https://www.bto.org/sites/default/files/wituk2122forweb.pdf.

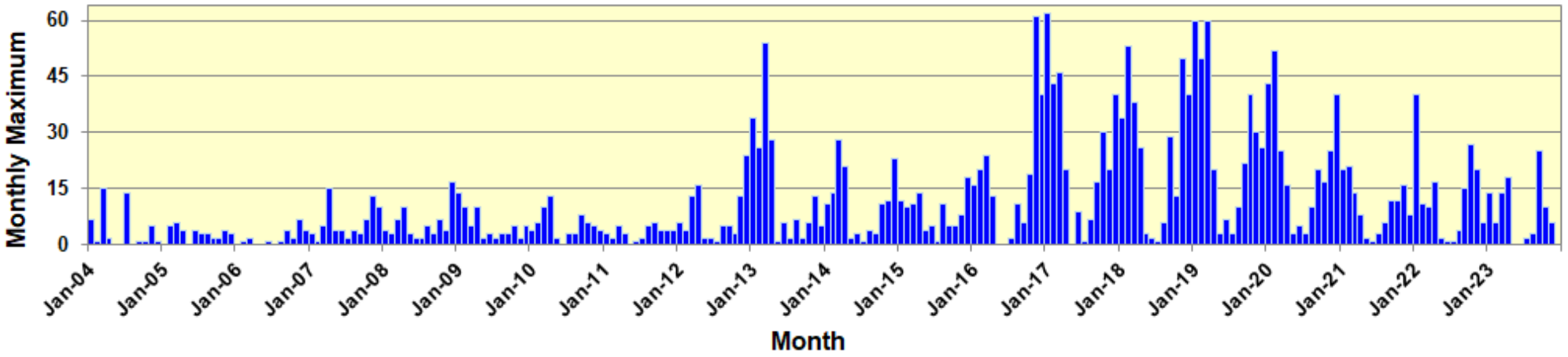


Figure 24. *Monthly maxima for Shoveler in the period 2004-23.*

Table 23. *Monthly maxima for Shoveler in 2023 along with the relevant median and maximum value for the period 2004-23.*

.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	20	6	14	18	0	0	2	3	25	14	6	4
Median 2004-23	13	10	14	15	2	2	2	5	6	7	13	9
Maximum 2004-23	62	53	60	28	4	9	14	11	29	40	61	40
Maximum 1983-2003	6	9	12	9	2	3	5	18	8	19	6	8

Pre-2004. For visitors new to Tyttenhanger GPs in the last decade it will probably come as a surprise to discover this species was an irregular visitor in small number for most of the period from 1983 to 2009. While the first record in the Tyttenhanger GPs dB is from the 20th October 1983, counts of more than 10 birds in the period from 1983 to 2003 are relatively uncommon and of the 208 days-recorded only eight of these produced counts in double-figures (4.2%); conversely only six days (3.2%) failed to produce a count i.e. indicating birds were highly notable on-site but occurred in relatively small numbers. The maximum count in this period was of 20 birds on the 20th November 1983 with 19 birds noted on the 14th October 1989 i.e., the period failed to produce a significant count (≥32 birds) (*Figure 26)*. Records from this period in the summer months (May-July) were slightly less common (7.7% of all days-recorded) than in the period after 2004 (12.8%).

2004-23. The years from 2017 to 2020 were clearly the zenith for this species at Tyttenhanger GPs (*Figure 2*4) despite the fact the only breeding event for the site took place in 2007 (see "*Breeding*" below). Nevertheless, while occurring through most of the year, and with a tendency to over-summer in many years (*Table 24*), there is clearly a bias for higher counts in the period December to March (*Figure 25*). Occurrence shows small peaks in November/December and March/April, which is suggestive of movement through the site in March/April – albeit in smaller numbers in April. The highest count for the site was of 62 birds on the 11th January 2017 with counts of 61 on the 7th November 2016 and 60 on the 31st January and 17th March 2019 following closely behind.

Table 24. *Summary data for Shoveler in the years 2004-23.*

	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Maximum	15	6	7	15	17	14	13	6	24	54	28	18	61	62	53	60	52	21	40	25
Counts ≥10	2	0	0	7	3	3	3	0	12	25	24	9	40	62	61	61	55	22	25	10
Rec. rate – all year (%)	9.6	11.8	10.4	30.1	42.3	33.6	24.6	20.1	21.5	26.6	35.6	34.8	35.6	34.0	31.5	37.7	48.6	39.4	44.8	29.9
Rec. rate May-July (%)	1.5	7.2	2.7	38.2	35.6	12.3	5.8	9.2	14.9	12.9	26.0	31.0	5.6	7.5	7.1	20.5	25.6	23.2	17.9	5.0
Average Count	3.2	2.2	2.3	3.5	2.8	2.4	3.5	2.3	5.8	10.6	6.1	4.4	10.8	15.2	16.0	13.7	9.3	5.5	6.3	5.5

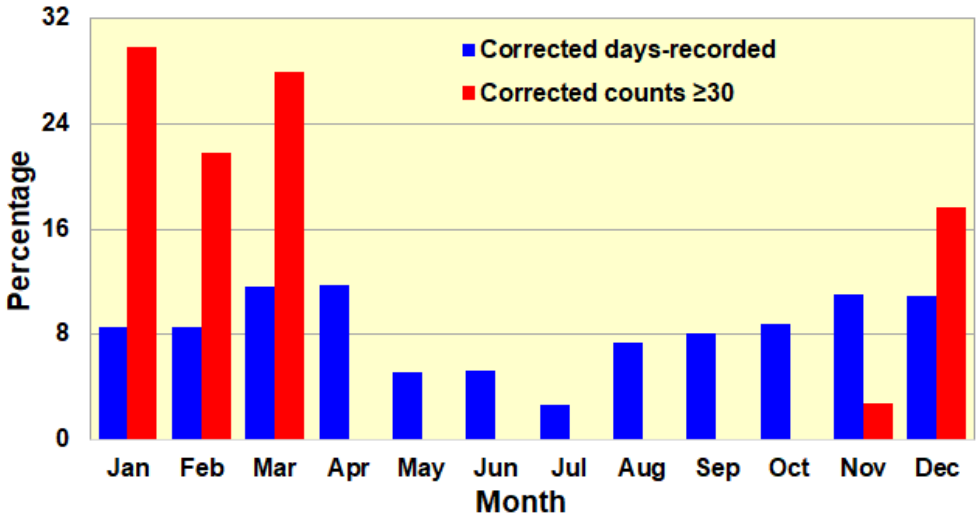


***Figure 25**. Monthly distribution of percentage of corrected days-recorded and significant counts for Shoveler in the period 2004-23.*

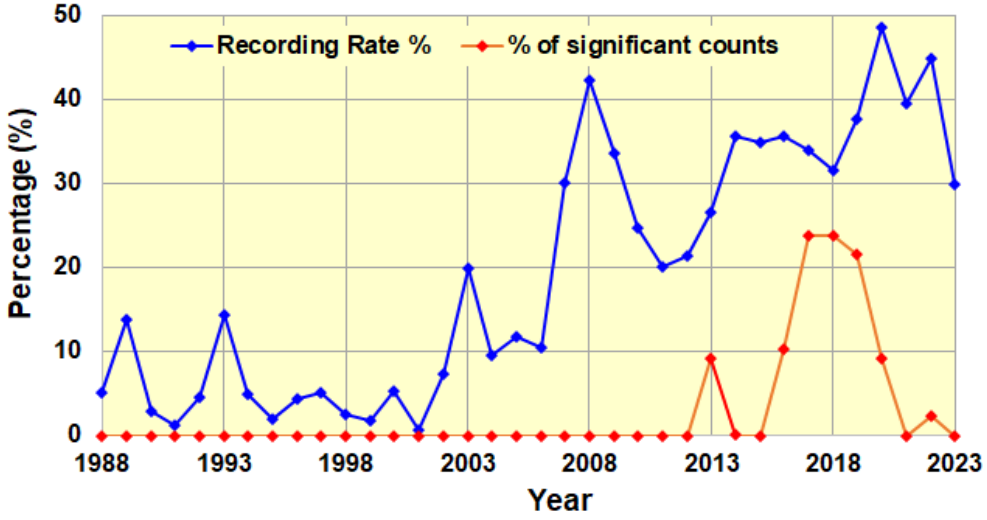


***Figure 26.** Recording rate (%)and significant counts (% of all counts ≥30) for Shoveler between 1988 and 2023.*

Breeding. While the 1988-92 Hertfordshire Bird Atlas records this as a possible breeding species in TL10X (probably due to birds coded as H- "*Observed in suitable habitat*"), the only confirmed breeding on-site was in 2007 when a pair produced a brood of two ducklings – one of which appeared to fledge.

Additional Information: *Appendix 3 – WeBS counts*; *Appendix 4 – Year Lists*.

Garganey *Spatula querquedula* (2, 7, 2) [All]
Infrequent visitor/passage migrant

2023. Not recorded.

Pre-2004. First recorded at Tyttenhanger in 1986 - when a pair were present from the 19th to 22nd of April; subsequently recorded on three further occasions before 2004 i.e. a "sick looking" male on 30th March to 6th April 1991 (found dead on the latter date), a female on the 11th August 2000 and a single bird on the 17th September of the same year.

2004-23. Since the beginning of 2004 there have been nine occurrences on-site which are summarised below. Altogether this period has produced a total of 38 days-recorded with this total involving at least 13 birds (4 males identified from the 13) in nine separate occurrences. Most days-recorded are from August (11) closely followed by September (10 – all in 2019) and April (10).

2006: A single female-type bird between the 25th and 28th August (4 days-recorded).

2011. A pair between the 17th and 23rd April (7 days-recorded).

2017. A female-type bird between the 28th April and 2nd May (5 days-recorded)[25]

2008. A drake on the Main Pit between 10.45 am and 12.00 pm.

2016. Two female-type birds on the 14th August.

2017. A female and an eclipse male on the 16th July.

[25] Although it is assumed that a single bird was involved in this occurrence there was a gap in the records between the 22nd September and the 7th October – the previous longest gap between sightings being just 7 days between the 31st August and 7th September – suggesting that more than a single female-type bird may well have been involved.

2019. A female-type bird seen on 17 days between the 21st August 9th October.

2022. An eclipse male flying over on the 26th July.

2022. 2 juveniles seen for 15 minutes on the Main Pit on the 21st August.

Breeding. In addition to the above there are also an intriguing statement in the 1983 Hertfordshire Bird Report - "*A pr [pair] were seen on several occasions between March and June at London Colney, and were thought likely to be breeding*". The London Bird Report for 1983 includes the following: "*London Colney, a pair from Mar 26th to 27th, a pair on May 26th, a male on May 31st and a pair on June 10th (GN, JHT)*". While it is possible this record does not refer to Tyttenhanger GPs, there are several reasons to consider that it may[26]. Unfortunately, time has overtaken us and it is unlikely we will ever be able to ascertain exactly where this breeding may have occurred. The Hertfordshire Bird Atlas of 2008-12 indicates this was a probable breeding species in TL10X. However, there are no records to indicate this is likely and it was probably the result of a pair being present between the 17th and 23rd April 2011 being recorded as Pair in Suitable Habitat (P) (see above).

Additional Information: *Appendix 4* – Year Lists.

Red-crested Pochard *Netta rufina* (4, 10, 5) [All]

Irregular visitor.

2023. Not recorded.

Pre-2004. A surprisingly infrequent visitor to Tyttenhanger GPs that produced just two records in this period with the first bird on the 22nd October 1988 followed by a gap of over 10 years until the next occurrence of two birds on the 20th November 1999.

2004-23. Since 2003 there have been 12 occurrences across ten separate years i.e. 2004, 2009, 2010, 2011, 2016 , 2017, 2018, 2019, 2020, 2022. The only year to have produced multiple occurrences was 2018 (3), which included a long-staying female between the 9th and 21st October. The only other year with a bird that stayed longer than a day was a pair present between the 23rd and 25th May 2019. Including the two records from pre-2004, most first dates for occurrences have been in October/November (9 of 14) and occurrences have involved a total of not less than 26 birds, with a maximum count of five birds (4 males and one female) on the 28th November 2004. Where records have included the sex of birds there is a ratio of female-types to males of 16:8.

Additional Information: *Appendix 4* – Year Lists.

Tufted Duck *Aythya fuligula* (5, 20, 96) [≥38]

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

2023 The 85 days-recorded for the year equates to a recording rate of 48.0% which is just above the 2004-23 median of 46.1%. However, while occurrence was reasonable, overall numbers appeared to be down in most months (see *Table 25*) with monthly maxima generally well below the 2004-23 median values – the only exception being August. There was just a single significant count for the year i.e. 38 birds on the 6th April, again a reduction both in magnitude and frequency when compared to the recent past (*Table 25*). Breeding this year was restricted to a single brood which appeared late in the season on the 13th August with young still being noted on the 17th September. The large amount of sand and poor water quality in the Main Pit is clearly having an effect on this species and it remains to be seen if it will recover when/if conditions change in the future.

Pre-2004. This species is well represented in the Tyttenhanger GPs dB in this period and when considered with WeBS data and breeding records from the Hertfordshire Bird Reports, provides a good picture of this species on-site at this time. The first record in the Tyttenhanger GPs dB is from the 9th April 1982 and the dB currently includes 580 days recorded – placing it 9th on the

[26] The reasons for considering this record may refer to Tyttenhanger GPs are indirect, but the salient points are as follows. The term Tyttenhanger GP(s) was not used at all before 1983. The observers cited in the HBR Garganey record are "GN and JHT". There are several other records from this year also referring to "London Colney" i.e. records for Teal, Little Ringed Plover, Snipe (drumming), Bar-tailed Godwit and Wood Sandpiper – the latter two also having been reported by "JHT" The only other site to which these records may have been attributable is Bell Lane GP. However, this site doesn't appear in the Hertfordshire Bird Reports until 1985 – references prior to this in the Transactions were for either the lane itself or its geology i.e., there were no bird-records for the gravel pit. The exact nature of the Bell Lane GP site in 1983 isn't clear, however, by the end of 1987 (when the 1986 Hertfordshire Bird Report was published) Jim Terry's summary of gravel extraction sites in the upper Colne Valley referred to it as "*Infilled and grazed, very wet with extensive pools"*– which may or may not have been suitable for the range of species reported from the London Colney site(s) in 1983, but did this include breeding Garganey?.

list of most-recorded species prior to 2004 (see *Table A2-1*). Typically for this period, there tends to be an over-representation of high counts i.e., significant counts (≥38 birds) comprise 11.8% of all counts – but notably there were clearly several good years for this species between 1999 and 2003 (see *Appendix 3).* The maximum count in this period was of 96 birds on the 15th February 2003 (a site-record) with further counts of 80 or more birds in March 1989 (86), March 1996 (94), December 1997 (80), February 1998 (82), February 2000 (85) and January 2003 (86). This period has the highest counts for all months with the exception of July and August (*Table 25*).

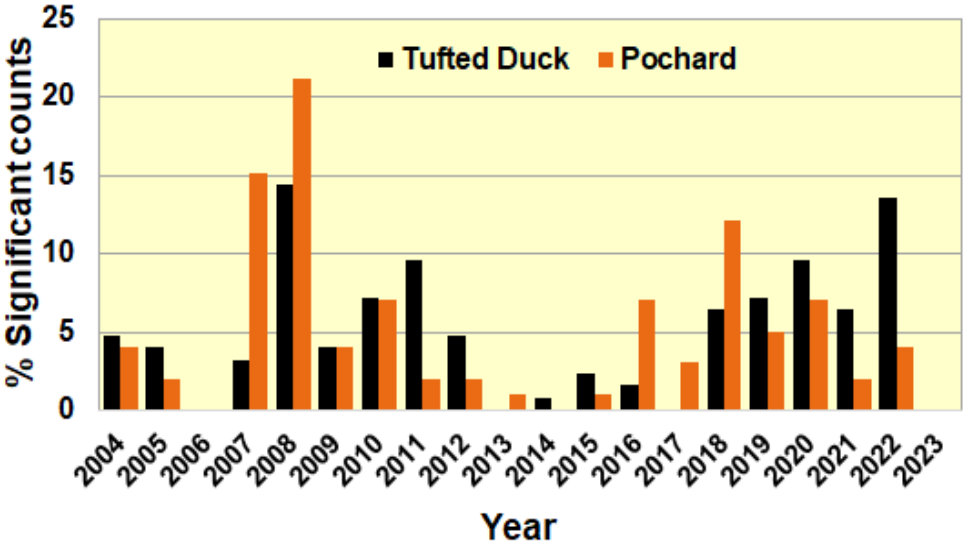
2004-23. With more consistent data-capture, the overall picture for this species is probably as good as for any other. A summary of data for this period is provided in *Table 26* with further information presented in *Figures 27 and 28* and in *Appendix 3*. While much of the data presented for this species speaks for itself, the following points are made:

Table 25 *. Summary monthly data for Tufted Duck from the period 2004-23, along with monthly maxima data for the period 1983-2003. Data for percent days-rec. and percent counts ≥38 are from 2004-23 only.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	35	44	24	38	20	15	22	26*	21	16	13	18
Median 2004-23	40	42	40	32	20	14	20	19	15	20	26	32
Maximum 2004-23	59	74	67	47	33	30	41	45	50	50	54	70
Maximum 1983-2003	86	96	94	75	41	32	35	39	69	60	64	80
Percent days-rec.	8.5	8.7	9.8	9.5	8.2	6.9	7.5	7.9	8.2	8.0	8.2	8.5
Percent counts ≥38	18.0	29.8	18.3	5.8	0.0	0.0	0.7	5.5	1.5	5.5	8.6	6.2

* Includes young birds.

- The largest count in this period was of 80 birds on the 12th February 2022. – the only other count of more than 70 birds was 74 birds on the 15th February 2010.
- The species is present for much of the year and has an overall recording rate of 46.7% (4th ranked of all species) - although actual occurrence is much higher i.e., over 90% as indicated by one regular observer in the recent past.
- Breeding has been confirmed in most years since 2004 (see *Figure 28*).
- The majority of significant counts (≥38 birds) are made in the first quarter of the year i.e. January to March (*Table 25*).



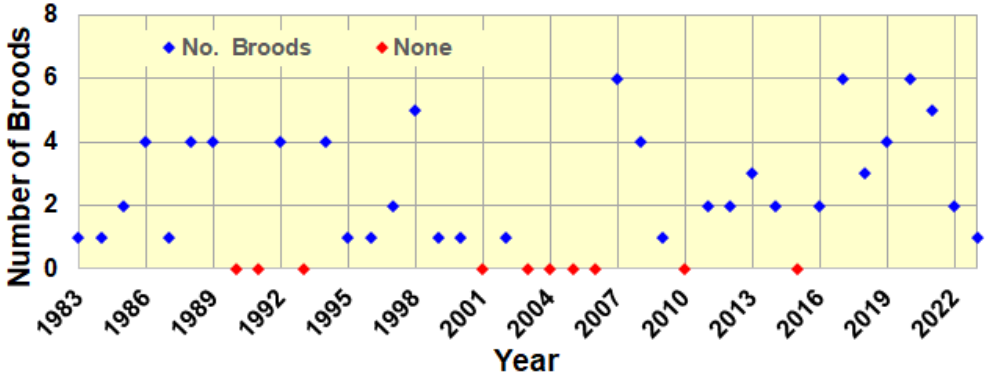


Figure 27 *(left). Percentage of significant counts for Tufted Duck and Pochard recorded in the years from 2004-23.*

Figure 28. *(above). Summary of Tufted Duck breeding for the period 2004-23 showing the number of broods recorded in each year.*

Breeding. Confirmed breeding records for this species stretch back to 1983 (*Figure 28*) with breeding proven in 31 of the 41 years from 1983-2023. Number of broods range up to six per year with brood sizes commonly above 5 young and on at least two occasions up to ten young.

Table 26. *Summary statistics for Tufted Duck in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Maximum	67	50	29	54	59	50	74	59	50	36	45	50	70	35	65	54	54	52	80	38
Recording rate (%)	39.3	44.7	32.7	59.4	78.3	55.7	30.1	36.3	25.1	37.6	45.0	43.9	47.2	47.4	40.4	49.8	67.8	53.7	53.9	48.0
Counts ≥38	6	5	0	4	18	5	9	12	6	0	1	3	2	0	8	9	12	8	17	1

Additional Information: *The First Gravel Pits; Appendix 3* – WeBS counts; *Appendix 4* – Year List. See also *Table A2-1, Table A2-3, Figure 27* and *Figure A2-3.*

Pochard *Aythya farina* (5, 20, 132) [≥12]

A reasonably common winter visitor often present through the summer months and added to the site breeding list in 2022. Most significant counts are made between December and February.

2023. There were 63 days-recorded this year which equated to a recording rate of 35.6% - slightly above the 2004-23 median value of 28.2%. The maximum count of the year was just 12 birds on the 1st January – which was also the only significant count (≥12 birds) of the year, although several months produced maximum counts equal to the 2004-23 median values (*Table 27*). Birds were recorded in every month of the year but in contrast to 2022 there was no evidence of breeding despite a count of six birds on the 29th May and records of birds right through the May-July window.

Table 27. *Summary monthly-maxima data for Pochard in the period 2004-23 and 1983-2003.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	12	6	9	5	6	2	5	5	4	6	7	9
Median 2004-23	12	12	5	2	1	3	4	7	5	6	9	9
Maximum 2004-23	24	31	17	6	8	8	14	17	15	17	27	23
Maximum 1983-2003	49	110	132	25	2	8	4	70	53	53	63	84

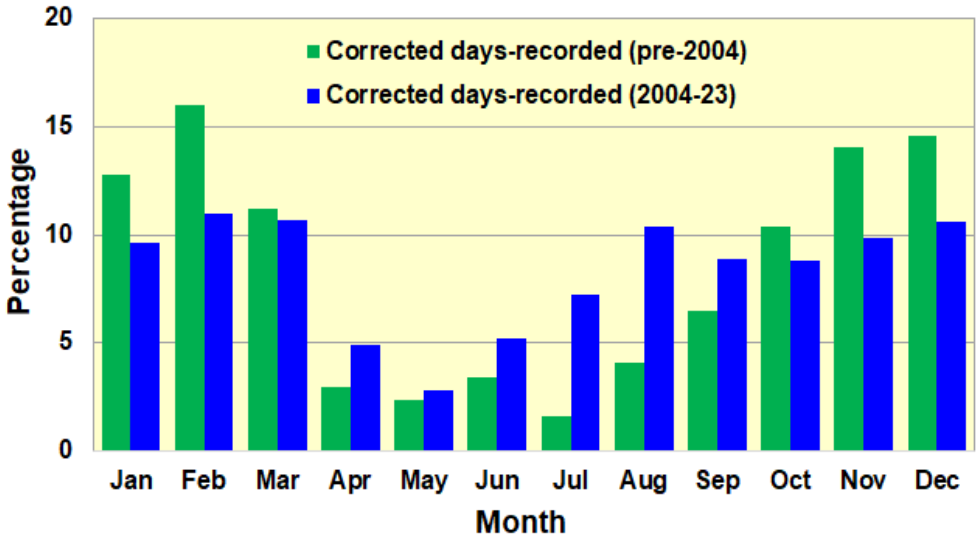


Figure 29. *Percentage of corrected days recorded on a month-by-month basis for Pochard in the periods from 1983-2003 and 2004-23.*

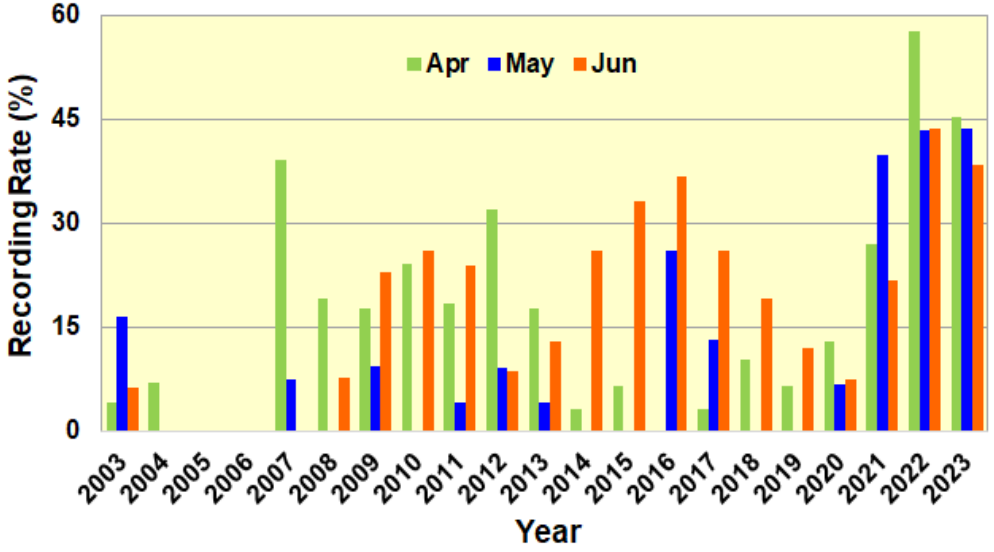


Figure 30. *Recording rate in the summer months (Apr-Jun) for Pochard in the years from 2004-2023.*

Pre-2004. The first record in the Tyttenhanger GPs dB is from the 12th February 1983, which is followed by a further 476 days-recorded - which equates to an overall recording rate of 14.5% and places it in the top 20 species in this period. During this period higher counts were typically skewed towards the winter months (November to February) (*Table 27* and *Appendix 3)*, as was the frequency of occurrence (*Figure 29*).While winter numbers were strong at this time it appears to have become less abundant since the turn of the century e.g. see *Appendix 3*. The Tyttenhanger GPs dB also shows many years in this period failed to produce any counts in the months from April to July (inclusive). The maximum count in this period was of 132 birds on the 2nd March 1996 (still a site-record), but there are over 70 days-recorded with counts of 30 birds (15.9% of all daily-maxima) or more - compared to just one after 2003.

***Table 28**. Summary data for Pochard in the period 2004-23, *shown with median values (Med) for the same period.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Med*
Recording rate (%)	13.0	14.9	5.0	30.4	59.6	41.3	32.8	29.1	19.3	17.3	24.2	20.9	27.4	31.8	26.5	25.9	39.0	34.6	43.1	35.6	**28.2**
Maximum	24	13	10	20	31	19	20	27	12	18	11	15	20	20	16	18	16	15	24	13	**18**

2004-23. While numbers appear to have generally declined since the turn of the century, WeBS data suggest that over-summering birds have become more common (see *Appendix 3*). When occurrence through the months of April to June is considered (*Figure 30*) it is clear the very recent past has seen a greater tendency for birds to be present through all of this period. The highest count in this period (and the highest since February 2001) was 31 birds on the 23rd February 2008 and the last count of 20 or more birds was in December 2017.

Breeding. Recently, as over-summering birds have become more common (*Figure 30)* it was unsurprising when this species eventually bred on-site in 2022 - the only confirmed breeding event in the database for Tyttenhanger GPs dB.

Postscript. Breeding appears to have occurred in 2025 with a young bird noted at the end of June.

Additional Information: Appendix 3 – WeBS counts; *Appendix 4* – Year List. See also *Figure 27*.

Scaup *Aythya marila* (0,1,1) [All]

Vagrant.

2023: Not recorded.

Summary: Still the only record for the site is of an adult drake found on the Main Pit on the evening of 4th June 2007 - which stayed a further 5 days and was last seen on 9th June. This bird seems to have made something of a tour of the wetlands of south Hertfordshire and was seen initially at Wilstone in late May before relocating to the Main Pit at Tyttenhanger GPs. After this he spent time at Amwell (3rd June), Hilfield (10th June), Aldenham (11th June) and then back again to Hilfield (14th – 20th June).

Additional Information: *Appendix 4* – Year Lists.

Lesser Scaup *Aythya affinis* (0,0,1) [All]

Vagrant.

2023: Not recorded.

Summary: The only record is of an adult drake located on the 7th April 1996; the bird remained on-site until the 18th April and the record was later accepted by the British Birds Rarities Committee. At the time of its occurrence, it was the first record for Hertfordshire and only the eleventh British record. It would be fair to say this was probably the bird that really put Tyttenhanger on the Hertfordshire birding map.

Additional Information: *Appendix 4* – Year Lists.

Common Scoter *Melanitta nigra* (0,1,1)

Vagrant with just two occurrences – both this century.

2023: Not recorded.

Summary. The only record before 2004 was of a female-type bird on-site from the 2nd to 7th May 2000. It was 18 years before the next bird was found - a male on the Main Pit at 07.15 am on 8th April 2018. The bird was seen throughout the day and last reported at 5.15 pm. The bird appeared as part of an influx into the county on this day when there were nine birds at Hilfield Park Reservoir (5 males and 3 females joining a 1st winter male that had overwintered) and five birds at Stanstead Abbotts Lake (3 males and 2 females).

Additional Information: *Appendix 4* – Year Lists.

A male Common Scoter found on the 8th April 2018. Photo Courtesy Andrew Steele.

Goldeneye *Bucephala clangula* (3, 14, 5) [All]

Irregular winter visitor with individuals that have occasionally stayed for extended periods.

2023. Not recorded. The early months of 2024 also failed to produce any records and so the winter of 2023/24 produced no records.

Pre-2004. The first record in the Tyttenhanger GPs dB is from the 19th November 1983, which was followed by a gap of around 3½ years until the next bird on the 18th February 1989. Overall, this period produced a total of 51 days-recorded (see *Figure 31*), a maximum count of 4 birds on the 8th December 2001 and records in nine of the winters up to 2002/03 - with notable winters (more than eight days recorded) as shown below.

1989/90. A total of 16 days recorded with the first female for the site present between the 17th and 27th November 1989. A presumptive second female was then seen sporadically between the 18th December 1989 and the 6th February 1990 (present on 12 of the 22 days-covered between these dates).

1995/96. A total of just 12 days recorded with a female on the 3rd November 1995, two females between 8th and 20th January 1996 (4 days-recorded), a female between the 17th February and 26th February 1996 (5 days-recorded), another single female on the 3rd March 1996 and finally a male and 2 females on the 24th March.

2004-23. Of the 20 winters between 2003/04 and 2023/24 (see 2023 above) birds were recorded in 13. Only two winters produced more than eight days recorded with summaries of those provided below. The maximum count in this period was of five birds (a site-record) on the 31st October 2009.

2009/10. Five birds were recorded on the 31st October (no sexes recorded) after which a male was present between the 2nd November and 24th November that was joined by a female on the 28th November. The male then seemed to disappear and the female remained through until the 8th January 2010 – with a second female present on the 12th December. In total the winter produced 28 days recorded.

2019/20. A single long-staying female was recorded on 63 days (of the 73 days-covered) between the 3rd November and the 5th February 2020.

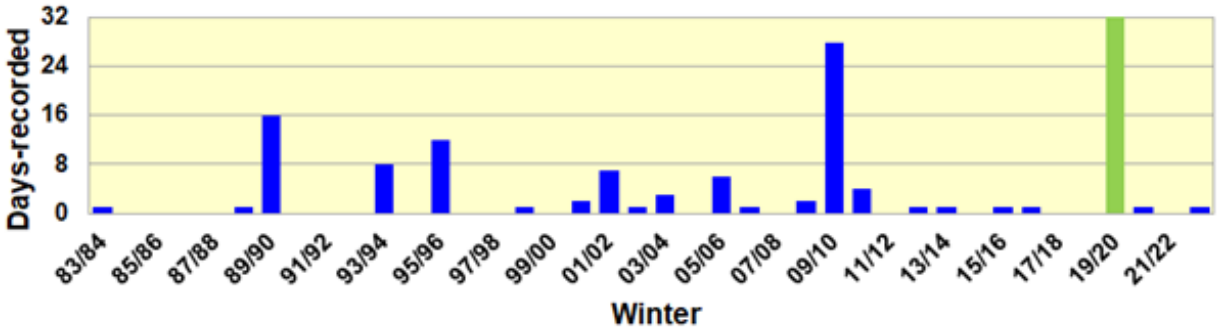


Figure 31. *Days-recorded by winter period from 1983/84 to 2022/23 for Goldeneye. The winter of 2019/20 (shown in green) produced a total of 63 day-recorded.*

In summary, of 41 winters from 1983/84 to 2023/24, there were 19 with no days-recorded, 11 with just a single day recorded and of the remaining 11 only 4 of them produced more than 8 days-recorded (see *Figure 31*). There has been a total of 162 days-recorded between 1983 and 2022, with the most conservative estimate suggesting as little as 39 occurrences involving just 50 birds. Where sex was indicated in the records the best estimates are of 23 female-types and 9 males the last bird seen on site was a female-type bird on the 4th December 2022.

Additional Information: *Appendix 4* – Year Lists.

Smew *Mergus albellus* (0, 2, 4) [All]
Infrequent visitor having occurred just seven times.

2023. Not recorded

Pre-2004: The first record on-site was of a redhead on the 16th November 1997 which was followed by a male from the 30th November until 14th December of the same year. Further records are of two pairs on 24th December 1999 (four being the record count for the site), a redhead on 28th and 29th December 1999 and a single bird (sex not reported) on 3rd February 2000.

2004-23. The only records in this period were a male on the 11th January 2012 and a male on the 29th December 2015. These bring the total number of days-recorded since 1997 to 12, which produced 15 bird-days and involved at least 9 birds – five of which were males, three redheads and one bird with sex unstated.

Additional Information: *Appendix 4* – Year Lists.

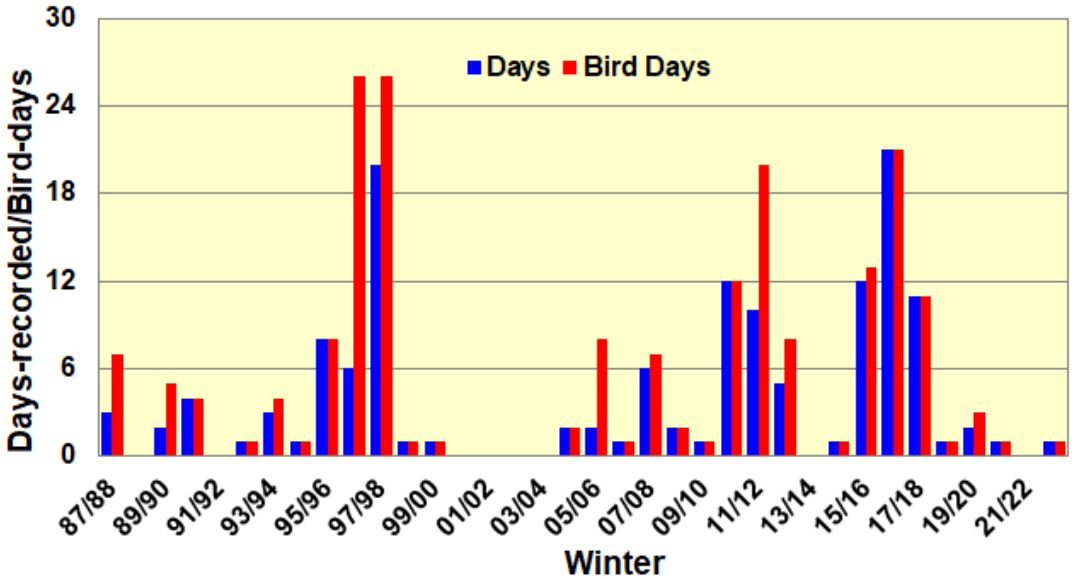


Figure 32 *Days-recorded and bird-days for Goosander (both uncorrected) in the winters from 1987/88 to 2022/23.*

A male Goosander taking advantage of a hole in the ice covering the Main Pit on the 12th January 2012. Photo courtesy of Steve Blake.

Goosander *Mergus merganser* (3, 15; 9) [All]
Regular visitor with one or two records in most winters.

2023: A single bird on the Main Pit on the 4th January was the only record for the year and the first since December 2020.

Pre-2004. Five birds seen on the 31st January 1988 comprise the first record for the site. There were records in most subsequent winters through until 1999/2000 after which there were several winters that failed to produce a single bird-day (see *Figure 32*). Perhaps the most impressive sequence of records for the site was in February 1997 when five birds were found on the 7th. By the following day there were eight birds present (2 males and six females) and on the 11th, the site-record count of nine birds was made comprising four males and five females. The majority of days-recorded in this period (41 of 50) involved counts of single birds and apart from the records mentioned above the only other substantial count was of six birds on the 19th December

1997. The longest staying bird in this period was a female-type bird that was present from at least the 1st February to the 28th March 1998.[27]

2004-23. Following a hiatus of records from the 22nd December 2000 to December 2004 the next bird seen was on the 14th January 2005. Birds have been recorded in most winters since 2004/05 through until the end of 2023 (*Figure 32*). Again, days-recorded are dominated by counts of single birds (80 of 93) with the highest count in this period being five birds on the 8th January 2006. The longest staying bird in this period was present between the 12th December 2016 and the 21st January 2017 (see *Footnote 27*).

Summary. there have been a total of 143 days-recorded between 1988 and 2023, virtually all of which (139) are from the months November to February (inclusive)[28]. These days-recorded have seen the involvement of at least 84 birds and where the sex has been provided, show a slight excess of males i.e. 40 to 36. Most birds appear to stay for only the day of their arrival[29] (32 of 57 arrivals) but on at least 9 occasions birds have stayed for 10 days or more – the longest being in the early 1998 bird (56 days) and the December 2016/January 2017 bird mentioned in the relevant sections above.

Postscript. Female birds recorded on the 7th January, 19th January and the 7th February 2024 are the only records in the eighteen months since the end of 2023.

Additional Information: *Appendix 4* – Year Lists.

Red-breasted Merganser *Mergus serrator* (1, 2, 30) [All]

Rare visitor having been recorded on just two occasions.

Summary. The first record for the site was of a male found on the Main Pit early on the morning of the 17th November 2018; unfortunately it didn't linger for long and was seen to fly off at 09.15 am – leaving the two lucky observers with an excellent blocker! However, the second record was close on the heels of the first when three female-type birds were seen on the 1st December 2019 flying low towards the south before heading over Coursers Road Pits - without landing at either site. This time just a single observer, so it remains a very elite group that have this species on their Tyttenhanger lists.

Additional Information: *Appendix 4* – Year Lists.

A male Red-breasted Merganser– a first for Tyttenhanger on 17th November 2018. Photo courtesy Steve Blake

Ruddy Duck *Oxyura jamaicensis* (0; 8, 8) [All]

Established in the UK in the 1960s from escapees/releases, an active culling program from 2005 onwards has effectively exterminated the species from the UK breeding list.[30]

2023. Not recorded.

Pre-2004. First recorded at Tyttenhanger GPs in 1993 this species was previously considered to be an irregular visitor to Tyttenhanger GPs through the 1990s up until 2002 and 2003 when birds started to over-summer. However, additional data in the Tyttenhanger GPs dB shows it was over-summering as early as 1997 with evidence that year i.e. a juvenile bird seen on the 5th August, of local (if not on-site) breeding. All counts up until April 2003 were of just one or two birds, but the increase in days recorded at this time also produced counts of six birds on the 29th May. The best count prior to 2004) and five birds on the 11th May.

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[27] The 1998 Hertfordshire Bird Report indicates this bird was present from the 1st January until the 28th March. However, records in January were limited to the 1st and 24th of the month despite there being coverage on several other days throughout the month. We have therefore taken a more conservative start date for this bird of the 1st February and treated the January dates as separate birds. The December/January bird in 2016/17 was recorded on 18 dates between the 12th December and 21st January – a total of 41 days. Interestingly coverage between these dates was very good – amounting to 39 days - and so does beg the question of where this bird was on the days it was not recorded at Tyttenhanger GPs?

[28] Records outside this window are all single birds on the 11th May 2008, 28th September 2019, 15th October 2017 and the 28th October 2019.

[29] Arrival-events are tricky to assign given the patchy coverage and the tendency for this species to frequently turn up in pairs and small groups. Nevertheless, using a relatively conservative approach it was possible to allocate the data into a minimum of 51 arrival-events.

[30] See the following for more information: Henderson, I. (2009) Progress of the UK Ruddy Duck Eradication Programme. British Birds, 102, 680-690; Meeting report "Expert Meeting on the Implementation of the Action Plan for the Eradication of the Ruddy Duck in Europe (T-PVS(2025)02). Eradication of the Ruddy Duck *Oxyura jamaicensis* in the Western Palearctic: A Review of Progress and a Revised Action Plan for 2021-2025 (Inf11e_2020.docx).

Table 29. *Days -recorded for Ruddy Duck in the years from 1993 to 2013.*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Days-rec.	1	0	3	1	6	3	0	1	2	9	26	20	0	1	41	78	70	30	11	2	0

2004-23. The species became more common through 2002-04 with a couple of poor years in 2005 and 2006 before reaching its zenith in the period 2008-10. After this the national culling program started to have its intended effect and the species declined rapidly both at Tyttenhanger GPs and nationally. Nevertheless, while the last Tyttenhanger record was on the 31st March 2012 there are still occasional records in Hertfordshire and elsewhere in the country that suggest eradication isn't yet complete! A summary of days-recorded from 1993 to 2013[31] is shown in *Table 29.*

Breeding. This species bred at Tyttenhanger GPs in 2008 and 2010; in both years there were two broods produced.

Additional Information: *Appendix 4* – Year Lists.

Pheasant *Phasianus colchicus* (5, 20, 50) [≥15] [All]

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

2023. Just 16 days-recorded for the year (corrected value of 29 days) and a maximum count of just three birds (1st April) is consistent with the last few years. Most of the records this year were concentrated in the period up to the end of May with just two days-recorded in the latter part of the year (both in November). **Coursers Road** produced five days-recorded this year and although this included a count of seven birds on the 12th March, it still suggests a continuing decline in the area.

Table 30. *Summary statistics for Pheasant for the period 2003-23.*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Max. count	50	30	25	50	20	12	13	15	20	17	10	7	4	8	4	3	5	6	3	3	3
Corrected days-rec.	31	88	145	165	95	125	96	52	66	44	74	41	35	49	25	26	48	79	55	39	29
Average count	9.13	5.70	5.59	6.46	6.16	2.59	2.96	3.74	3.25	3.24	2.11	2.04	1.37	1.81	1.44	1.16	1.47	1.48	1.23	1.21	1.25

Pre-2004. This species, like the following two species has a chequered history at Tyttenhanger GPs due largely to its release as a game-bird from the late-1990s[32] onwards. However, how much these releases contributed to the perceptions of provenance and the voracity of reporting is unclear. Nevertheless, there is clearly a paucity of records in the Tyttenhanger GPs dB prior to 2003 (just 41 days-recorded), with most counts being less than 10 birds and a maximum of 13 birds on the 19th January 1985.

2004-2023. From 2003 through until 2007 there was a big increase in the number of larger counts with these years producing 8, 10, 17, 20 and 19 counts of 10 or more birds respectively – whereas all other years together in the period from 1983-2003 produced just 13. These data along with those in *Table 30* suggest the major releases of this species occurred between 2003 and 2007 – although there is evidence that smaller releases were still on-going after this i.e. an albino/leucistic bird(s) was noted on several dates between October 2010 and April 2011. As releases would have almost certainly stopped at the same time as those for *Red-legged Partridge* i.e. in 2011, it is apparent that numbers and frequency of occurrence fell quickly after that. Interestingly, when the relative monthly distribution of significant counts (≥11 birds) is compared to days-recorded (see *Figure 33*) the peak for the former is clearly from August through to January while the peak for days recorded is in March-April i.e. releases for gaming are still driving the significant counts and generally occurred in September/October. Also of note is the last significant count (≥15 birds) was in 2012 – fairly soon after releases ceased (*Table 30*).

[31] There is a gap in the Herts Bird Club dB data for the period 1998-2000 (inclusive) and so summary data for this period are not necessarily indicative of the true status at the time.

[32] Small releases of Red-legged Partridge began in the late 1980s, however larger release probably did not occur until the mid-late 1990s which is probably also the time that substantial Pheasant releases started. The only specific record in the Tyttenhanger GPs dB that refers to releases are of a melanistic bird in 2003 which prompted the comment "*All the release this year … seems to be of this form*").

Breeding. In contrast to the two Partridge species, the number of years with confirmed breeding in the period 1983 to 2023 is low i.e. just 3 years (2009, 2019 and 2020) compared to eight and 11 for Grey and Red-legged Partridge respectively. All three Hertfordshire Bird Atlases show this as a confirmed breeding species in TL10X.

Additional Information: *Appendix 4* – Year Lists.

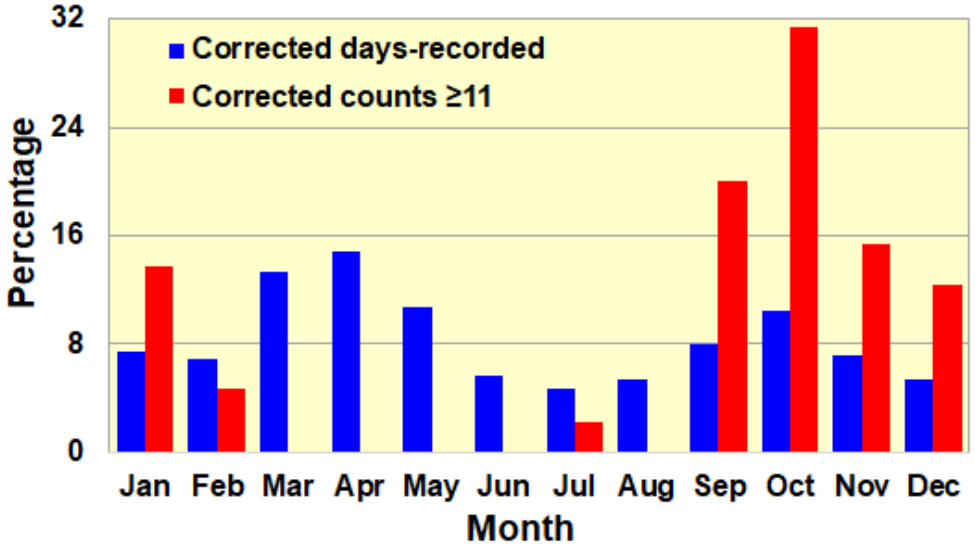


Figure 33. *Monthly distribution, by percentage, of corrected days-recorded and significant counts (≥11 birds) for Pheasant during the period 2004-23.*

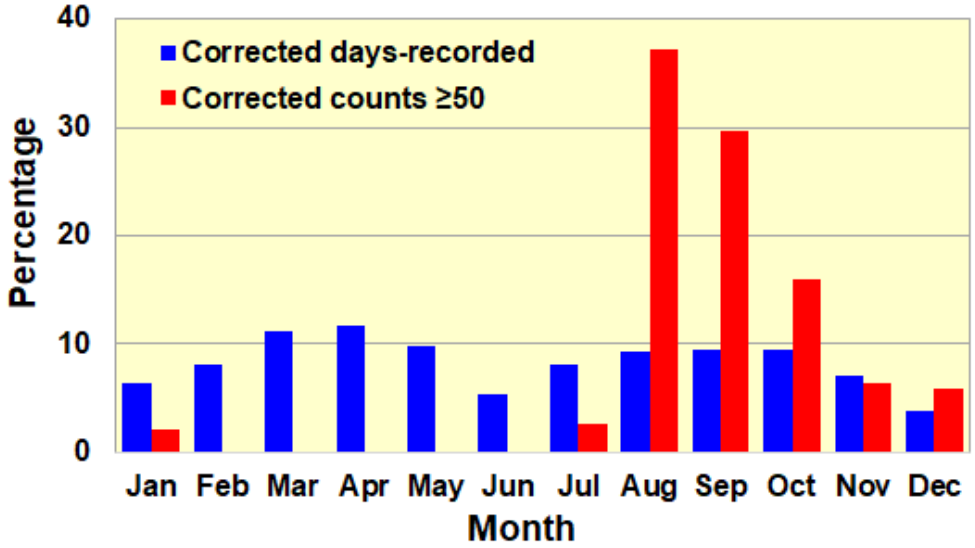


Figure 34. *Monthly distribution, by percentage, of corrected days-recorded and significant counts (≥50 birds) for Red-legged Partridge during the period 2004-23.*

Red-legged Partridge *Alectoris rufa* (5, 20, 50) [>50] [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.

2023. Just a single day-recorded for the year (corrected for coverage to 2 days) which saw two birds present on the 3rd March. **Coursers Road** had slightly better numbers with six days recorded, but with a maximum count of just two birds on three dates, it does seem this species has a very tenuous hold in the area.

Table 31. *Summary data for Red-legged Partridge for the period 2011-23.*

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Corrected days-rec.	62	31	38	34	24	13	34	4	5	12	8	6	2
Max. count	71	44	6	10	9	3	2	1	6	2	4	2	2
Breeding	No	No	Yes	Yes	Yes	No	Yes	No	Yes	No	No	No	No

Pre-2004. One of an elite group of species for which records exist prior to 1983 i.e. two birds seen around the Gravel Works on the 27th May 1971. As with the species above and below, the subsequent story of this species at Tyttenhanger GPs is heavily influenced by the deliberate release of game-birds. The evidence around when releases begun is slightly contradictory, but in the early 1980s this species occurred in small numbers in the Tyttenhanger area (reflected by records in the Tyttenhanger GPs dB from 1982 and 1983 – see *Figure 35)* with the 1983 Hertfordshire Bird Report stating that around Tyttenhanger and North Mimms, this species was considered the less common of the two Partridges. So, when did the releases begin?

For those who remember the release-pens around Tyttenhanger Farm and the original Tree Sparrow feeding station, the numbers involved in the releases were very large with several hundred birds involved. However, the first reports of released birds are from late 1988 and early 1989 and are of quite small number i.e. 40 or less birds, whereas the first count of more than 100 birds

in the Tyttenhanger GPs dB does not occur until September 1996. When daily maxima for this species are plotted against date (see *Figure 35*) it seems clear from the distribution of larger counts (≥25 birds) when some of the releases occurred, however, the gap in the Tyttenhanger GPs dB (1998-2000 apparent in *Figure 35*) means a full picture can't be gained from this source alone. Nevertheless, additional information is available through the Hertfordshire Bird Reports and together with the dB provide evidence that releases were made in most years from 1988 through until 2003[33], with peaks in 1996, 2002 and 2003. The highest count before 2004 was of 250 birds on the 30th September 1996; the highest count prior to late 1986 (when releases commenced) was 16 birds on the 12th November 1983.

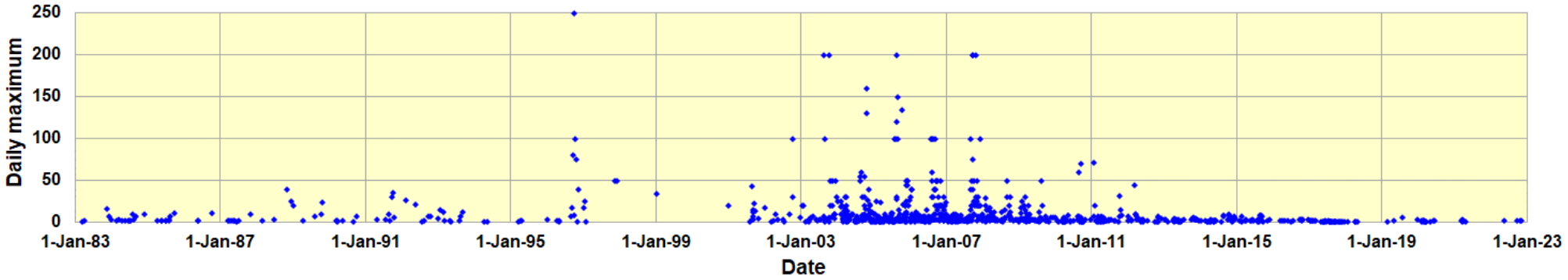


Figure 35. *Plot of all daily maxima for Red-legged Patridge from 1983 to 2022 (inclusive)*

2004-2023. Releases of birds between 2004 and 2011 help to drive the derivation of significant count for the whole period of ≥50 birds. Using this value, we see a picture of release in late summer followed by a decline through until early in the following year (*Figure 34*), but with evidence of a peak in occurrence, rather than numbers, in March and April. From data in the Tyttenhanger GPs dB the peak release-years for releases after 2003 were 2004, 2005, 2006 and 2007. The early part of this period was therefore dominated by releases that continued through until 2011 – albeit they were smaller after 2007. After releases ceased, the population declined dramatically (*Table 31*), and although there has been local breeding through until 2017 (see below), numbers have continued to fall in the last few years and it can now be considered an infrequent visitor.

Breeding. Breeding was confirmed in 1984. 1985, 1989, 1990, 1991, 1992, 1996, 1997, 2004, 2005 and 2015, with evidence of local (if not on-site) breeding in 2013, 2014 and 2017. Interestingly, in only a few cases – 1997, 2004 and 2005 – does confirmed breeding follow years in which there were substantial releases in the previous autumn.

Additional Information: *The First Gravel Pits*; *Appendix 4* – Year Lists.

Grey Partridge *Perdix perdix* (1, 11, 46) [All]

A common breeding species on-site up until the early years of this century, has subsequently declined and has not been recorded since 2020.

2023. Not recorded.

Pre-2004. Notably, this is one of the few species for which we have records prior to 1983 - with two birds reported from the northern part of the Gravel Works on the 27th May 1971 (see *The First Gravel Pits*). Subsequent to this, the next record in the Tyttenhanger GPs dB was of 12 birds on the 29th October 1983 which is followed by frequent reports though until early 1999 (*Figure 36*). In the latter part of the period from 1983 to 1999, there is some evidence the species was released for game-shooting at Tyttenhanger GPs – similar to the previous two species. However, in this case, the only records in the Tyttenhanger GPs dB that refer to released birds are from the last quarter of 1997 – which also coincides with a substantial release of Red-legged Partridges. From 1984 onwards the species was regularly encountered through until 1997 and often in good numbers i.e. 46 counts of 10 or more birds in this period, a maximum of 20 on the 3rd and 4th

[33] **1983-2003**. Information from the Tyttenhanger GPs dB (TdB) and Hertfordshire Bird Reports provide evidence of releases made at Tyttenhanger in 1988 (TdB/HBR), 1996 (HBR) 1997 (TdB/HBR), 1998, (HBR) 2001 (TdB), 2002 (HBR) and 2003 (TdB/HBR). The Hertfordshire Bird Reports also indicate releases were made in the county – but without specific mention of Tyttenhanger GPs - in the following years: 1989, 1990, 1991, 1993, 1999. In the following years no mention was made of releases anywhere in the county: 1983, 1984, 1985, 1986, 1987, 1992, 1994, 1995 and 2000.

September 1995 and 1990 alone producing 13 counts of 10 or more birds. Notwithstanding the possibility of release, the end of 1997 produced records of 46 on the 24th September (a site-record), 30 on the 19th December and 28 on the 18th October. However, there was a dramatic decline after 1997 – which may partially reflect the gap in the database between 1998 and 2000 (see *Appendix 2*) - but it is also clear that from 2001 onwards this species became much less frequently encountered on-site.

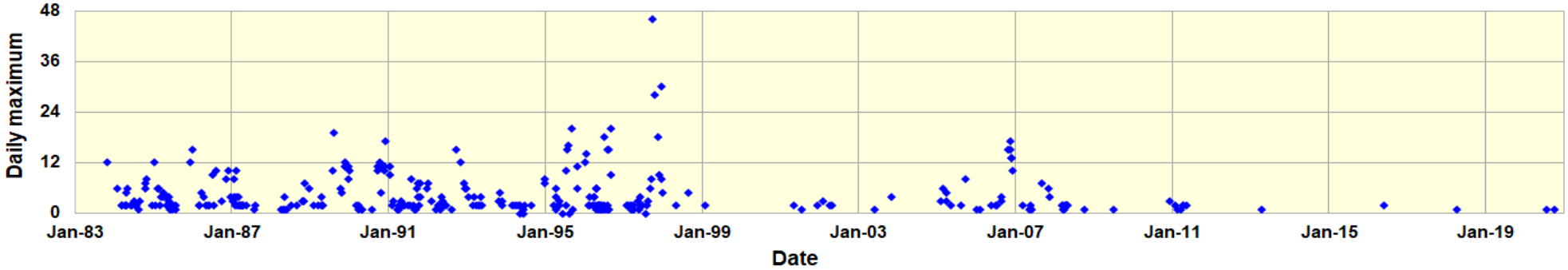


***Figure 36**. Plot of all daily maxima for Grey Patridge from 1983 to 2020 (inclusive).*

2004-23. The period from 2004-2020 produced just 51 days-recorded with the last record being on the 20th October 2020. The maximum count in this period was of 17 birds on the 12th November 2006 with records of ten or more birds on five further dates between the 30th October and 4th December of the same year; there were no other double figure counts in this period.

Breeding. The Tyttenhanger GPs dB contains confirmed breeding records (all of adults with young/family parties) from the following years: 1986, 1991 1995, 1996 and 1997. There are also records from 2006 and 2007 that specifically mention "juveniles" which may indicate local rather than on-site breeding. The 1967-73 and 1988-92 Hertfordshire Bird Atlases both show this as a confirmed breeder whereas by 2008-12 the status had fallen to probable breeding.

Additional Information: *The First Gravel Pits; Appendix 4* – Year Lists.

[Quail *Coturnix corturnix*

Only recorded at Coursers Road - it is a scarce summer visitor in Hertfordshire. ***Never recorded on-site.***

Summary. The 1994 Hertfordshire Bird Report carries the following – "*At Colney Heath, one on 8th May provided some consolation for the observer searching for the previous day's Dotterel at the same site*". Apparently straightforward until one checks the record of the *Dotterel* that implicates Willows Farm as the site. However, clarification of the Dotterel record has shown this was actually from the other side of Coursers Road on what is now the Coursers Road GPs site.]

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

Irregular visitor.

2023. Not recorded.

Pre-2004. The first record for the site was a single bird on the 8th June 2002 which was closely followed by two birds on the 4th April 2003.

2004-23. It was seven years after the previous occurrence before the next bird was found on the 5th April 2010, very closely followed by another (or the same?) on 9th April. Unfortunately, the latter bird (presumably), was observed with a broken wing on the 10th April and then found dead by the water bailiff on 11th April. Nevertheless 2010 ended on a more positive note when two birds were found on 14th May. A couple of years later and 2013 produced records of single birds on the 24th March and 19th April while the following year produced a single bird on the 25th July. The next record was on the 10th May 2020 and then 2021 saw two birds get pulses racing when they were seen displaying on the 31st May and 1st June, with a single bird staying over until the 2nd and 3rd June. There were no further records of the latter two birds but on the 4th July 2021 two birds were reported again.

In summary, a total of 13 occurrences, with records coming from just six years and totals of 17 days-recorded and 24 bird-days. The maximum count for the site is of two birds noted on six occasions.

Additional Information: *Appendix 4* – Year Lists.

Little Grebe *Tachybaptus ruficollis* (5; 20, 14) [≥4]

Irregular breeding species which can be present through much of the year - although sometimes absent in the winter months. Counts of four or more birds are significant and these counts have usually included young birds in the July-September window.

2023. With 14 days-recorded and records from just seven months it would probably rank as one of the worst years for this species on-site in the last 20 years. Five of the days-recorded produced counts of two birds. Although there was no evidence of breeding, restricted visibility over the Main Pit would not have made things easy for recording breeding of this often-cryptic species.

***Table 32**. Summary Statistics for Little Grebe in the period 1983-2003*

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Days-rec.	24	35	15	12	13	7	18	1	0	0	13	7	3	4	4	3	3	6	0	8	27
Coverage	50	61	80	80	125	198	181	138	159	175	202	162	152	278	290	158	98	75	164	150	241
Rec. rate (%)	48.0	57.4	18.8	15.0	10.4	3.5	9.9	0.7	0.0	0.0	6.4	4.3	2.0	1.4	1.4	1.9	3.1	8.0	0.0	5.3	11.2

Pre-2004. The first record of this species in the Tyttenhanger GPs dB is of six birds on the 9th April 1982 – indicating the site was already attractive to this species during its early evolution (see *The First Gravel Pits*), The next few years through until 1987 shows this species well-represented in the Tyttenhanger GPs dB with 1984 producing counts of 10 and 13 (a maximum for the period 1982-2003) on the 14th April and 15th July respectively – the latter including three broods with a total of eight young. With an overall recording rate of 6.3% throughout this period, but annual rates ranging between 0.0% (1990 and 1991) to 57.4% (1984) it is difficult to form an accurate picture of what was happening on-site (*Table 32*). Notwithstanding issues with possible biases in reporting, it does appear from both WeBS data (*Appendix 3*) and the Hertfordshire Bird Reports that 1990, 1991 and 1992 were very poor for this species and things did not substantially improve until the early part of the next century i.e., 2002/2003.

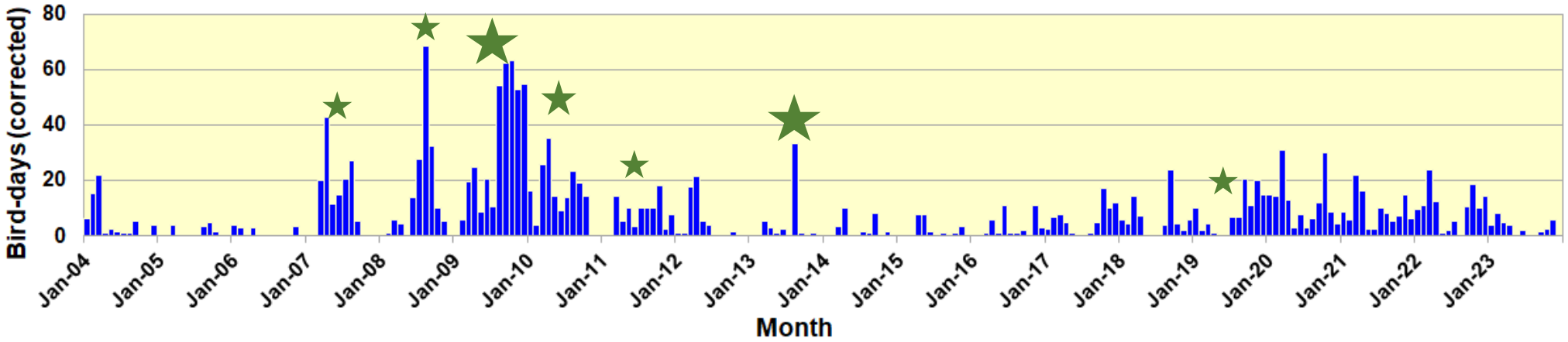


***Figure 37.** Plot bird-days per month (corrected) for Little Grebe in the period 2004-23. The years in which breeding was confirmed on-site are shown (★) with the size of the symbol in proportion to the number of broods (range of 1-3).*

2004-23. After the lean-period between 1990 and 2001, the upturn in 2002 and 2003 had fizzled out again by 2005 and 2006 with the local population then seeming to recover and go through something of a purple-patch between 2007 and 2013 (see *Figure 37* and *Appendix 3*). The latter provided the maximum count for the site with 14 birds recorded on the 14th August 2007 the only other double figure count in this period being 12 birds on the 5th September 2009. Significant counts for this species (≥4 birds) show a strong bias towards August and September (*Figure 38)* when post-breeding dispersal of juveniles seems to contribute significantly to number. However, there is also a peak of higher counts in April, which may well reflect wandering birds searching for suitable breeding sites and/or greater visibility/recordability as territories are established.

Breeding Confirmed breeding in the period prior to 2004 occurred in the following years (broods raised in brackets): 1984 (3), 1985 (1), 1986 (1), 1993 (1), 1998 (1) and 2000 (1), while the last 20 years has produced confirmed breeding results in 2007 (1), 2008 (1), 2009 (3), 2010 (2), 2011 (1), 2013, (3) and 2019 (1) – see *Figure 37*. The latter also shows that successful breeding has not necessarily gone hand-in-hand with greater abundance/visibility i.e. 2013.

Additional Information: *The First Gravel Pits; Appendix 3* – WeBS Counts*; Appendix 4* – Year Lists.

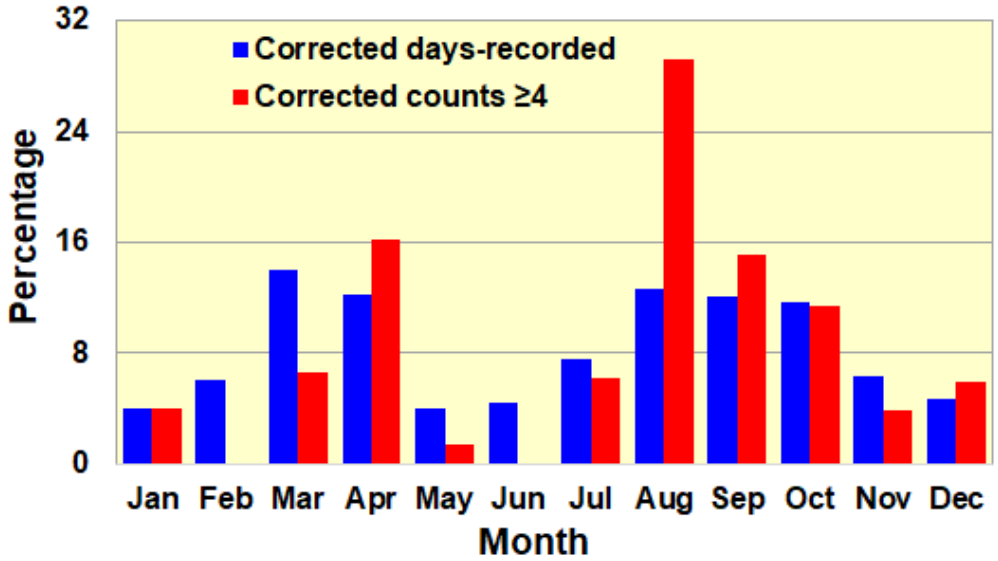


Figure 38 *Monthly distribution, by percentage, of corrected days-recorded and significant counts (≥4 birds) for Little Grebe during the period 2004-23.*

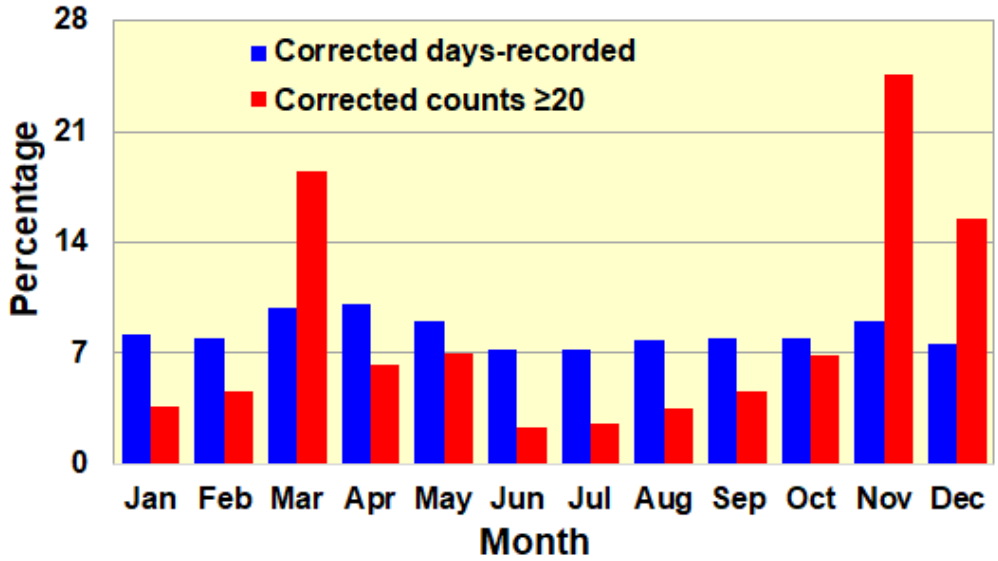


Figure 39 *Monthly distribution, by percentage, of corrected days-recorded and significant counts (≥20 birds) for Great Crested Grebe during the period 2004-23*

Great Crested Grebe *Podiceps cristatus* (5; 20, 46) [≥20]

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

2023. There were 75 days-recorded this year which equates to a recording rate of 41.2% - just below the 2004-23 median (44.5%). Monthly maxima were lower in most months than the 2004-23 median values (*Table 33*) –July and November excepted – and may well have suffered from the lower coverage across the whole site. Despite the apparent low numbers there were still four broods of young noted on the 1st July comprised of 2-2-3-1 young.

Table 33. *Summary monthly maxima data for Great Crested Grebe in the period 2004-23 and 1983-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	8	9	16	14	15	15	16*	10	8	5	24	24
Median 2004-23	11	13	18	17	15	12	13	12	12	17	21	15
Maximum 2004-23	27	23	38	30	39*	27*	32*	29*	23	29	37	33
Maximum 1983-03	19	13	46	21	23	27	14	21	22	20	32	18

* Includes young birds.

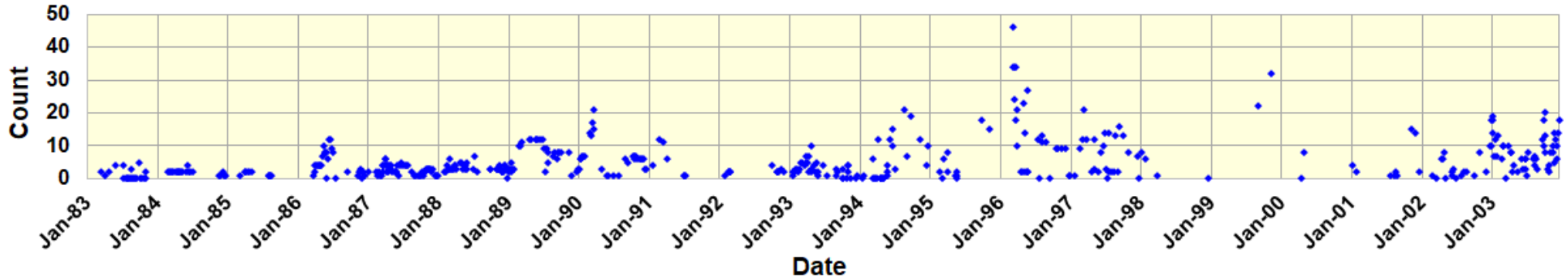


***Figure 40**. Plot of daily maxima for Great Crested Grebe in the period 1983-2003. WeBS data are not included in the above plot.*

Pre-2004. The first record in the Tyttenhanger GPs dB is from the 17th March 1983 and with a further 476 days-recorded it has an overall recording rate (13.41%) just outside the top 12 most-recorded species in this period (see *Table A2-1*). The maximum count prior to 2004 was 46 birds on the 16th March 1996 – which is also the site record – there were also a further 13 counts of 20 or more birds (see *Figure 40*). The issues with data capture between 1998 and 2000 (see *Appendix 2*) undoubtedly impacted the apparent lack of records in this period. However, what little data there are along with the WeBS counts (see *Appendix 3)* suggest there was no dip in abundance at this time[34].

***Table 34**. Summary statistics for Great Crested Grebe for the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Median
Rec. rate (%)	44.4	49.6	58.6	50.4	55.5	43.5	23.7	30.8	24.0	37.6	45.7	42.9	50.8	44.9	37.7	43.6	63.8	48.0	50.4	41.2	**44.5**
Ave. count	7.2	5.2	5.7	7.9	9.7	7.7	10.1	11.2	13.0	9.4	7.1	10.7	10.9	6.6	8.3	6.4	4.5	3.9	4.3	5.0	**7.5**
Counts ≥20	3	0	5	9	7	3	5	14	14	17	5	15	21	8	14	5	0	0	0	1	**6**
Broods	2	0	?	4	5	8	8	6	3	3	2	6	2	0	2	2	5	2	3	4	**3**

2004-23. Improved data capture and reporting over the last 20 years has provided a good picture of the phenology of this species at Tyttenhanger GPs and a summary of WeBS data and Tyttenhanger GPs data can be found in *Appendix 3*, *Table 34* and *Figure 39*. There are a few points worth noting from these data:

- Occurrence is fairly consistent throughout the year but shows peaks in the number of significant counts (≥20 birds) in November-December and March *(Figure 39)*.
- Breeding was at its peak on-site between 2008 and 2011 (see "*Breeding*" below)
- Winters between 2012/13 and 2019/20 appear to be better than average for the whole period (data not shown) but the species has shown a winter-decline since 2019/20 - which may be due to increased disturbance on the Fishing Lakes/and or reduced coverage of that part of the site.
- The maximum count in the last 20 years was 39 birds on the 26th May 2013; there have been 13 further counts of over 30 birds in this period.

Breeding. From 1983 through until 2003 this species produced young in all years apart from 1984, 1985 and 1992. Most of these years produced between 1 and 4 broods but 1998 and 1999 both produced 6 broods. Whether reporting of breeding birds increased, or the site became more attractive, but the period from 2004 to 2023 produced 6 years in which 5 or more broods were hatched (2008, 2009, 2010, 2011, 2015 and 2020); no young seen in 2005, 2006 and 2017.

Additional Information: *Appendix 3* – WeBS Counts*; Appendix 4* – Year Lists. See also *Table A2-1* and *Figure A2-3*.

[34] All WeBS counts are yet to be incorporated into the Tyttenhanger GPs dB as elucidation of WeBS count-dates has only recently been completed i.e. see *Other Resources*.

Cormorant *Phalacrocorax carbo* (5; 20, 94) [≥28]

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

2023. Monthly maxima were mostly a little lower than the 2004-23 median values but for March, April, May, August, September and December that were either equal-to or slightly higher. The maximum count for the year was of 47 birds on the 30th December with no other count over 25 birds. There is evidence of a general decline in the last few years (*Figure 41*) and the 64 days-recorded this year equates to a recording rate of just 36.2% - the lowest since 2018 (2004-23 median = 46.5%). The operation of the gas-gun on the Fishing Lakes in the last few years may be impacting this species. However, it is equally likely that other factors such as the inundation of the Main Pit with sand (see *Figure 4*) and natural fluctuations in the population are responsible. Only time will tell on the latter, but it is nice to imagine that all of the noise over the last several years has only really upset the piscatorial stake-holders.

Table 35. *Monthly maxima data for the periods 1985-2003 and 2004-23 and summary data (corrected days-recorded and corrected significant counts by month for 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	16	16	25	10	8	2	3	12	9	15	24	47
Median 2004-23	24	18	20	10	5	4	4	6	7	13	22	30
Maximum 2004-23	75	62	35	25	10	9	11	20	22	50	70	91
Maximum 1985-2003	25	31	23	24	4	4	12	6	5	7	14	71
Corr'd days-rec (%)*	9.1	8.5	9.4	9.5	7.7	5.4	5.7	7.9	8.3	8.9	9.2	10.3
Corr'd counts ≥28* (%)	16.7	10.2	2.5	0.0	0.0	0.0	0.0	0.0	0.0	2.8	24.0	43.8

* Data from 2004-23

Pre-2004. The first record in the Tyttenhanger GPs dB is from the 6th August 1985 when 4 birds were seen to fly down-river. Records are then relatively scarce through until 1988 when the first double-figure count was made on the 30th July –12 birds flying SSW. Records were more frequent from 1988 onwards although numbers generally tended to remain low with only occasional records of 10 or more birds until 1997 and 1998. The species was incorporated into the WeBS counts in 1992 and these data are summarised in *Appendix 3*. Even though numbers were smaller in most of this period than at later times the WeBS counts clearly show this to be a primarily winter visitor even at this time (see also *Figure 41*). However, a rapid upturn in numbers in the winters of 2003/04 led one regular to pose the following question (attached to a record in the Tyttenhanger GPs dB) *"I'm wondering why Tyttenhanger GP has suddenly become popular with this species. Has there been a concerted effort at another site to persuade them to clear off or are there increased numbers elsewhere?"* The analysis of Smith *et al.*, 1985 (page 74) indicates numbers were actually quite consistent in Hertfordshire from the winter of 1995/96 through until 2011/12. However, the winters of 2002/03 and 2003/04 were slightly better for the whole of Hertfordshire - possibly driven by the very good numbers at Tyttenhanger GPs. The highest count prior to 2004 was of 71 birds on the 26th December 2003 with late December that year producing four further counts of 30 or more birds. The only other count of more than 30 birds was 31 birds on the 23rd February 1997.

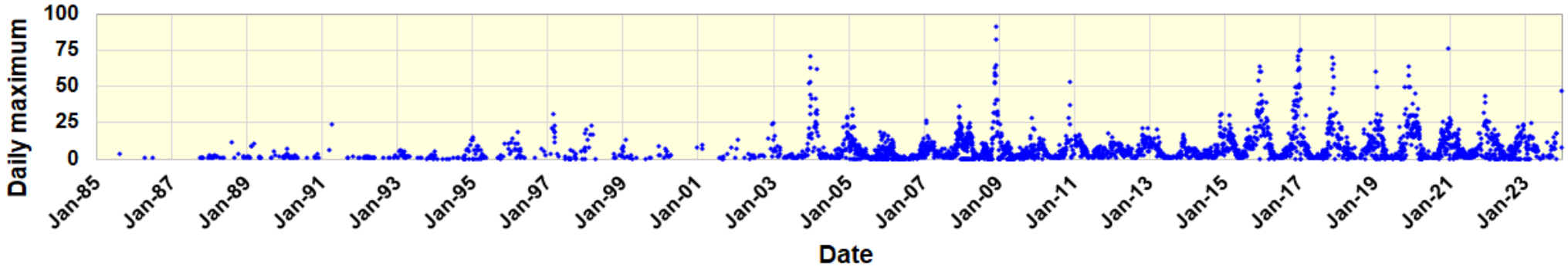


Figure 41*. Plot of daily maxima for Cormorant between 1985 and 2023.*

2004-23. This period has been good, with birds generally present for much of the year albeit in considerably lower numbers from April to September. The winter months still predominate with respect to larger counts, with over 92% of significant counts (≥29 birds) being made between November and February (inclusive) (*Table 35*). The highest count in this period was of 91 birds on

the 6th September 2008 with other counts of 75 or more birds on the 14th January 2017 (75), 19th December 2020 (76) and 11th December 2008 (82).

Additional Information: *Appendix 3* – WeBS Counts*; Appendix 4* – Year Lists. See also *Table A2-1* and *Figure A2-3.*

Shag *Phalacrocorax aristotelis* (0, 0, 4) [All]
Rare visitor. First recorded in 1988 with just two occurrences involving at least five birds the last record was in 2002.

2023. Not recorded.

Summary First recorded in 1988 when three birds (and adult and 2 juveniles) were found on the 18th March with another juvenile joining them on the 23rd March with all four birds present from the 23rd to 27th March. There were then three birds (an adult and two immatures) present from 29th March to 2nd April, after which two birds were seen up until 25th April. After this date two corpses were found (date unknown) and the surviving bird (an immature) was seen up until 18th June. The only other record was of a single bird on 5th July 2002.

Additional Information: *Appendix 4* – Year Lists. See also *Records not Assessed*

Spoonbill *Platalea leucorodia* (0, 1, 1) [All]
Rare visitor with just a single occurrence in 2018.

2023. Not recorded.

Summary. A first, and only, record for the site when an adult summer plumaged bird was seen to land on the sand spit at 09.50 am on the 22nd May 2018. The bird stayed until just 10.08 am when it flew off high to the SW. Elsewhere in Hertfordshire this year there were five days-recorded in the Lea Valley (Amwell and Rye Meads) in May/June – all considered to be the same bird. For those of you that find this species a blocker on your Tyttenhanger list the encouraging news is that the last several years have usually produced one or two records with records of 15 at Tring Reservoirs in 2021 and eight in the same area in 2023. So, it's just a question of being in the right place at the right time …

Additional Information: *Appendix 4* – Year Lists.

Tyttenhanger GPs only Spoonbill to date photographed on the 22nd May 2018. Photo courtesy of Steve Blake

Bittern *Botaurus stellaris* (1, 3, 1) [All]
Infrequent visitor

2023. No records.
Summary. With reed-bed a somewhat scarce habitat at Tyttenhanger before the mid-2000s it is perhaps surprising the first record of this species is from 1996 when a single bird was seen several times between 18th January and 3rd February then again (presumed to be the same bird) on 15th March. The next record was thirteen years later when a single bird was seen on the 21st, 22nd January 2009 around the Main Pit, which was followed in 2010 by a longer staying bird that showed well from the back viewpoint, the hide and around The Scrape between 4th and 11th December. The last record was of a single bird seen in the scrub/reeds at the north end of the main pit on 8th January 2016. In summary recorded in 4 years with comprising 6 occurrences and a total of 12 bird-days; all sightings being in the period from December to early March.

Additional Information: *Appendix 4* – Year Lists.

Grey Heron *Ardea cinerea* (5, 20, 35) [≥12]

Present throughout the year with numbers increasing in the summer months over the last 15 years as a result of the small breeding colony established in 2009.

2023. Despite the low coverage, this year still proved to be reasonably good for this species with monthly maxima generally close to the 2004-23 median values *(Table 36)*. The breeding colony on the Main Pit was active again this year and estimated to contain between 7 and 11 nests – although the only report of young was of 4 broods on the 29th April containing 3-2-1-1 young. The highest count of the year was of 20 birds on the 3rd May – which equals the current record-count for this month (*Table 36*).

***Table 36**. Monthly maxima data from the periods 2004-23 and 1983-2003 for Grey Heron.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	6	12	10	15	20*	5	8	5	6	5	5	4
Median 2004-23	8	10	10	8	10	9	6	8	8	6	6	7
Maximum 2004-23	15	20	20	18*	20	16	20	35	23	18	8	12
Maximum 1983-2003	11	12	12	7	14	18	16	21	12	9	8	11

* Includes young birds.

Pre-2004. The first record for this species in the Tyttenhanger GPs dB is from the 1st April 1983, after which it was regularly reported, producing a total of 528 days-recorded – putting it 9th on the list of most-recorded species in this period. Numbers were generally lower prior to 2004 (see *Figure 42*) with the largest count of 21 birds on the 18th August 1986, although significant counts (≥12 birds) were still reasonably frequent and comprise 4.9% of all daily-maxima. WeBS counts for this species commenced in 1993 and although a rather mixed picture (*Appendix 3*) it does generally agree with more recent data that shows the winter months (November to January) produce less larger counts (see also *Figure 42*).

2004-23. The last 20 years has seen this species with an almost constant presence on-site with a similar frequency of occurrence across the year and a clear peak in significant counts (≥12 birds between February and May *(Figure 43)*. The highest count in this period was of 35 birds on the 24th August 2019 – 25 of which was a flock passing overhead to the west.

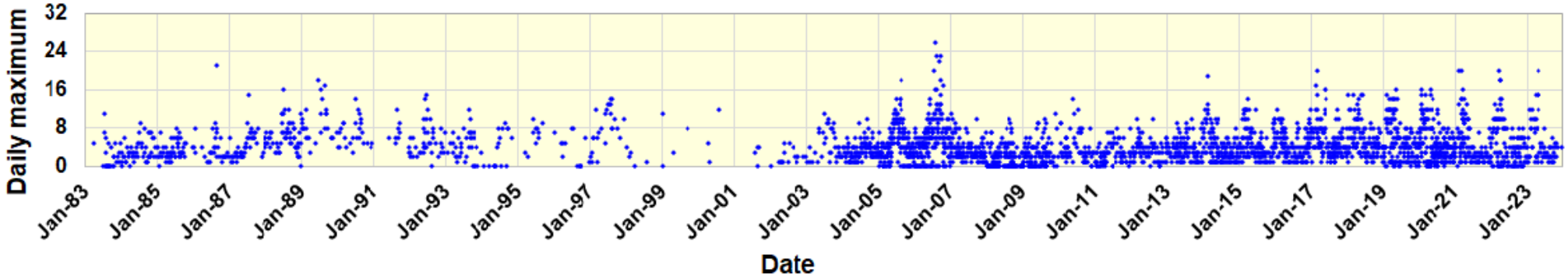


***Figure 42.** Plot of daily maxima for Grey Heron in the period 1983-2023.*

Breeding. The establishment of a heronry on the Main pit in 2009, initially of just two pairs, has seen it rise over the years to between 10-12 pairs for the last eight years – which seems to be the upper limit to the size of the heronry.

Additional Information: *Appendix 3* – WeBS Counts*; Appendix 4* – Year Lists. See also *Table A2-1* and *Figure A2-3.*

Little Egret *Egretta garzetta* (5, 20; 24) [≥7]

A very irregular visitor last century with the first record in 1999. It has become more frequent as the UK breeding population continues to spread and is now a frequent visitor, most commonly in significant numbers in the early winter (October-December). A breeding species in Hertfordshire since 2011.

2023. While there were just 82 days-recorded this year the recording rate (46.3%) and average count (bird-days/days-recorded) (2.50) indicate a reasonably good year as does a maximum count of 16 birds (2nd July) and a further 9 significant counts of 7 or more birds. The highest count and the number of significant counts are both the highest since 2017. Once again, the

popularity of this species was evidence by just a single record (0.9%) failing to draw a count. The only negative for the year was the absence of any record in May - although this is generally the least favoured month of the year (see *Figure 44*).

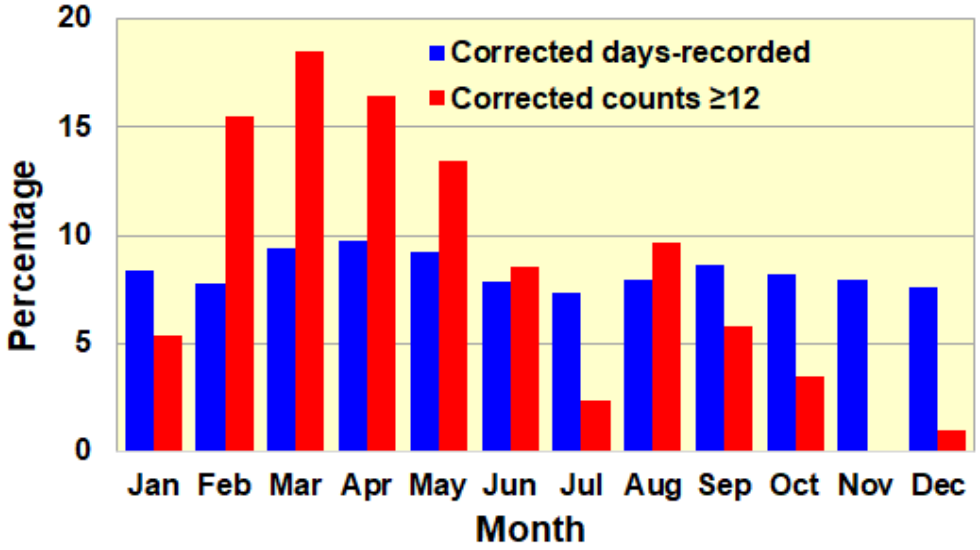


Figure 43. *Monthly distribution, by percentage, of corrected days-recorded and significant counts (≥12 birds) for Grey Heron during the period 2004-23.*

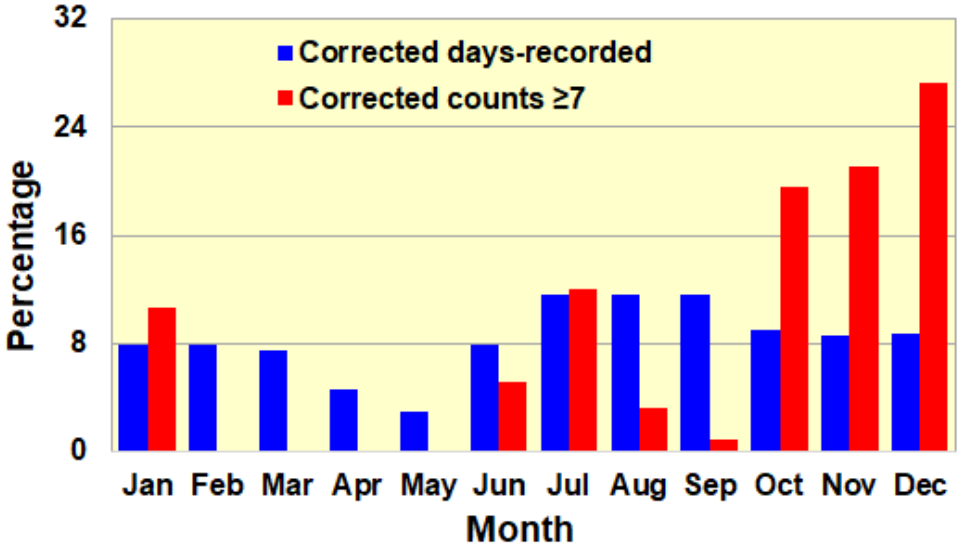


Figure 44 *Monthly distribution, by percentage, of corrected days-recorded and significant counts (≥7 birds) for Little Egret during the period 2004-23.*

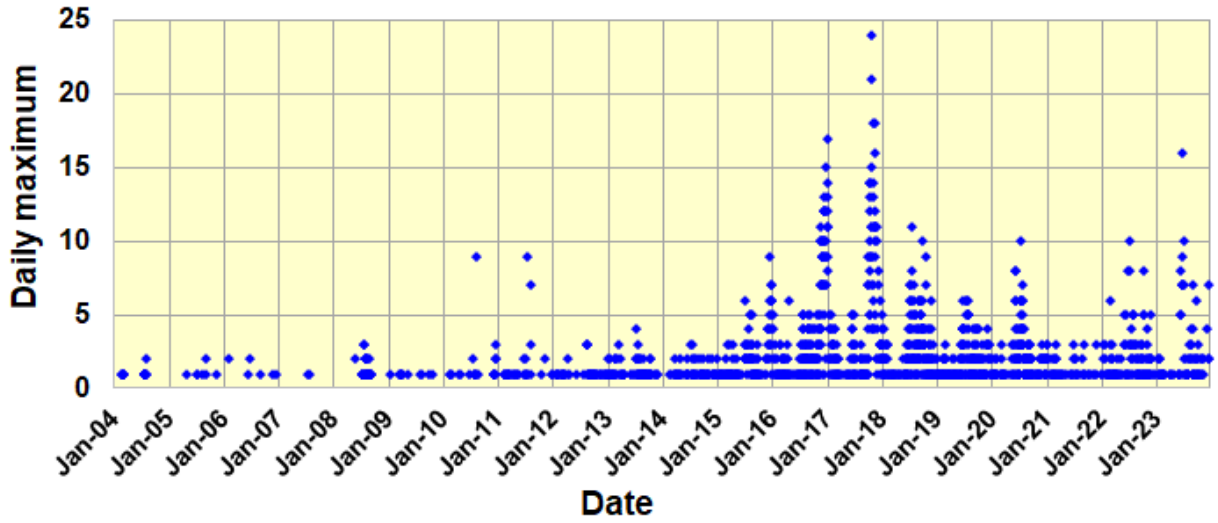


Figure 45*. Plot of daily maxima for Little Egret in the period 2004-23.*

Pre-2004. This period produced just a single record of four birds on the 24th July 1999.

2004-23.The first record in this period, and the second site record, was a single bird on the 21st February 2004. Counts tended to be relatively low through the period 2004-23 with many counts of ≤2 birds (74.0% of all counts – 53.1% of which were of single birds), however, there have subsequently been a total of 93 siginficant counts (≥7 birds). As shown in *Figure 4*4, the majority of significant counts have been in the period October to January, mostly in 2016 (27) and 2017 (45); with a record count of 24 birds on the 28th October 2017. Other monthly maxima are as follows; January, 17; February, five; March, six; April, six; May; three; June; nine; July, 16; August, nine; September, seven; November, 18 and December, 15. Interestingly, the pattern of occurrence through the year is slightly different with the peak of days-recorded occuring in the July-September window. As suggested above, the on-site peak for this species was in the winters of 2016/17 and 2017/18 (see *Figure 45*) with another period of high counts between July and October 2018. Overall, numbers have declined since 2018, although it would be fair to say the species is still a regular on-site.

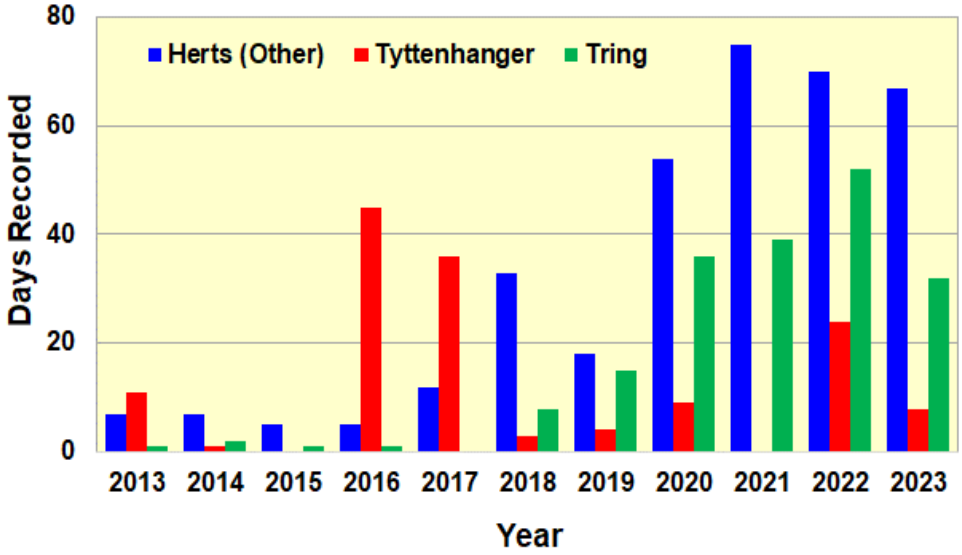
Breeding. Shown as a possible breeding species in the 2008-12 Hertfordshire Bird Atlas (almost certainly due to birds being coded as H - *Observed in suitable nesting habitat i.e.* possibly around the fledgling *heronry*), there has never been any indication they may breed. Recent breeding in similar sized heronries close by e.g. Verulamium Park does however, offer hope for the future …

Additional Information: *Appendix 4* – Year Lists.

Great White Egret *Ardea alba* (5, 9, 4) [All]

Becoming an increasingly frequent visitor over the last decade as it becomes more common in the UK and Hertfordshire. All counts are still considered notable.

2023. There were no records this year until the 3rd September when a single bird was found near The Scrape. Another single appeared on the 15th October and was joined by a further two (18th) and three birds (21st) making four birds on the latter date - the highest count of the year[35] and also a site record. All birds seemed to depart on the 23rd October but December saw a total of six days-recorded between the 12th and 30th, with two birds present on four dates and singles on the other two. In total there were 12 days-recorded for the year with a heavy bias (11 days) towards the final quarter of the year. Up until this year the record count for the site had been two birds on multiple dates; the counts on the 18th October (3) and 21st October (4) set new record-counts for the site.



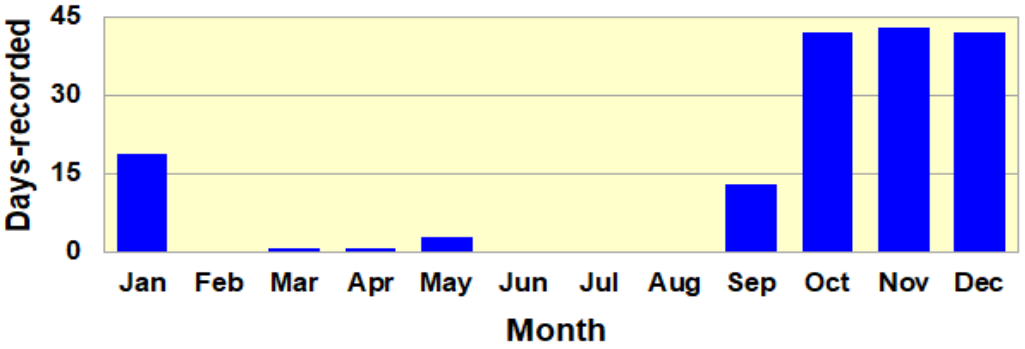


Figure 46. *(left) Days-recorded for Great White Egret at Tyttenhanger GPs, Tring Reservoirs and other Hertfordshire sites in the period 2013-23. Data for this graph were extracted from the records included in the Herts Bird Club Sightings Archive – the total number of records may be slightly different as not all birds will be reported through that platform.*

Figure 47*. (above) Distribution of days-recorded by month for Great White Egret at Tyttenhanger GPs in the period 2013-2023.*

2004-23. First recorded on the 4th October 2013, this species has been recorded in every year since 2016. The pattern to emerge both at Tyttenhanger and at other Hertfordshire sites is of a series of winter visitors which appear to favour a particular site for a period before moving on. The vast majority of records at Tyttenhanger GPs come from the 4th quarter (see *Figure 47*), with some individuals remaining into January. The following is a summary of the (presumed) longer-staying birds which have frequented the site over the 11 years since 2013:

- A single bird present from the 4th to the 29th October 2013 (13 dates) – the first records for the site.
- Two birds that often occurred together between the 14th November 2016 and 21st January 2017 (64 dates).
- A bird appeared on 17 dates between 2nd November and 8th December 2017.

[35] There is a record of six birds in the Tyttenhanger GPs dB from the 17th October that is not included in years analysis as it does not appear in the 2023 Hertfordshire Bird Report. We suspect the three birds present on the 18th October may have been there the day before but the count of six represents an over-estimate i.e. the record from the 18th states" *Moving back and forth between Scrape area and edge of main reedbed and below High Viewpoint*".

- At least two birds that usually appeared separately but did occur together a couple of times between 20th September and 17th October 2020 (18 dates).
- A single bird recorded on 32 dates between the 26th September 2022 and 3rd December 2022.
- A bird that arrived on the 11th December 2023 stayed until at least the 19th January 2024.

Summary. There have been a total of 162 days-recorded since 2013 (from all years except 2015), 104 producing a count of a one bird, 58 of two birds and just single days with counts of three and four birds on the 18th and 21st October 2023 respectively.

Postscript. Records to June 2025 show that further to the bird in January (see above) there were records from the 27th November 2024 onwards that included up to 3 birds on several dates between the 14th and 22nd December 2024. A record on the 17th May 2024 was just the fourth for this month. At least three records in early 2025 also produced the first site-record for February.

Additional Information: *Appendix 4* – Year Lists.

Tyttenhanger GPs first Cattle Egret on the 20th September 2019. Photo courtesy Steve Blake.

Cattle Egret *Bubulcus ibis* (2, 2, 2) [All]
Rare visitor having occurred on just two occasions.

2023. Not recorded.

Summary. A first for the site was seen on 20th September 2019 when found on Willow's Farm Lake at around 12.30 pm. It then flew to the Fishing Lake by the fishing huts/café area, before moving to the Main Pit where it could be seen by the Back Scrape. The second record for the site came on the 20th May 2022 when two birds were found at 8.15 am. They hung around for an hour and then flew off to the south.

Additional Information: *Appendix 4* – Year Lists.

Black Stork *Ciconia niger* (0, 0, 1) [All]
Rare visitor with just a single fly-over record.

2023: Not recorded.

Summary: One flew over the site on the 16th April 1990. First recorded in the county in 1989, the Tyttenhanger record is one of only four in Hertfordshire in the period 1983-2023; the last county record was in 2008.

Additional Information: *Appendix 4* – Year Lists.

White Stork *Ciconia ciconia* (3, 1, 1) [All]
Rare visitor recorded on three occasions.

2023: Not recorded.

Summary: Three records for the site with the first being on 19th March 2006, the second on 12th May 2012 and the last on the 9th January 2019. This is a species more likely to occur at Tyttenhanger GPs in the future as populations in nearby parts of Europe continue to increase and the Knepp Estate re-wilding project in Sussex generates more free flying birds[36]. A summary of Tyttenhanger GPs and Hertfordshire records is shown in *Figure 48.*

[36] Birds from the Knepp project became free-flying around 2018 – with at least one Hertfordshire record involving a bird from this location coming in 2018. Re-introduction programs in Belgium (1957), The Netherlands (1969) and France (1970s) have led to significant populations developing in nearby parts of northern Europe i.e. Belgium had 248 occupied nests in 2023 producing 368 young, while the Dutch population was estimated at around 1200 pairs in 2020.

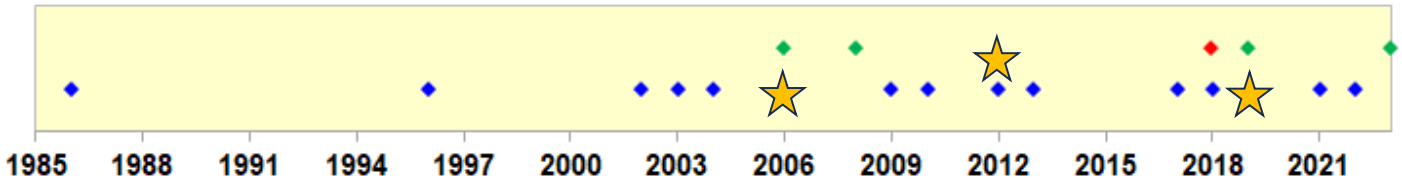


Figure 48. *Hertfordshire records for White Stork since 1986. Years with single birds (♦) and multiple birds (♦) along with the captive bird at Norton Green (♦) – the second bird that year was also considered of captive origin. The years in which birds occurred at Tyttenhanger GPs are shown (★).*

Additional Information: *Appendix 4* – Year Lists.

Glossy Ibis *Plegadis falcinellus* (2, 0, 1) [All]

Rare visitor having occurred just twice.

2023. Not recorded.

Summary. Two records for the site, the first on the 21st September 2009 was during the large influx of birds into the UK and was surprisingly the first in Hertfordshire since 1887, and only the fourth record for the county (the others being in 1826, and 1881 – see Sage, 1959 for further details). The second record was on the 3rd November 2013 when a bird stayed for a couple of minutes before flying off – this was the fifth county record, and the last before a long-staying bird that frequented the Lea Valley in October 2023.

Additional Information: *Appendix 4* – Year Lists.

Osprey *Pandion haliaetus* (2, 14, 1) [All]

Regular passage migrant, all occurrences having involved just a single bird.

2023. Not recorded.

Pre-2004. The first record was of a single bird on the 18th April 1988, closely followed by a bird seen on six dates between the 2nd and 10th May 1988 (one of only two birds to have stayed for more than a day). There was a considerable gap before the next bird on the 17th April 1996, then as shown in *Figure 49* this was followed by records in the following three years. The start of the century proved to be the last lean period for this species with no records between 2000 and 2003.

2004-23. The trend from the above period continued with 2004 producing no records, since when there have been nearly annual records (see *Figure 49*).

In total there have been 32 occurrences (all of single birds) and 39 day-recorded spread over 19 of the 36 years since 1988. Twenty of the occurrences have been in April (13) and May (7) with the remainders in March (2 – the earliest is 20th March 2009), June (2), July (1), August (1), September (5) and November (1 – 18th November 2018). The last record at the time of writing was on the 9th April 2021.

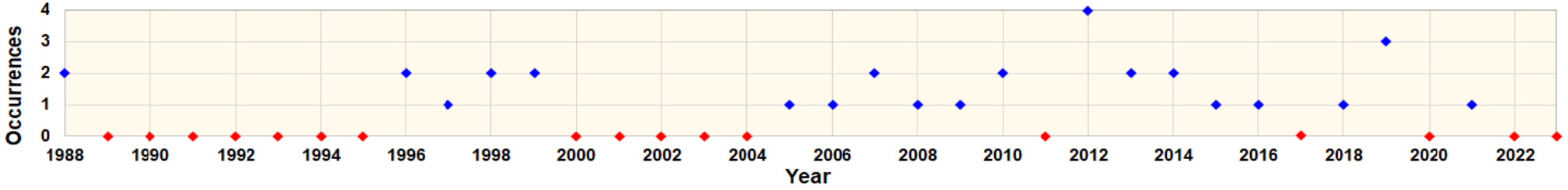


Figure 49. *Numbers of occurrences (♦) of Osprey in the years from 1988-2023. Years in which there were no occurrences are also shown (♦).*

Additional Information: *Appendix 4* – Year Lists.

Honey Buzzard *Pernis apivorus* (0, 1; 2) [All]
Rare visitor with just three accepted records.

2023: Not recorded.

Summary: The first record for the site is of a single bird being mobbed by Jackdaws on the 17th May 1987. The next was of two birds seen on the 25th September in the bumper-year of 2000 and the final record was a single bird on the 4th September 2005.

Additional Information: *Appendix 4* – Year Lists.

Red Kite *Milvus milvus* (5, 20, 12) [≥4]
Frequently observed visitor/resident since a local population established in the early part of this century from the release program in the Chilterns. First bred on-site in 2014.

2023: The occurrence of this species seems to have been relatively stable since 2013 (average recording rate of 44.0%; range 34.5% to 55.4%) and this year produced a fairly typical result i.e., 45.8% (81 days-recorded). Numbers of birds however, appear to be slightly up with an average count of 2.11 bird (the highest in the period 2004-23- *Table 37)* and a maximum count of nine birds (only the second ever count of this number) on the 18th August and ten significant counts of 4 or more birds. The latter when corrected for coverage (20) would also be the highest in the period 2004-23 – another indicator of increasing numbers. The only slight negative this year was the frequency of no-counts which reached 7.1% – but encouragingly lower than the 11.7% in 2022 (see *Appendix 2* for data). Also encouraging were indications of breeding with a bird seen carrying nesting material near Coppice Wood on the 9th April, on the 12th April a pair were seen mobbing a Buzzard and then later that day a bird carrying nesting material was seen around the Model Railway.

Pre-2004: The first record for Tyttenhanger GPs was previously thought to be in 2004. However, a record located during data-trawling revealed a wing-tagged bird was seen on the 22nd March 2002, making this the first record for the site.

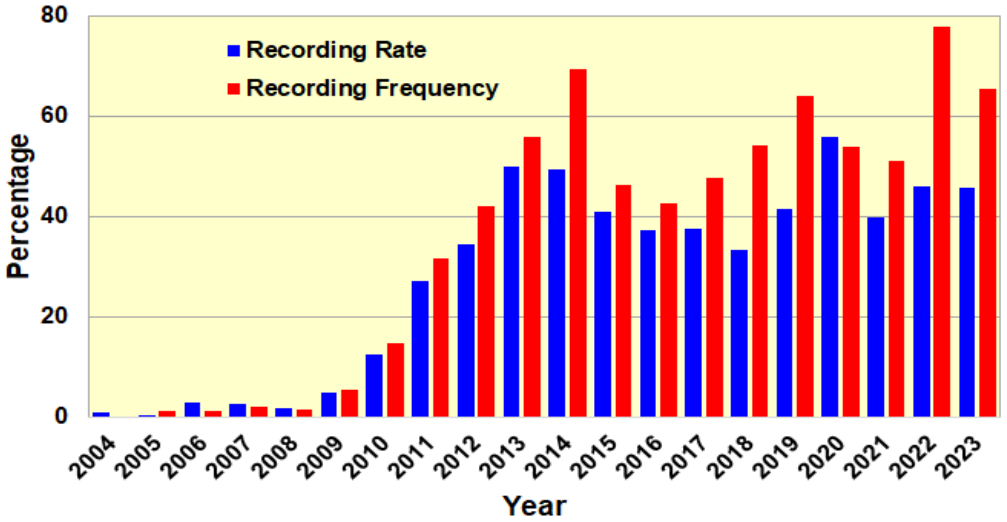


Figure 50. *Recording-rate (all observers) and recording-frequency (single observer) for Red Kite in the period 2004-23.*

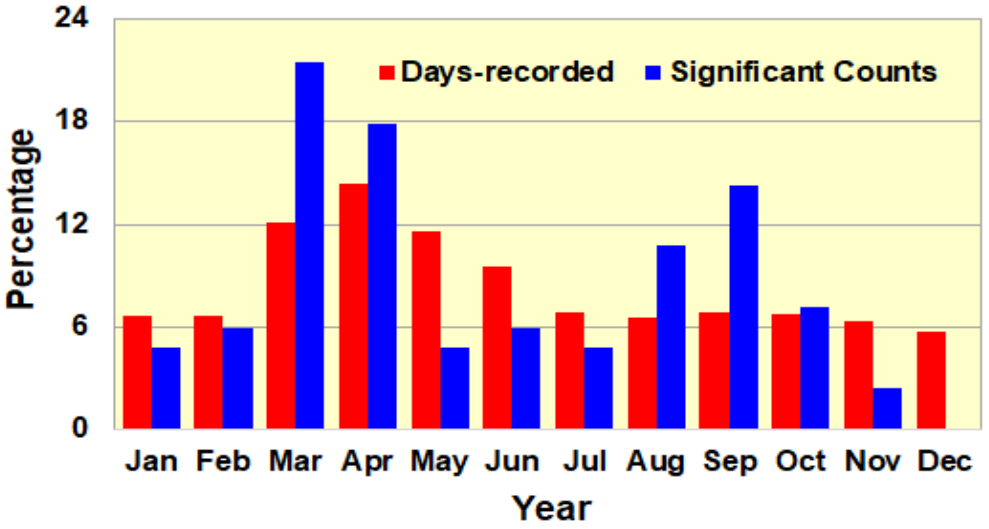


Figure 51. *The percentage of days-recorded and significant counts, by month, for Red Kite; data are from the period 2004-23.*

2004-23. The second site-record was indeed in 2004 – the 3rd April – with the period through until the end of 2008 producing a further 21 days-recorded *(Table 37).* From 2009 onwards this species showed a meteoric rise at Tyttenhanger GPs as it did elsewhere in the county. The rapid increase in the number of days recorded at Tyttenhanger GPs stabilised around 2013 and has since fluctuated around a mean of 142 corrected days-recorded (median = 136 days, range = 121-180 days). As *Table 37* shows, the number of significant counts (≥4 birds) continued to

increase after 2013 and peaked in 2018 and 2019, suggesting the local population was increasing - albeit the range has stabilised? The frequency of occurrence throughout the year is similar from July to February, but shows a peak from March through to June, suggesting birds are observed more frequently in the nesting period (*Figure 51*). Significant counts (≥4 birds) however, show a slightly different picture, and while March and April are still peak months, such counts are less frequent in the winter months (November to January) and also (rather oddly) in May, with a smaller peak in August/September. There are a couple of interesting observation on the recording-history of this species at Tyttenhanger GPs. First, the overall rate for no-counts is just 2.0% over the period 2004-23, but the first in the database didn't appear until 2015. Second, recording rates (from all observers) have generally been a little lower than recording frequency (from a single observer) – as shown in *Figure 50* – the last two years have however seen an increase in the difference between the two along with an increase in no-count rate (11.8% and 7.1% in 2022 and 2023 respectively see *Table A2-4*). Both observations point to this species shifting from being a "notable" species" to one that is sometimes not recorded/counted by some observers (see in *Appendix 2*) – a clear case of recording-fatigue. Finally, the record count for the site was of 12 birds on the 19th May 2021; there have been no other counts of ten or more birds.

Table 37. *Summary data for Red Kite in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Days-rec.	3	2	7	7	5	13	36	78	95	138	142	121	114	120	122	138	179	98	107	81
Corr'd ≥4 birds	0	0	1	0	0	0	0	0	4	2	1	2	0	6	18	13	10	13	10	20
Average count	1.67	1.00	1.43	1.14	1.20	1.08	1.25	1.24	1.39	1.31	1.36	1.36	1.29	1.58	2.01	1.87	1.78	2.02	1.66	2.11

Breeding. While breeding has only been confirmed in two years i.e. 2014 (a nest with young) and 2020 (begging young seen), breeding activity – most often adults carrying nesting material in March/April – has been observed in three other years i.e. 2015, 2019 and 2023.

Additional Information: *Appendix 4* – Year Lists. See also *Table A2-4* and *Figure 58.*

Marsh Harrier *Circus aerouginosus* (5, 13, 3) [All]

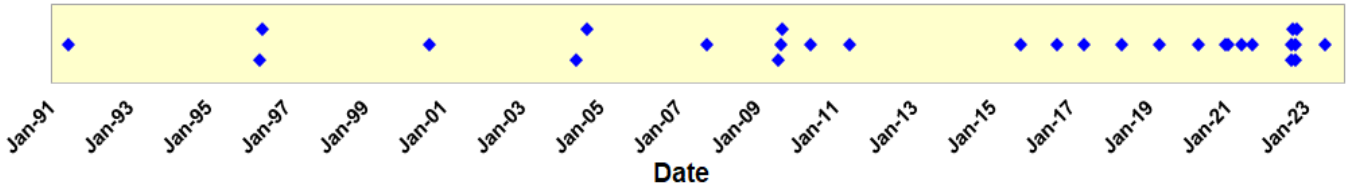
Previously irregular visitor that has become almost annual in the last decade.

2023: After the excellent 2022 (a juvenile on six dates between 16th August and 1st October), this year managed just a single bird (a female) on the 2nd July. This is just the second July record for the site and brings the total number of days-recorded to 29.

Pre-2004: Prior to 2004 there were just four days-recorded for this species with 1996 producing two records and one in 2000, following on from the first record on the 28th May 1991 (*Figure 52).*

2004-23. Since 2003 there have been an additional 25 days-recorded with all 29 days-recorded since 1991 involving just single birds. *Figure 53* shows a clear peak in occurrence in April/May and August/September with occasional records scattered in other months throughout the year.

Postscript. The good years continued into 2024 with several records involving a juvenile in the early part of the year; in the final quarter of the year up to three different



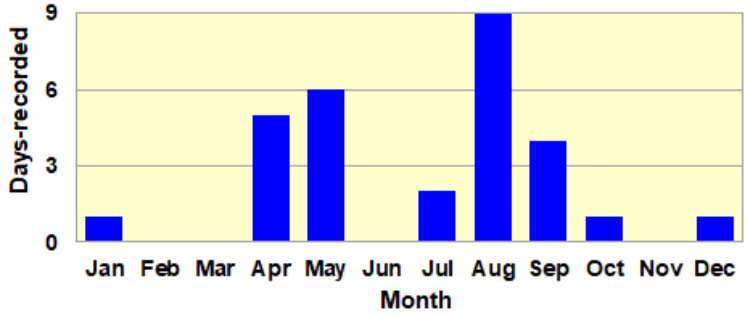


Figure 52. *(above) Timeline showing the distribution of days-recorded for Marsh Harrier from the first record in 1991 through until the end of 2023. All records are of single birds, the vertical spread is to separate clusters of records.*

Figure 53 *(left) Monthly distribution of days-recorded for Marsh Harrier across the period 1991-23.*

birds were seen with all three seen on the 27th November; a new record count for the site. Birds continued to be recorded until at least February 2025.

Additional Information: *Appendix 4* – Year Lists.

Montagu's Harrier *Circus pygargus* (0,1,1) [All]
Rare visitor recorded on just one occasion.

2023: Not recorded.

Summary: The only record is of a single bird seen flying through on the 20th April 2011. Seen by just a single observer, and with the last Hertfordshire record way back in 2015, it's difficult seeing this one unblocked on lists in the near future.

Additional Information: *Appendix 4* – Year Lists.

Hen Harrier *Circus cyaneus* (1,1;1) [All]

Rare visitor.

2023: Not recorded.

Summary: Just a single record of a ringtail on the 28th October 2018. First seen over Courser's Road GPs being mobbed by a Red Kite, it dropped down briefly and was then harried by Carrion Crows and seen to fly over Willow's Farm. With records becoming more frequent in Hertfordshire in the recent past – both in the favoured areas in the north of the county but also elsewhere - this is one species that may appear again at Tyttenhanger GPs in the not-too-distant future.

Additional Information: *Appendix 4* – Year Lists.

Goshawk *Accipiter gentilis* (0,0,1) [All]
Rare visitor; not recorded since 1998.

2023: Not recorded.

Summary: There are two records for the site in the Tyttenhanger GPs dB which are both of single birds - one (unsexed) on the 26th October 1996 and a male on the 10th April 1998. The 1996 record although described as "well seen" in the 1996 Tyttenhanger Bird Report, was either not submitted to the Herts Rare Birds Panel or was found to be "not proven", and so does not appear in the Hertfordshire Bird Report of that year; the 1998 record is included as a confirmed record in the report of that year.

Postscript. While still a major blocker on-site there is some heart to be gained from the rapidly increasing breeding population in the UK. The population is also increasing in the east and south-east of England at a similar rate and there is some evidence of an increasing number of records in Hertfordshire in the last several years. Most encouraging though is a report from about 3 kms to the north-west of the Main Pit in the early part of 2024 of a bird passing over with Buzzards on the 16th March and records in the St Albans area have continued into 2025 …so eyes to the skies.

Additional Information: *Appendix 4* – Year Lists.

Sparrowhawk *Accipiter nisus* (5, 20, 6) [≥2]
Resident that undoubtedly breeds most years locally but is unconfirmed. Over 86% of records involve single birds; counts of more than one bird and breeding records are considered notable.

2023. There was little change in the reporting frequency from last year and the 23 days-recorded is fairly typical of the recent past when coverage is considered (*Figure 58*). The only records of multiple birds were of two birds on the 22nd April (displaying over Coppice Wood) and the 3rd May; the record from the 22nd April was the only breeding-related record for the year.

Pre-2004. The first record in the Tyttenhanger GPs dB is from the 1st October 1983, with records in every subsequent year through until 2023 – a summary of the recording rate through this

period is shown in *Figure 54*. Throughout this period this species appears to be under-represented in the Tyttenhanger GPs dB as evidenced by the low recording rates in several years – but this may also be due to the idiosyncrasies in data capture (see *Appendix 2*). The overall recording rate was 8.7% (281 days-recorded) and the maximum count was of six birds on the 10th July 1998 – which interestingly was a group of "6 young near fledging in Coppice Wood".

2004-23. The overall recording rate through this period was 13.8%, with a pattern of occurrence through the year showing noticeable troughs in February and May/June (see *Figure 55*). Significant counts (≥2 birds) show a very similar pattern through the year to that of occurrences, although August is over-represented probably due to the preponderance of family parties noted at this time of the year. Occurrence on site has been fairly stable since approximately 2009 with the species having its zenith from 2005 to 2008 (when breeding was confirmed in every year - *Figure 54*). The maximum counts in this period were of four birds on the 18th August 2007, 6th August 2008 and 5th September 2009 -all three records coming from the peak period for this species on-site.

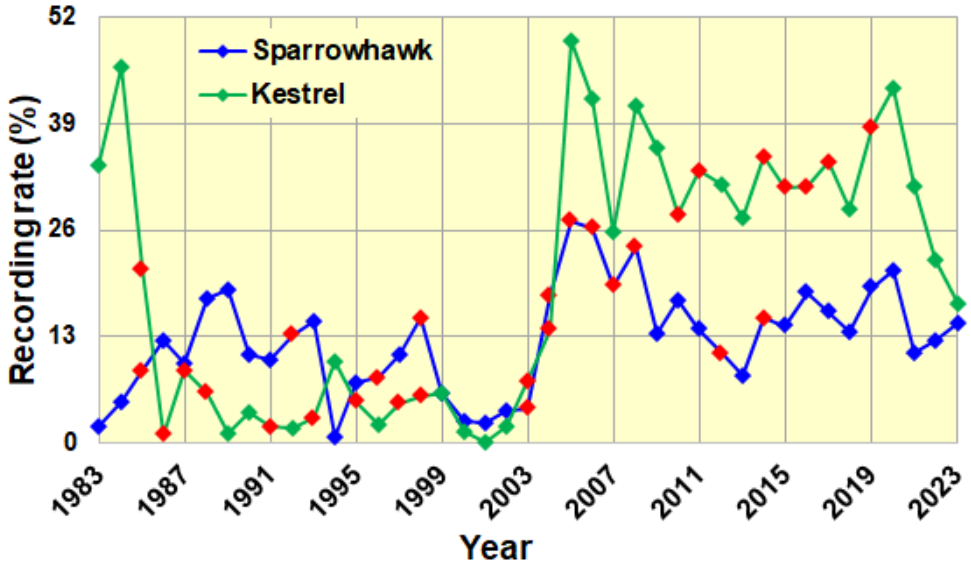


Figure 54. *Recording rate for Sparrowhawk and Kestrel through the period 1983 to 2023. Years shown by the red symbols (♦) are those in which breeding was confirmed.*

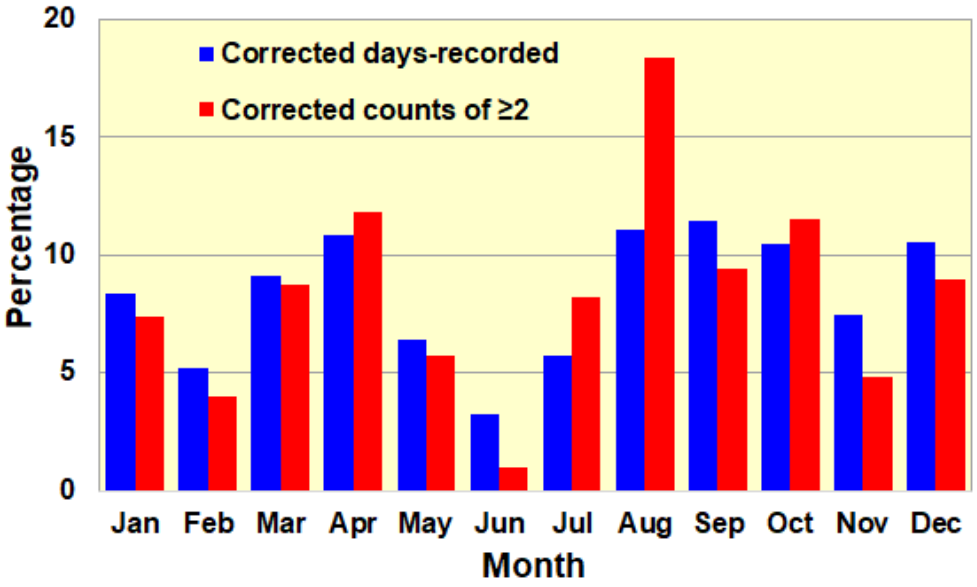


Figure 55*. The percentage of days-recorded and significant counts, by month, for Sparrowhawk; data are from the period 2004-23.*

Breeding. This species probably breeds on-site in most years but their secretive nature during the nesting period means nests and young are rarely recorded before they reach the fledging stage and become vocal. Prior to 2004 breeding was confirmed by recently fledged young (FL) in four years (*Figure 54*) whereas after 2004 breeding was confirmed in seven years Reports of courtship and display (D) can be found for 2015, 2016 and 2023 and multiple counts of 2 or more birds during the breeding seasons in 2016 and 2019 are also strongly suggestive of breeding on-site. Confirmed breeding is also shown in both the 1988-92 and 2008-12 Hertfordshire Bird Atlases.

Additional Information: *Appendix 4* – Year Lists. See also *Figure 54* and *Figure 58*.

Buzzard *Buteo buteo* (5, 20, 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.

2023. Although there were just 57 days-recorded this year, the recording rate of 33.3% is consistent with much of the last decade (*Figure 58*). However, the maximum count for the year was of just four birds on the 10th February, 7th April and 22nd April, while the average count was also below 2.0 for the second year in a row (*Table 38*) - both indicating fewer birds being recorded

as does the increasing rate of reporting of single birds *(Table 38)*.

***Table 38**. Summary statistics for Buzzard in the period 2004-23. Single bird (%) is the percentage of all daily maxima that counted just a single bird.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Ave. count	1.2	1.6	1.6	1.7	1.4	1.7	2.3	1.4	2.5	2.2	2.5	2.0	2.3	2.3	2.0	2.1	1.9	2.2	1.6	1.6
Maximum	4	7	5	5	4	6	8	8	8	8	10	8	7	10	6	8	7	8	5	4
Single birds (%)	89.3	71.1	62.3	60.9	77.8	58.5	44.3	36.5	31.3	42.0	33.3	44.2	33.0	38.6	44.9	42.7	45.5	39.5	57.7	59.3
Counts ≥5 birds	0	2	1	1	0	5	9	10	6	6	7	4	11	11	6	10	8	6	3	0

Pre-2004. The first record from Tyttenhanger GPs is from the 6th January 1991 - although a slightly earlier record from Colney Heath on the 2nd September 1990 may well be attributable to the site. After a small burst of records in 1991 (four days-recorded) from Tyttenhanger GPs and Colney Heath, there was then a gap of almost five years before the next record on the 1st August 1996. Subsequent records were still relatively infrequent through until the end of 2002 (just 25 days-recorded in the period 1990-2002) but 2003 then produced 23 days-recorded. The maximum count during this period was of just 3 birds from one date in 1999 and three dates in September/October 2003.

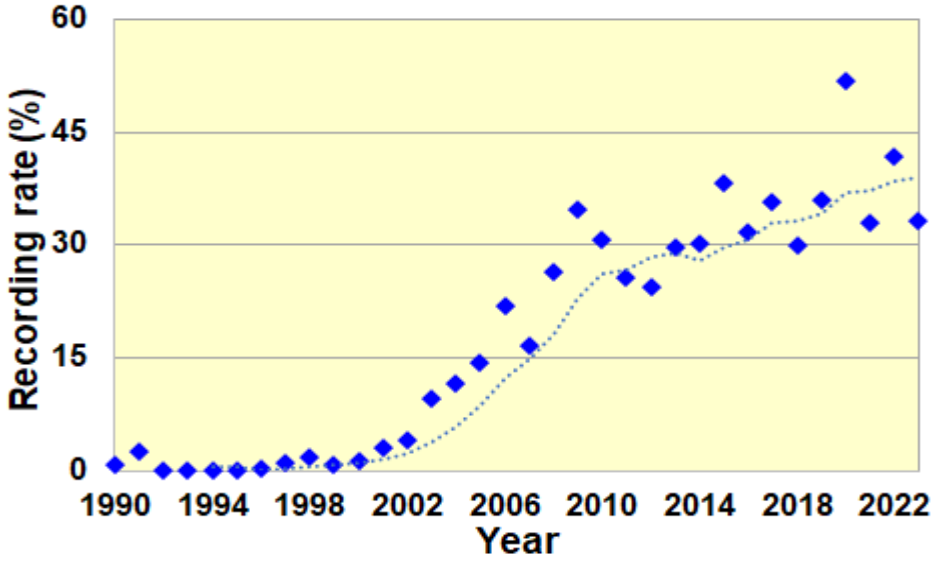


***Figure 56.** Recording rate for Buzzard in the period 1990-2023. The dotted line shows the mean for the previous 5 years.*

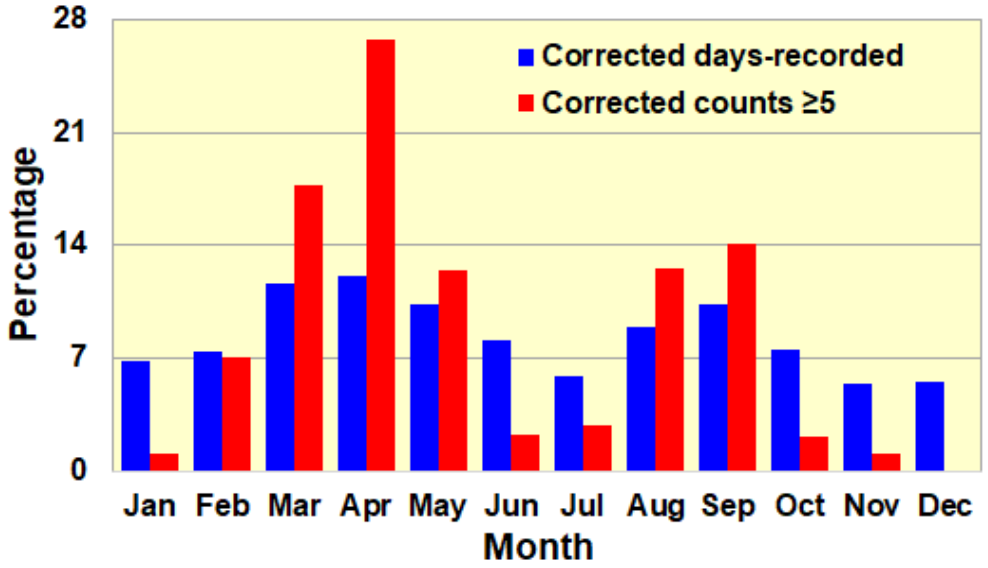


***Figure 57**. The percentage of days-recorded and significant counts, by month, for Buzzard. Data are from 2004-23.*

2004-23. After 2003 occurrences increased dramatically until 2010 when there was a slowing in the rate of increase through to the present day (see *Figure 56*). While the years from 2004-2009 tended to show a preponderance of counts of single birds, after this it stabilised to around 40% until the last couple of years when it has risen again (*Table 38*). Occurrence through the year shows some variability with a peak in spring ((March to May) and early autumn (August-September); while the pattern of abundance/significant counts is similar it is more pronounced (*Figure 57*). The maximum count in this period was of ten birds on the 5th April 2014 and the 29th April 2017 – all equal site-records.

Breeding. Although displaying birds have been reported in several years since 2012, the only confirmed breeding on-site was in 2019 when birds were seen carrying food into The New Plantation on the 8th July and then recently fledged young were reported from the same location on the 13th July. Other reports of juvenile birds are clearly indicative of local breeding, but none support further confirmed breeding on-site, although the 2008-12 Hertfordshire Bird Atlas does show this as a confirmed breeder in TL10X.

Additional Information: *Appendix 4* – Year Lists. See also *Figure 58*.

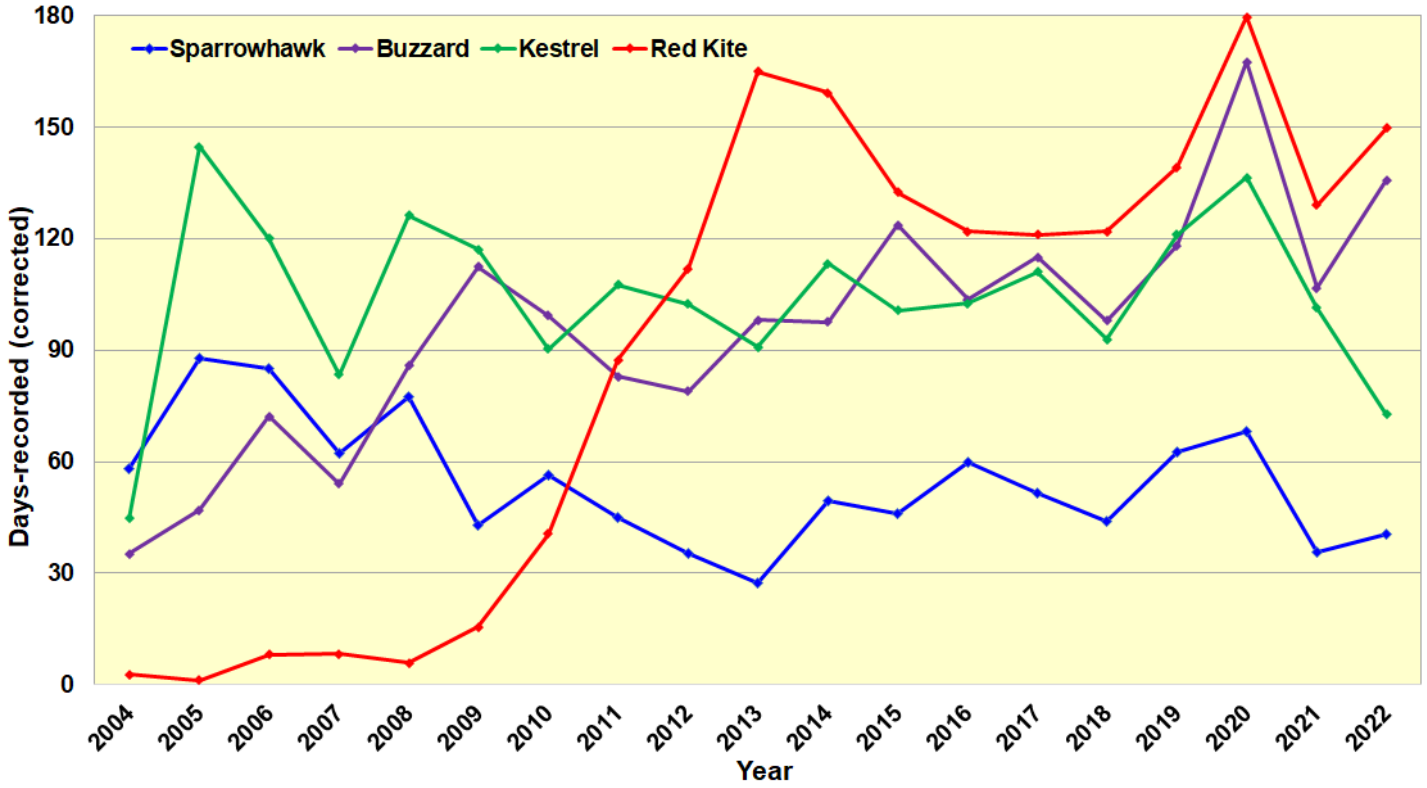


Figure 58. *Summary of Days-recorded (corrected) for the more common birds of prey (Sparrowhawk, Buzzard, Kestrel and Red Kite) at Tyttenhanger during the period 2004-22. Raw data for days-recorded were corrected for the coverage in each of the years relative to the maximum coverage of 324 days in 2018***.** *Photo to the right courtesy of Simon West.*

Kestrel *Falco tinnunculus* (5, 20, 7) [≥2]

Birds of both sexes are generally present throughout the year with breeding 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.

2023. With just 30 days-recorded and not a single count of more than one bird, the decline of the last couple of years has continued, the recording rate (17.0%) reaching the lowest point since 2004 (13.8%). The only hint of optimism for this species is recording frequency (data not shown) showed less of a decline than recording rate - which may suggest some under-recording in the last few years. Also offering some hope was the rebound from the lows of 2003/2004 (*Figure 58*),[37] which will hopefully be repeated.

[37] The recording rate in 2003 was just 7.5% and although there are some issues with the Tyttenhanger GPs dB prior to 2004 (see *Appendix 2),* 2003 was reasonably well covered (and in many respects data capture that year was more like 2004 than previous years), which leads us to conclude that 2003 was probably a poor year for this species as was 2004.

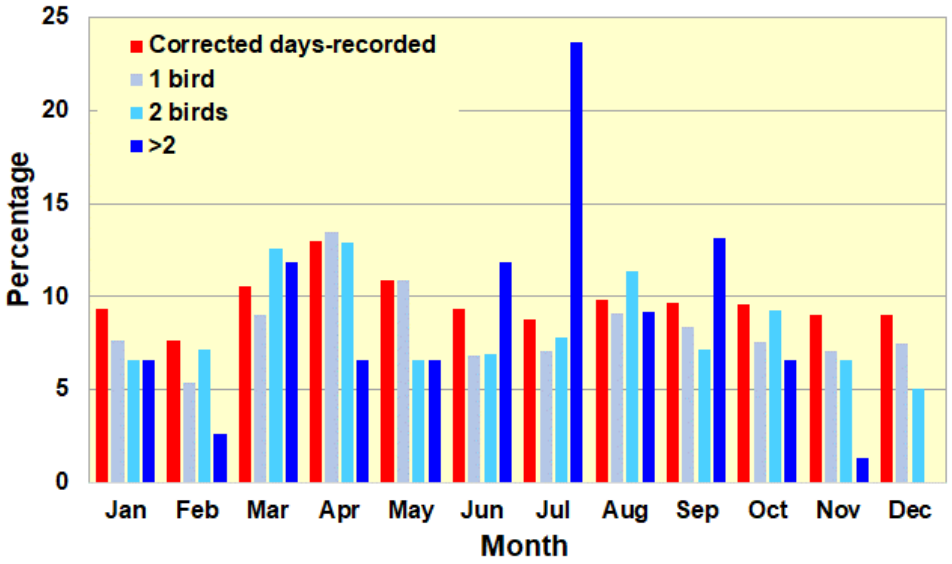


***Figure 59**. Monthly distribution of counts for Kestrel in the period 2004-23*

Pre-2004. The first record in the Tyttenhanger GPs dB is from the 20th June 1961[38] making this one of a small cadre of species recorded on-site prior to 1983. Between 1983 and 2003 there are entries in the dB from most years (1986 excepted), although in most years the recording rate is quite low and there are suggestions that data-capture for this species may have been poor[39]. The maximum count in this period was of four birds – all counts being in July and August and from 1987, 1991, 1993 (2 counts) 1995 and 1997.

2004-23. Although a relatively common occurrence through this period, it does seem to go through some ups-and-downs (see *Figure 54* and *58*) and in the last five years has probably lost its title of "most frequently encountered bird of prey" at Tyttenhanger GPs. Generally present through most of the year, there is a slight peak in occurrence in the period March-May but with greatest numbers usually recorded in July (see *Figure 59*) at a time when family parties are commonly noted. Unsurprisingly the record count is of just seven birds on the 5th June 2019 – which was of a male with six young at the nest.

Breeding. Years with confirmed breeding are summarised in *Figure 54* and comprise 19 of the 41 years from 1983 to 2023, with all confirmed breeding being of just a single pair. Interestingly breeding was not recorded between 2006 and 2009 when the population seemed to be at a relative high point (see *Figure 58*). Confirmed breeding is also shown in the Hertfordshire Bird Atlases of 1988-92 and 2008-12.

Additional Information: *The First Gravel Pits; Appendix 4* – Year Lists. See also *Figure 54* and *Figure 58.*

Peregrine *Falco peregrinus* (5, 20, 2) [All]

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

2023. Seven days-recorded is slightly disappointing after the 23 days in 2022; the days-recorded this year coming from January (1), February (2), August (1), September (2) and October (1). The record from the 18th August is particularly interesting as it is from Willows Farm and involved an adult and a ringed juvenile - the latter begging for food. Presumably these birds came from the pair at St Albans Cathedral where three young males were ringed and fledged successfully (Hertfordshire Bird Report 2023, p40); it was just the ninth count of two birds from the site.

Pre-2004. This was a description species for the Herts Bird Club until mid-2006, and a relatively rare visitor at Tyttenhanger until around 2004. The first record is of a single bird from the 23rd April 1994 – and is the only accepted record prior to 2006. Nevertheless, there are a further 3 records (all of single birds) in the Tyttenhanger GPs dB i.e. the 25th November 2001, 25th October 2003 and 26th October 2003; presumably these records were either considered not proven or descriptions were not submitted.

2004-2023. Between 2004 and 2014 days-recorded were generally in single figures, although 2010 (12), 2011 (24) 2012 (12) and 2013 (10) did produce days-recorded in double-figures (*Figure 60*). From 2015 onwards however, all years up until 2022 produced more than ten days-recorded with the stand-out years being 2019 (75), 2016 (45), 2020 (39) and 2022 (23). Since 2004 there have been a total of 363 days-recorded but only nine of these have produced counts of more than a single bird i.e. two birds on the 20th June 2011, 4th September 2015, 16th November 2016, 26th November 2016, 16th December 2016, 20th December 2016 (the 2016 records all involving an adult and a juvenile bird – the latter of which was missing its tail feathers), 7th January

[38] This is one of six records from the NBN Atlas that are dated prior to 1970 and with a location shown as TL1904 – which likely means they refer to Tyttenhanger Park. The other species involved *include Blackbird, Song Thrush, Whitethroat, Chaffinch* and *Greenfinch*.

[39] Several observations lead us to this conclusion; first the high rates from 1983, '84 and '85 derive from most records in this period deriving *post-hoc* from a single observer and not from the original database (see *Appendix 2*). Second, counts of more than one bird comprise 33.8% counts compared to 23.2% in the period suggesting a bias in data-capture to higher counts. Third, breeding occurred in at least seven years in this period either on-site or close-by (*Figure 54*). Finally, 25.4% of all days-recorded failed to produce a count i.e. suggesting the species was a frequent enough occurrence not to warrant a count (see *Appendix 2*)

2018 and 18th August 2023 (see "*2023*" above). The monthly distribution of days-recorded shows a strong bias towards the winter months (November to January) – the latter also having provided the majority of counts of multiple birds (*Figure 61*).

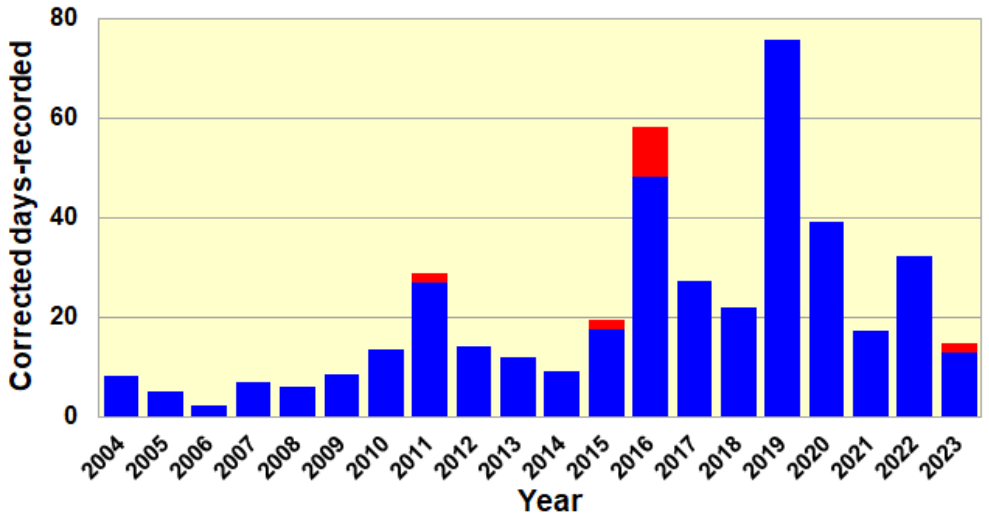


Figure 60. *Corrected days-recorded for Peregrine in the years from 2004-23. Years in which counts of multiple birds were made are shown by the red bars (these are not to scale with the blue bars but are sized relative to each other from a total of nine counts).*

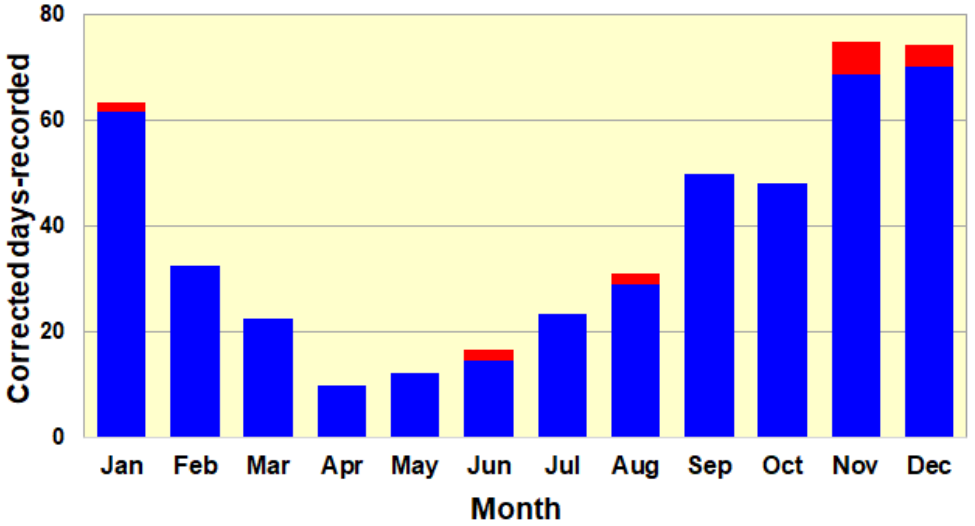


Figure 61. C*orrected days-recorded shown by month, for Peregrine in the period 2004-23). Months in which counts of multiple birds were made are shown by the red bars (these are not to scale with the blue bars but are sized relative to each other from a total of nine counts).*

Additional Information: *Appendix 4* – Year Lists.

Merlin *Falco columbarius* (0, 3, 1) [All]
Infrequent visitor.

2023. Not recorded.

Summary: Descriptions were required by the Hertfordshire Rare Birds Panel (HRBP) for Merlin up until 2014, it is therefore unsurprising there are more entries of this species in the Tyttenhanger GPs dB than there are records in the Hertfordshire Bird Reports i.e. the latter only including records accepted by the HRBP. Just as a demonstration of how this played-out, between 2008 and 2013 we were able to find 79 reports of this species in the county, representing 65 occurrences, only 17 of which were concluded to be sufficiently proven to be included in the Hertfordshire Bird Reports. Of the remainder, 24 were considered unproven and 24 appear never to have been submitted. For Tyttenhanger GPs, we were able to identify 14 reports of this species between 1993 and 2012 (the year of the last on-site report) all of which are summarised below[40]; records in the Hertfordshire Bird Reports are indicated (HBR), the voracity of the remaining reports is not known and we have no evidence to indicate any of them were submitted to the HBRC[41].

1993. One on the 9th November at Colney Heath.

1996. A male on the 28th September (**HBR**).

1997. An immature female on the 26th September (**HBR**).

1998. A male on the 10th April (**HBR**).

2000. One on the 20th March (**HBR**)

2001. One on the 27th November.

[40] In this instance we have used the Herts Bird Club Sightings Archive and Rarer Bird in Herts pages along with the Herts Bird Club Sightings archive from 2008 and 2009 accessed from the Wayback Machine..

[41] The Hertfordshire Bird Report did not start listing unproven/not accepted records until 2007, the Rarer Birds in Herts page runs from 2008 onwards and the not assessed/not submitted records were not listed until the 2017 Hertfordshire Bird Report. The "not submitted records" are not shown on the Rarer Birds in Herts page, although some records still exist in the HBC Sightings Archive if you look hard enough.

2001. A female on the 16th December.

2003. One on the 9th March.

2004. One on the 25th March (**HBR**).

2003. One on the 12th January.

2003. One (a male) on the 3rd April.

2006. One on the 26th November.

2012. One on the 6th November (**HBR**)

2003. One on the 1st February (**HBR**).

2004. One on the 12th March.

2007. One on the 18th February (**HBR**)

In summary there are only seven accepted records for this species at Tyttenhanger GPs – all involving single birds. The occurrences are distributed across five month – February (1), March (2), April (1), September (2) and October (1).

Additional Information: *Appendix 4* – Year Lists.

Hobby *Falco subbuteo* (5, 20, 8) [≥3]

Passage migrant and summer visitor; median spring arrival date (2004-23) 29th April; median autumn departure date (2004-23) 27th September. Over 72% of all counts (2004-23) are of single birds and counts of 3 or more birds are considered notable. The earliest arrival was on the 27th March and the latest bird was seen on the 23rd October.

2023. This year produced just 22 days-recorded which, even after correction for low coverage (49), is the lowest since 2017 (31) (*Figure 63)*. Despite the low rate of occurrence, numbers were reasonably good with nine of the days-recorded producing counts of 2 or more birds and a maximum count of four birds on the 3rd and 4th September – both involving family parties and suggestive of local breeding. Note, the only other breeding related record was a record from Colney Heath Common on the 4th August of a bird seen visiting a probable nest site (off-site) in Fredericks's Wood. Arrival and departure dates this year were both equal to the 2004-23 median dates of the 29th April and 27th September respectively.

Table 39. *Summary statistics for Hobby between 1988 and 2003.*

	1988	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
Rec. rate %	13.3	29.9	4.3	6.7	4.8	12.1	19.6	13.3	27.5	16.4	9.0	13.3	6.9	23.8	16.1	30.1
Counts ≥3*	1	16	0	0	0	1	0	0	0	0	0	2	2	8	0	5

* Counts have been corrected for the relative coverage across the summer months (April-September) in the years concerned.

Pre-2004. It was a little surprising to find the first dated entry in the Tyttenhanger GPs dB is not until the 6th May 1988 - despite the Hertfordshire Bird Report of 1983 stating "…*one or two birds were also recorded [in autumn] from …Tyttenhanger (sic)* …".

Nevertheless, from 1988 through until 2003 the Tyttenhanger GPs dB contains 283 days-recorded with a median reporting rate in the April-September window of around 13.3% (range 4.3% (1990) to 30.2% (2003)). It is difficult to determine from the available data whether the fluctuations in occurrence and abundance (*Table 39*) are real or just a phenomenon arising from recording and/or data-capture anomalies. Notwithstanding the heterogeneity in the dB, there is however, a remarkable string of records in August/September 1989 when 3 or 4 birds were present on 9 dates in this period (adjusted for summer coverage to 126 days in *Table 39*), with several of these records noting adult and juvenile birds together – a strong indication of local, if not on-site, breeding. The highest count in period 1999-2003 was of eight birds on the 25th September 2000 – which is a site record. The earliest arrival date in this period was the 27th March 2003 while the latest date recorded was the 23rd October 2001 – both dates being records for the site.

2004-2023. This species generally starts to arrive around the beginning of week 17 (22nd April) with the earliest in this period being the 1st April 2004 (*Figure 62)*. Days-recorded from week 18 (19th April) through until week 32 (5th August) are reasonably consistent after which occurrence is higher through until week 37 (9th September). The latter is also the period when the most significant counts (≥3 birds) are made - many of which involve adults and young together (see "*Breeding*" below). Occurrence and numbers decline quite rapidly after week 37 (16th September) until the beginning of October and there are just a few records after the 6th October – the latest being the 15th October (2014 and 2019). The maximum count in this period is of five birds with counts from several years (2010, 2015, 2018, 2019 and 2020) and all months between May and September (except July) have recorded this count.

Breeding. Although breeding has never been confirmed at Tyttenhanger GPs there is strong evidence breeding has occurred near-by or even possibly on-site with juveniles an/or family parties regularly recorded from early August onwards when numbers peak (*Figure 62*).

Photo courtesy of Patrick Wainwright.

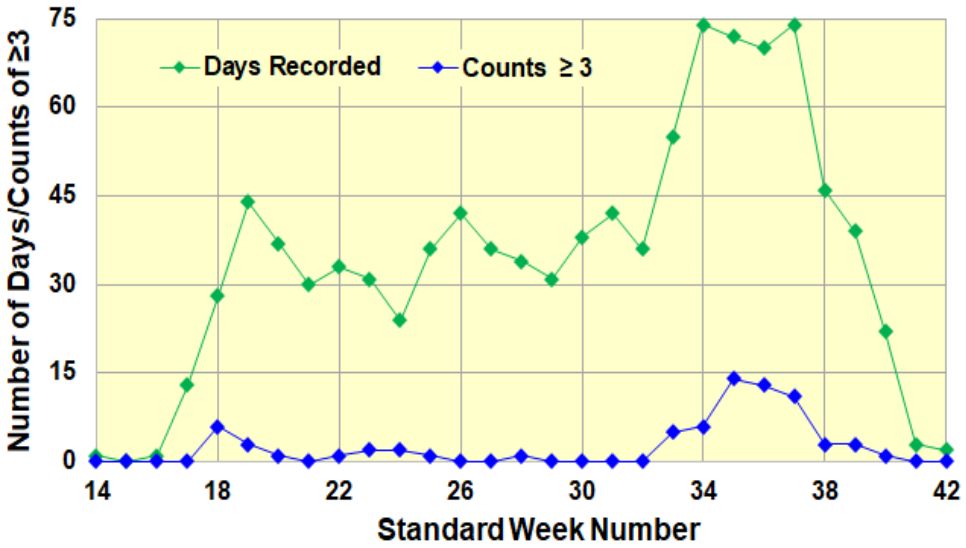


Figure 62. *Plot by standard week of days-recorded and significant counts (≥3 birds) for Hobby in the period 2004-23.*

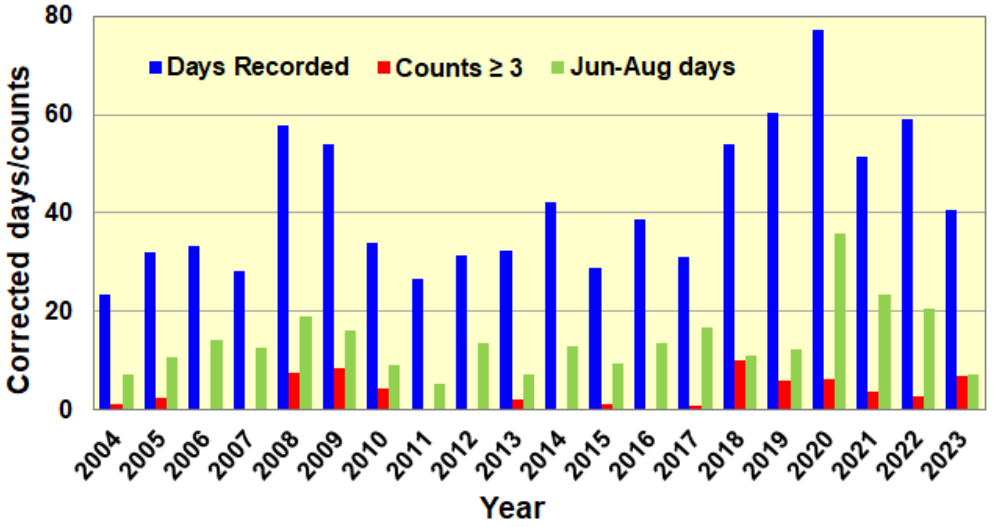


Figure 63. *All (April-September) days-recorded, significant counts (≥3 birds) and summer days-recorded (June-August) for Hobby in the period 2004-23. Values are corrected for coverage in the ranges shown.*

Additional Information: *Appendix 1* –Migrant Arrival and Departure (*Figure 112*); *Appendix 4* – Year Lists. See also *Table A2-2*.

Water Rail *Rallus aquaticus* (5, 20, 7) [≥3]

Regular winter visitor in the recent past; median spring departure date (2004-23) 27th March; median autumn arrival date (2004-23) 29th October. All records between 21st April and 1st September are particularly noteworthy; over 71% of records involve just single birds and counts of 3 or more birds are considered significant.

Table 40*. Month-by-month corrected days-recorded and significant counts (≥3 birds) for Water Rail (2004-23).*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Corr'd days-rec	111	95	97	21	1	4	1	3	15	45	107	127
Corr'd counts ≥3	16	4	5	1	1	0	0	0	2	0	12	5

2023. A total of 27 days-recorded for the year split between the first four months of the year (21) and the period from September-November (6); there were no records from May to August (inclusive) or in December. The first part of the year was a continuation of the good start to the 2022/23 winter period (*Figure 64*) and produced the only significant count of the year – 3 birds on the 10th February. The last bird of the spring was recorded on the 9th April and the first bird of the autumn on the 5th September. There were no records between May and August this year – the first year since 2017 there have been no records in the summer period (21st April to 1st September); there were three days recorded in the final quarter of the year (none in December).

Pre-2004. It is difficult to believe that for bird so regularly encountered at Tyttenhanger GPs in the recent past, it was once an unusual occurrence. The first record in the Tyttenhanger GPs dB is from the 17th March 1984, but the next record is then nearly 20 years later on the 13th December 2003; both records are of single birds and the only records for this period.

2004-23. From 2004 onwards records started to become much more regular, possibly due to better coverage but more likely to improvements in site suitability. The increasing number of records has also shown a strong bias towards the winter months between November and March with a scattering of records in April and September *(Table 40)*. The first records in autumn/winter range from early September through until November/December. However, as shown in *Figure 65*, there is a relatively strong correlation between the year and the autumn/winter arrival date over the

period 2004-23 with arrival dates getting earlier each year (r^2 = 0.628). Spring departure dates however show little tendency towards getting later (r^2 = 0.105) and have ranged between the 12th February and 21st April (median = 27th March, n = 18). As this species has occurred more frequently and in greater numbers in the winter months (*Figure 64*), summer occurrences (21st April to 1st September) have also increased. The first summer record was on the 14th August 2014, however since 2018 (1 record) the following years produced summer days-recorded: 2019 (1 day-recorded), 2020 (1 day-recorded), 2021 (3 days-recorded) 2022 (1 day-recorded). Needless to say, breeding has never been confirmed at Tyttenhanger GPs – but we are still optimistic, despite the poor result in 2023. Finally, the largest count for the site was of seven birds on the 1st January 2020 – all heard calling from the reedbed on the Main Pit and The Scrape - that same winter had also produced a count of 5 birds on the 19th November 2019.

Postscript. The winter of 2023/24 produced 21 days-recorded, corrected to 42, which is very similar to 2017/18 and 2020/21; there was also a count of four birds on the 10th February 2024 and a summer record from the 27th May 2024.

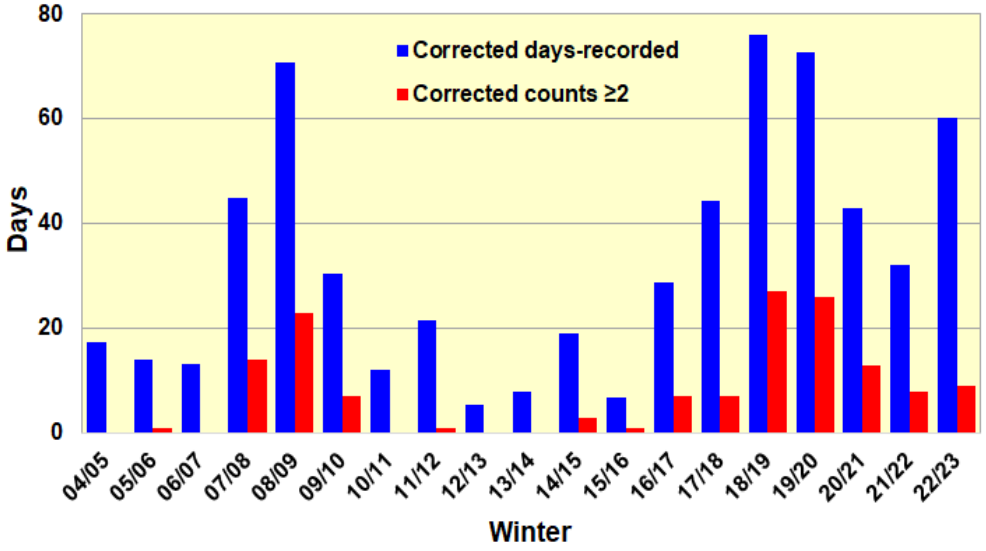


***Figure 64**. Corrected days-recorded and counts of 2 or more birds in the winters (September to April) from 2004/05 to 2022/23.*

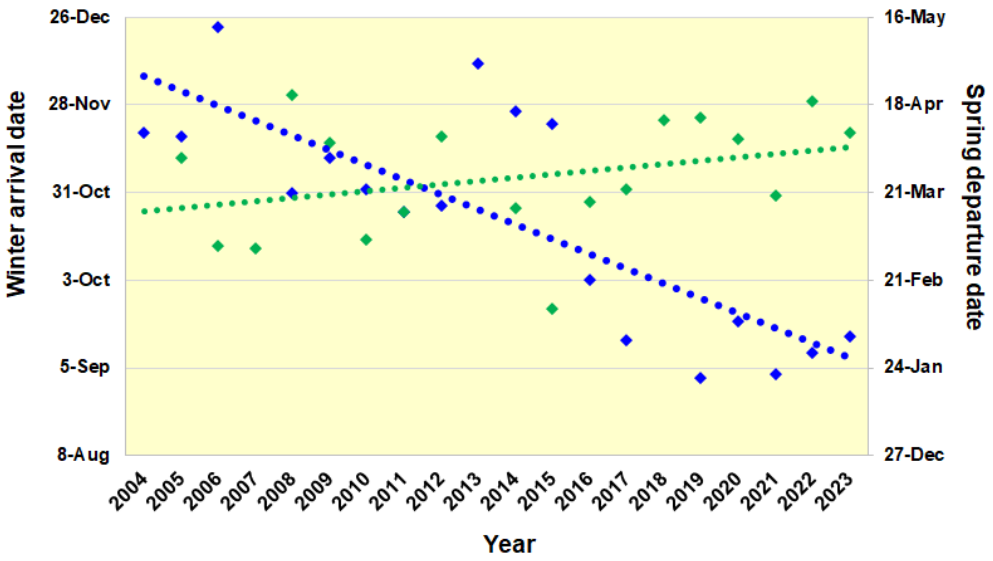


***Figure 65**. Plots of winter arrival dates (♦) and spring departure dates (♦) for Water Rail in the period 2004-23.*

Additional Information: *Appendix 1* – Migrant Arrival and Departure (*Figure 112); Appendix 4* – Year Lists. See also *Table A2-2*.

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

Common resident with a few pairs breeding in most years.

2023. The year started well with a count of 21 birds on the 1st January – but this happened to be the largest count of the year, the next highest being 20 birds on the 30th December. Apart from these two months all other monthly maxima were below the 2004-23 median values *(Table 41)*. There was just a single brood noted on the 1st July although viewing around the Main Pit may have adversely affected confirmation of breeding. All-in-all a relatively poor year, although there is no clear evidence the species is declining any further on-site.

Pre-2004. The first record in the Tyttenhanger GPs dB is from the 27th May 1983 with recording/data capture through the remainder of the period 1983-2003 being quite sporadic and patchy i.e., just 104 days-recorded[42] - a recording rate of 3.2% and over 38% of the days-recorded producing no count. Although the number of days-recorded in this whole period are low, there are

[42] There are no records for this species from 1986, 1987, 1989-91 and all other years apart from 1983 (13), 1997 (13) and 2003 (32) produced less than 10 days-recorded.

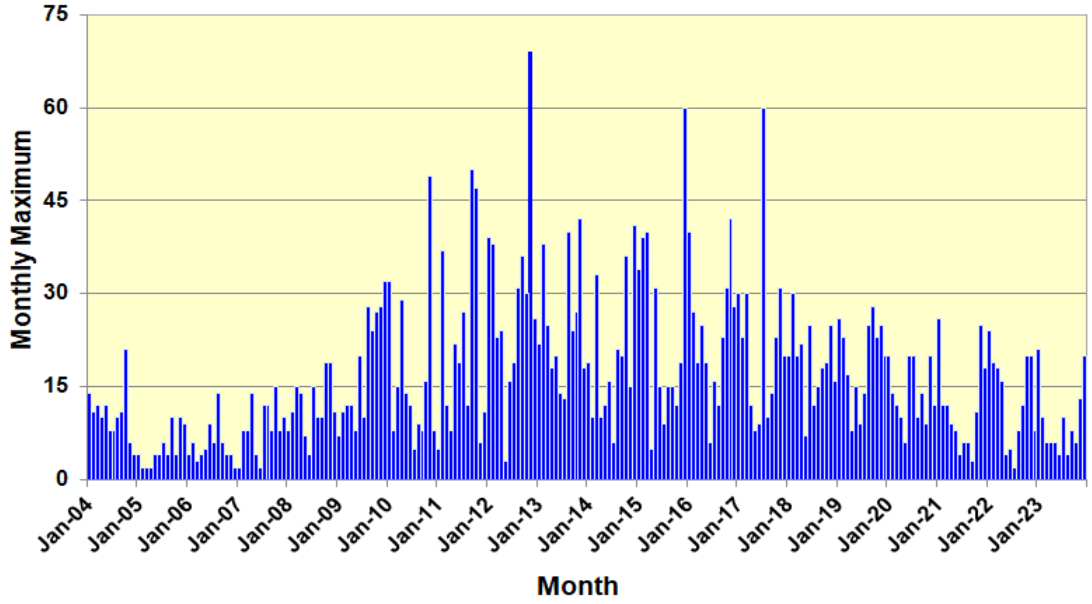
16 significant counts (≥20 birds) the largest of which was 38 birds on the 22nd September 1997. The species was first included in the Hertfordshire WeBS counts in 1992 and a summary of those data can be found in *Appendix 3*.

2004-23. This period has seen much better reporting/data-capture for this species, although reporting rates still vary between 21.2% and 65.4% and, even though the overall rate is 43.3%, 25.1% of all days-recorded failed to produce a count. Nevertheless, against this back-drop it is still possible to see it has gone through several ups and downs at Tyttenhanger GPs (*Figure 66*; see also WeBS counts in *Appendix 3*). Peaks in numbers for this species are mostly in winter (October to January) despite occurrence being fairly consistent throughout the year *(Figure 67)*. The maximum count for the site was of 69 birds on the 11th November 2012 with counts of 60 birds on the 6th December 2015 and the 12th July 2017.

***Table 41**. Monthly maxima data for Moorhen for the period 1983-2003 and 2004-23*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	21	11	12	6	6	4	10	4	8	6	13	20
Median 2004-23	21	13	15	10	8	10	11	12	14	20	20	17
Maximum 2004-23	40	39	40	29	31	25	60*	40	50	47	69	60
Maximum 1983-03	28	31	24	7	2	6*	7*	12	38*	35	28	33

*Includes young



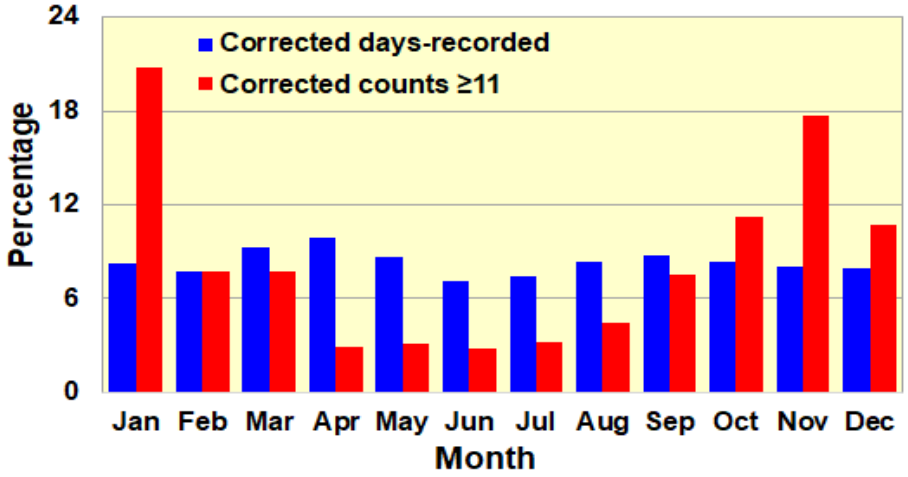


***Figure 66** (left) Monthly maxima for Moorhen in the period 2004-23.*

***Figure 67** (above) The percentage of days-recorded and significant counts by month for Moorhen; data are from the period 2004-23.*

Breeding Confirmed breeding records prior to 2004 are scarce comprising just two years - 1997 (2 broods) and 2003 (single brood) – although notably there is a record from 1995 that includes the comment "under-recorded breeding". The last 20 years has seen significant improvement in the capture of breeding records for this species with confirmed breeding seen noted in every year and with most years producing multiple broods (median = 4 broods; n = 20) with 2009 producing the best count of 11 broods. All *three* Hertfordshire Bird Atlases show this as a confirmed breeding species in TL10X.

***Table 42**. Summary data for Moorhen in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Rec. rate (%)	32.6	54.6	55.3	38.0	56.9	48.8	21.2	33.4	23.3	41.6	49.0	44.3	48.3	47.5	38.3	49.9	65.4	44.6	56.7	47.2
Corr'd ≥20 birds	1	0	0	0	0	6	3	6	18	13	7	8	11	16	6	16	5	4	4	4

Additional Information*: Appendix 3* – WeBS counts; *Appendix 4* – Year Lists.

Coot *Fulica atra* (5, 20, 214) [≥100]

This species has seen several large fluctuations in status over the years but is currently a relatively common breeding resident and winter visitor.

2023. Although there were 91 days-recorded this year, making another year with a recording rate in excess of 50%, there was just a single count of 100 or more birds i.e., 106 in the January WeBS count. Monthly maxima were generally close to the 2004-2023 median values - albeit the majority were just a little higher *(Table 43)*. There were at least four broods of young produced this year and there was also a report of recently fledged young on the late date of October 23rd - still late even if this refers to juvenile birds.

***Table 43**. Monthly maxima data for Coot for the periods 1983-2003 and 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	106	77	40	65	50*	70*	80*	90	95	66	88	58
Median 2004-23	88	88	62	50	45	58	70	80	74	60	70	84
Maximum 2004-23	148	148	125	81	155*	171*	207	150	214	200	178	196
Maximum 1983-03	73	125	83	52	49	38	46	72	102	51	147	146

* includes young

Pre-2004. The first records in the Tyttenhanger GPs dB are from the 27th May 1983 when birds were found at the Gravel Works, the Main Pit and the Fishing Lakes. There are then a further 245 days-recorded through until the end of 2003, but as with many other common species the overall record is patchy. Despite the recording/data-capture problems there are a few notable observations from this period. First, there are only five counts of more than 100 birds in this period (four from the September-December 1999 and one from the 11th February 1995) the highest being 147 birds on the 17th November 1999. The latter comprise just 2.4% of all counts with 20.2% of all dB entries not providing a count. Second, a record from the 21st September 1986 states there were "none present", and the first count of more than 50 birds did not occur until the February 1989. WeBS counts between September 1991 and January 1993 failed to produce a count of more than 9 birds and many of the counts (7/12) were zero. Taking all of the above together there is strong evidence to suggest that although a regular breeding species in this period (bred in at least 12 of the 21 years between 1983 and 2003), numbers were generally lower than in the peak periods of the last 20 years and there was a period between 1991 and 1993 when the population was very low – possibly akin to that in 2005 and 2006.

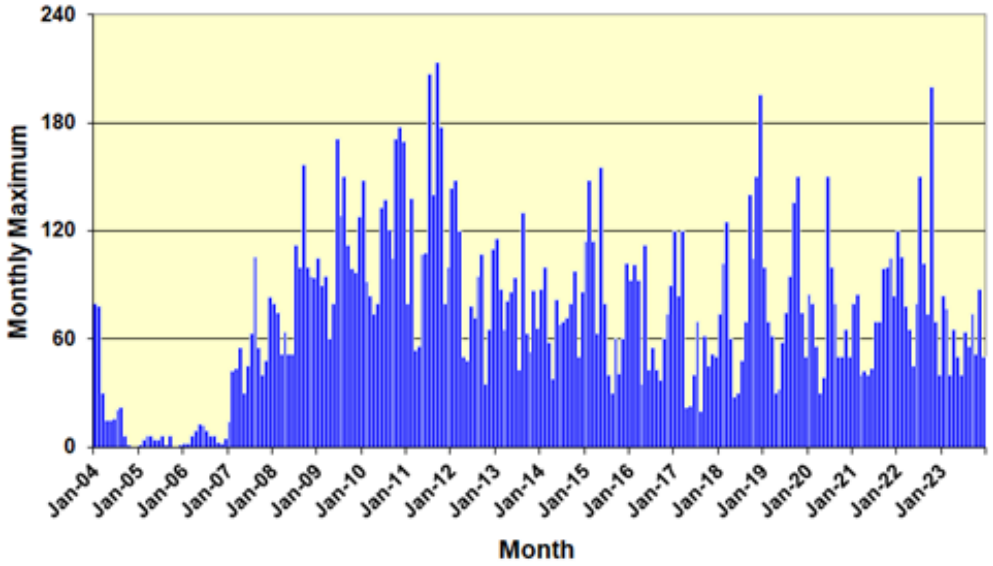


***Figure 68**. Monthly maxima for Coot in the period 2004-23.*

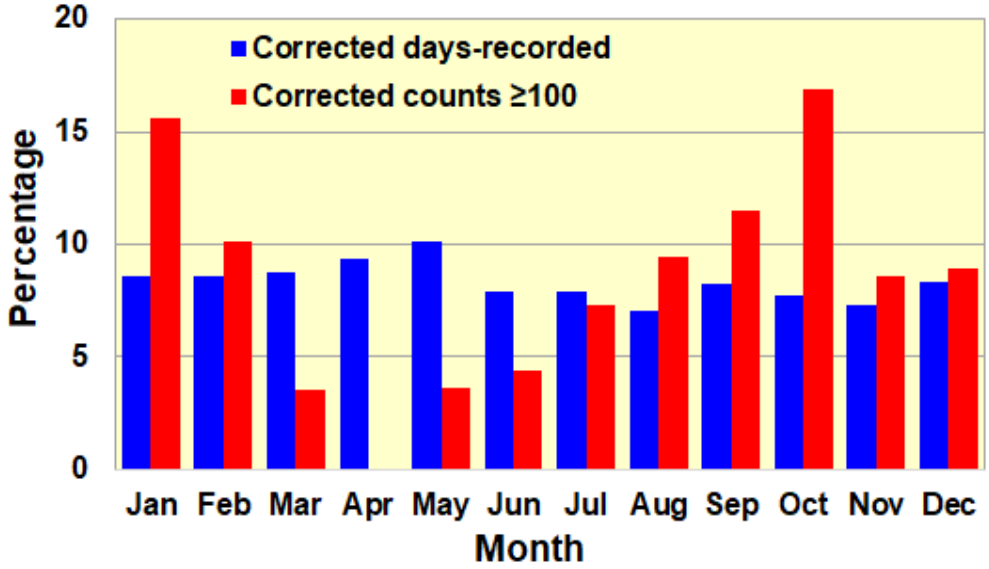


***Figure 69.** Percentage of days-recorded and significant counts by month for Coot; data are from the period 2004-23.*

2004-23. This period started reasonably well over the winter of 2003/04 but numbers started to decline by the end of 2004 and was followed by two years, 2005 and 2006, when numbers were very low (*Figure 68*). There is nothing to suggest a similar drop in numbers elsewhere in the county (see Smith *et al*., 2015) and as quickly as it declined this species bounced-back to what

would prove to be more typical numbers in later years (*Figure 68)*. The period from 2007 to 2011 then proved to be the zenith for this species, both in terms of numbers (*Figure 63*) but also breeding activity (*Table 44).* Numbers seem to have declined again in the last couple of years – but only time will tell if this is a lasting phenomenon. *Figure 69* shows the monthly distribution of days-recorded and significant counts (≥100 birds) through the year, and while occurrence is fairly consistent there is a more heterogeneity in the distribution of significant counts - with a post-breeding peak from August-September and then another peak in late winter i.e., January-February. The largest count in this period was of 214 birds on the 2nd September 2011, the only other counts of 200 or more birds being from the 24th July 2011 (207) and 14th October 2022 (200).

Table 44*. Summary data for Coot from the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Rec. rate (%)	33.5	28.6	59.4	47.1	29.4	47.6	16.7	18.3	20.4	24.4	26.3	29.4	48.8	31.8	40.1	50.8	67.2	54.1	55.6	51.4
Counts ≥100 (%)	0.0	0.0	0.0	0.8	7.0	10.1	23.1	19.0	10.0	1.9	0.7	5.3	1.4	1.3	9.2	2.5	0.9	1.5	5.4	0.0
No. broods	0	0	3	19	11	23	21	14	7	10	16	12	10	6	1	6	7	5	3	4

Breeding. Although the Tyttenhanger GPs dB is rather patchy for this species prior to 2004, we have nevertheless found confirmed breeding records for 11 years (1983-87, 1992-94, 1996-97 and 2002-03. While 2004 and 2005 drew a blank, every year since 2005 onwards has produced at least one brood – with 2009 and 2010 producing over 20 broods (see *Table 44*).

Additional Information: *Appendix 3* – WeBS counts; *Appendix 4* – Year Lists. See also *Table A2-1 and Table A2-3.*

Common Crane *Grus grus* (2, 2, 3) [All]

Rare visitor with just two occurrences involving five birds, all seen over-flying the site.

2023. Not recorded.

Summary. Three birds that arrived in the fields between Willows Farm and Tyttenhanger House on the evening of 22nd April 2008 were subsequently found to be of uncertain origin and therefore nor accepted onto the Tyttenhanger List (see *Escapes and Birds of Uncertain Origin*). There was then a wait of nearly nine years before the next birds (3 again) were seen on the 1st April 2019 circling over the Main Pit at 11.30 am before drifting off towards London Colney. The latest record was on the 27th September 2020 when two birds were seen flying south over the Main Pit at 9.40 am – the same birds (presumably) being seen over Wanstead (London) and Rainham Marshes (Kent) a little later that morning.

Additional Information: *Appendix 4* – Year Lists. See also *Escapes and Birds of Uncertain Origin*.

Table 45. *Summary data for Oystercatcher at Tyttenhanger GPs (2008-2023). See* below *for explanation of categories detailed.*

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Median
First bird	6-Mar	6-Mar	27-Feb	28-Feb	3-Mar	7-Mar	22-Feb	7-Mar	5-Mar	18-Feb	9-Mar	12-Feb	3-Feb	26-Feb	13-Feb	10-Feb	**27-Feb**
First Pair	27-Mar	20-Mar	19-Mar	1-Mar	5-Mar	16-Mar	26-Feb	27-Mar	11-Mar	4-Mar	6-Apr	26-Apr	7-Mar	1-Mar	18-Feb	19-Feb	**9-Mar**
Last bird	23-Jul	18-Jul	22-Jul	15-Jul	29-Aug	28-Jul	12-Jul	30-Aug	25-Jul	21-Aug	25-Jun	27-Jul	28-Jul	27-Jun	6-Jul	18-Aug	**22-Jul**
1st to pair(1)	21	14	20	1	2	9	4	20	6	14	28	73	32	3	5	9	**12 days**
Pairs (young)	1 (1)	0	1 (2)	0	0	0	1 (0)	1 (3)	1(3)	1(3)	0	0	1 (2)	1 (2)	1(3)	1 (2)	
Fledged	0	0	2	0	0	0	0	1	3(1)	1	0	0	1	2	3	2	

(1) Gap in days between first bird and first pair. (2)Three young were seen with the adults on 15th July but only adults were seen thereafter – we presume that all three young fledged

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

Summer visitor that has regularly bred since 2008. Breeding birds arrive with a median date (2004-23) 27th February; median departure date (2004-23) 22nd July; records outside the February-August window are especially notable.

2023. The first returning bird arrived on the 10th February and was joined by its presumed mate on the 19th, with both birds regularly reported from around the Fishing Lakes until the 3rd March. The 7th March saw another two birds arrive and some interactions between the four birds, but after this just one or two birds were reported through until the 5th July. The first report of chicks came on the 9th July and there were subsequent reports of the family through until the 18th August after which all birds departed. Although the birds arrived early this year it seems that breeding was slightly delayed compared to previous years i.e., the nest was not found/reported until June, the first young were seen on the 9th July (median; 8th June, n=9) and then the family stayed until quite late in the season (18th August) (see *Table 45*).

Pre-2004. The first record of Oystercatcher at Tyttenhanger GPs was on the 22nd May 1985 and although the next few years produced several records (including a bird found dead in January 1987) it was not until 1994 that more than a single bird appeared and there were records in the summer months. The following year was similar, but records subsequently became less frequent and there were few signs birds were interested in breeding. In total the Tyttenhanger GPs dB contains 61 days-recorded between 1985 and 2003 – with 1994 and 1995 contributing 40 of these. All counts were of single birds apart from the two birds present from the 30th April 1994 until the 23rd May of that year. Most of the days-recorded (55) were between March and August with April (15) and May (22) predominating. Other records are from January (see above), October (16th October 1987) and December – a juvenile bird between the 3rd and 11th December 1994.

2004-23. The start of this period was very similar to the end of the above period with 2004 and 2005 producing 5 and 2 days recorded respectively but in 2006 a single bird was present through much of June and July (31 days recorded) and then in 2007 a pair established Tyttenhanger as their territory for the summer and showed signs of breeding - but with nothing confirmed. Then in 2008 the first breeding occurred and "*the rest is history*" – much of which is summarised in *Table 45* and *Figure 70*. The maximum count for the site was eight birds on the 17th May 2017 (5 adults and 3 chicks) with a further four counts of six birds - one of which also involved 5 adult birds (30th May 2017). The only other count of five adult birds

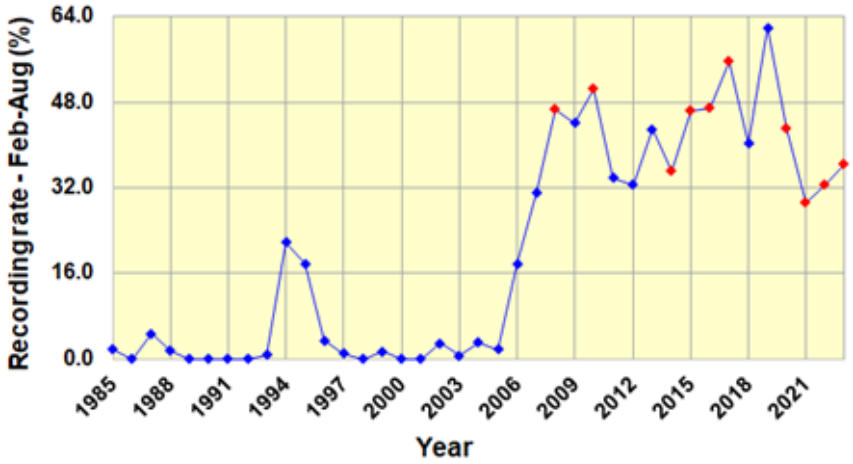


***Figure 70**. Recording rate for Oystercatcher in the period 1985-2023. Years with confirmed breeding are indicated (♦).*

One of the undoubted highlights of the last 40 years has been the establishement of Tyttenhanger GPs as the primary breeding location for Oystrercatchers in Hertfordshire. Photos courtesy of (l to r) Andrew Steele, Steve Blake and Rupert Evershed.

is also from 2017 (13th May) but counts of 4 adults can be found from 2009, 2011, 2013 and 2023. *Table 45* is a summary of data across the period 2008-23 and shows the date the first bird arrived (First bird), the date the first pair were reported (First Pair), the date the last bird was reported (Last bird), the gap (in days) between the first bird and the first pair (1st to pair), how many pairs were present through the breeding season and the number of young hatched (in brackets) and the number of young that fledged. Those years in which no young were hatched but nesting was attempted are shaded (i.e., 2009 and 2018).

Breeding. The first confirmed breeding of this species in Hertfordshire was at Tyttenhanger GPs in 2008 and as shown in *Table 45* and *Figure 70* a pair have bred or attempted to breed in all years since then. While the Tyttenhanger pair were the first to colonise the county in the recent past pairs have also bred/attempted to breed at Wilstone, Amwell and Stocker's Lake.

Postscript. Breeding has continued at Tyttenhanger GPs with a pair raising three young in 2024 and a pair returning in early 2025 and hatching a further three young. Long may it continue!

Additional Information: *Appendix 4* – Year Lists. *(Figure 78)*. See also *Table A2-2* and *Figure 80.*

Avocet *Recurvirostra avocetta* (0, 9, 8) [All]
Scarce visitor.

2023. Not recorded.

Summary. With 15 days recorded - including the first record on the 23rd May 1988 – there are just two instances when birds have stayed for more than a day and in many cases they have stayed for brief periods only. A summary of all records is below:

1988. Two birds on the 23rd May.

1997. Three birds on the 11th June.

2004. One bird on the 1st April.

2005. A single bird on the 19th and 20th March.

2008. One bird on the 17th April.

2009. A single on the 13th and 14th April.

2011. Eight birds on the 7th March (see photo to the right).

2012. Two Birds on the 28th April and a single bird on the 9th May.

2014. Four birds on the 8th March and one on the 30th March.

2015. Two birds on the 16th February.

Avocets photographed on the Main Pit by Simon West on the 7th March 2011.

2017. Two birds flew over on the 7th May.

Additional Information: *Appendix 4* – Year Lists *(Figure 78)*. See also *Table 48*.

[Black-winged Stilt *Himantopus himatopus* [All]
Vagrant in Hertfordshire. ***Uncertain status at Tyttenhanger****.*

2023: Not recorded.

Summary: A bird at Radlett Aerodrome from 27th to 28th May 1998 was eventually accepted by the BBRC as the third record for Hertfordshire – previous records being at Chandlers Cross on 7th May 1984 and Tring Sewage Farm on 16th May 1987. Interestingly the Hertfordshire Bird Report for 1998 states "*It* [the Radlett bird] *was also probably seen in flight at Tyttenhanger GP on the 25th*". It was included on the Tyttenhanger GPs list until 2020 at which time a full review of all "possible" records was conducted and we concluded that "***probably*** [our bold] *seen in flight at Tyttenhanger* " was not sufficient to warrant its continued inclusion on the Tyttenhanger list.].

Stone Curlew *Burhinus oedicnemus* (0,1,1) [All]

Rare visitor.

2023: Not recorded.

Summary: While the first record in the recent past was of a single bird in the field behind Tyttenhanger Farm on the 14th and 15th April 2002, there is an intriguing record from 1910 in the Hertfordshire Natural History Society's "*Notes on Birds*". This report states "*Mr G.E Bullen (St Albans) reports that a stone-curlew has been shot at Colney Heath, and the date is given as February 6th. The bird is now in the County Museum*" - obviously, whether the latter was actually on-site will never be resolved (or if the identification was even correct i.e., Sage, 1959 makes no mention of the record). However, undisputedly on-site was the second modern record found exactly five years after the 2002 bird on the 14th April 2007 in the fields around Tyttenhanger House. It subsequently flew across the Fishing Lakes to the ploughed fields on their western side where the bird was watched by multiple observers throughout the day before disappearing overnight.

Additional Information: *Appendix 4* – Year Lists. (*Figure 78)* See also *Table 48*.

Little Ringed Plover *Charadrius dubius* (4, 19, 24) [≥7] [All]

Previously regular summer visitor and passage migrant that stayed to breed in most years up until 2017 which has declined dramatically since. Median arrival date 30th March (2004-19); median departure date 9th August (2004-20). The earliest arrival date is the 1st March and the latest departure the 1st October. All records are now considered notable.

2023. A single record for the year of a juvenile bird on the Back Scrape on the 13th August. **Coursers Road** produced a total of 37 days-recorded this year between 17th March and 6th August, with a maximum count of 16 birds on the 3rd July and three further counts of 10 or more birds in June/July.

Pre-2004. One of the earliest records in the Tyttenhanger GPs dB is from the 27th May 1971 when a nest of this species containing four eggs was found in the area north of the Gravel Works close to the A414. The nest was visited again on the 8th June when the young were found to be hatching – and so began the story of Tyttenhanger GPs (see *The First Gravel Pits*). There is a gap in the Tyttenhanger GPs dB from the 1971 report through to 1982 when there are a couple of retrospective entries in eBird from April and June of that year. The first record after these is from April 1983, after which, records consistently cover the summer periods from 1983 through until 2003 *(Figures 71* and *72).* The very obvious trough in 1999 and 2000 is almost certainly due to the gap in the Tyttenhanger GPs dB (see *Appendix 2*) although the 1998 dip in significant counts does also suggest a drop in numbers the extent of which was exacerbated by the dB issues. Nevertheless, it is clear this was a regular visitor and breeding species through the whole of this period and probably reached its zenith in the early 1990s. The maximum count prior to 2004 was of 24 birds on the 16th July 1991 (a site-record) but counts of 22 (29th July 1986, 14th July 1991), 20 (13th July 1991, 14th July 1987) and 19 (11th July 2001) are also higher than anything post-2004. The earliest arrival date in this period was on the 1st March 1999 (which is still the earliest date we have been able to find for Hertfordshire) and the latest autumn date was the 16th September 1984 – interestingly described as a "*leucistic bird*" in the Tyttenhanger GPs dB.

2004-23. Although this species weathered a number of peaks and troughs from 2004 through until 2017 it was still a regular summer visitor and breeding species during this time (*Figure* 71 and *72).* However, from 2017 onwards it showed a dramatic decline and with few records in 2020 (2), 2021 (0), 2022 (3) and by 2023 (1) it has pretty much disappeared from the Tyttenhanger GPs avifauna. It was certainly at its peak in this period between 2004 and 2006 and although it had good years after this, these didn't really lead to breeding at previous levels (*Figure 74*) – probably reflecting the decline of suitable habitat on-site. Data from this period show that birds started to appear in week 12 (18th March) and increased rapidly to a peak at around week 17 (22nd to 28th April) *(Figure 73).* After the end of April numbers decline more slowly through until the end of the season around week 32 (5th August) with a few birds trickling through for several more weeks until week 41 (4th October). The Tyttenhanger GPs dB shows that juvenile birds on passage started to appear around the beginning of July and were often recorded through until mid-September[43]. The earliest arrival date in this period was the 9th March 2018 (median = 30th March; n = 16) and the latest the 1st October 2004 (median = 9th August; n = 16). The maximum count was of 17 birds on the 18th June 2006 with most of the remaining 19 counts of ten or more birds being between 2004 and 2006 – the only exception being 11 birds on the 25th April 2017.

Breeding. Nationally considered a scarce breeding species throughout the period of this report it is not surprising it is one of the better recorded species and the breeding-history for the site is pretty much complete from 1984 through until the present *(Figure 74).* Breeding was almost continuous between 1984 and 2006 with the absence in records in 1999 and 2000 possibly explained by the gap in the Herts Bird Club dB (see *Appendix 2*). After 2006 breeding was only attempted in four of the next 18 years, the last being in 2017.

[43] A number of dB entries acknowledge the age of these birds while also noting they were bred off-site i.e., in years when there was no breeding at Tyttenhanger GPs, or their appearance was after young birds had either fledged or been lost/unrecorded for a period of time.

Postscript. After another blank in 2024 things have looked-up in 2025 with several spring records from the sandbank on the Main Pit.

Additional Information: *The First Gravel Pits*; *Appendix 1* – Migrant Dates *(Figure 90); Appendix 4* – Year Lists. (see also *Figure 78* and *80*). *Table A2-1* and *Table A2-2.*

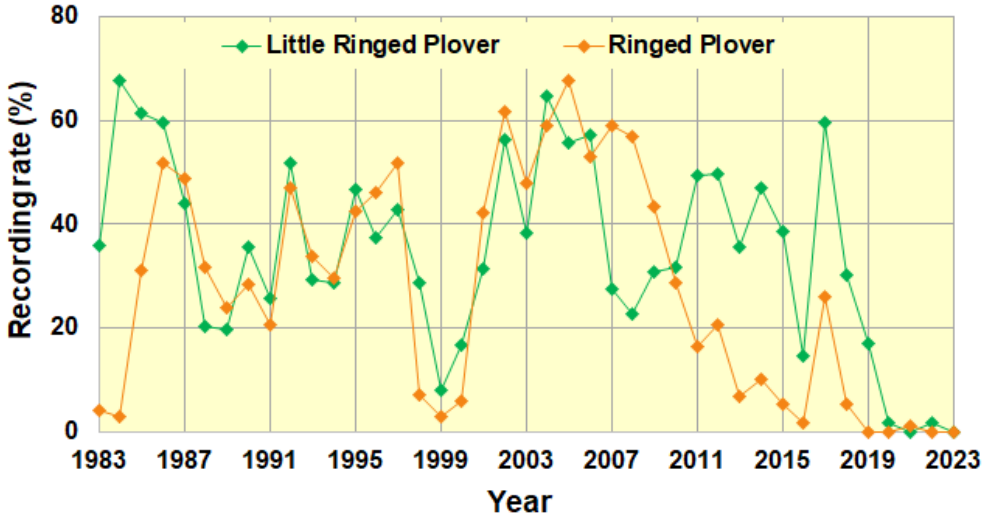


Figure 71 *Recording rate from 1983 to 2023 for Little Ringed and Ringed Plovers between 1983 and 2023.*

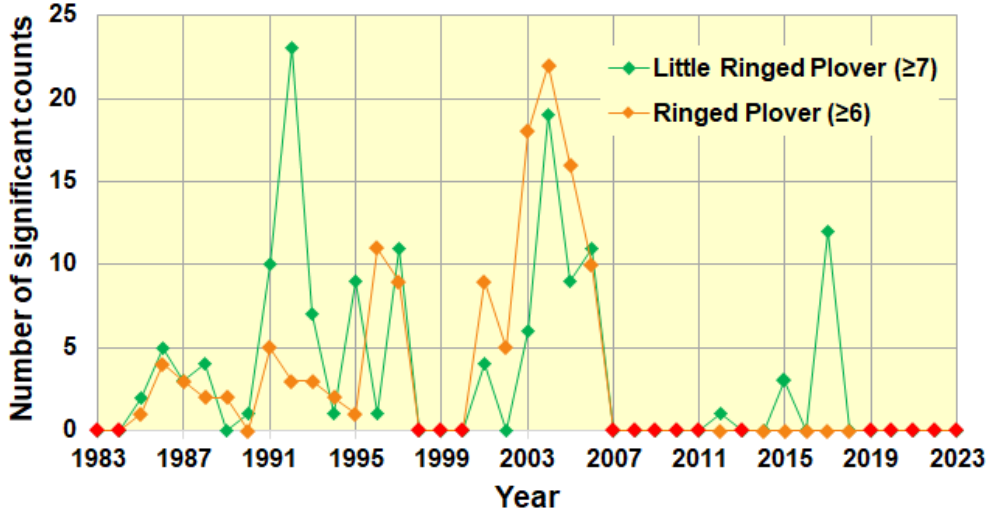


Figure 72 *Number of significant counts per year between 1983 and 2023 for Little Ringed and Ringed Plovers – years when neither recorded a significant count are also shown (♦).*

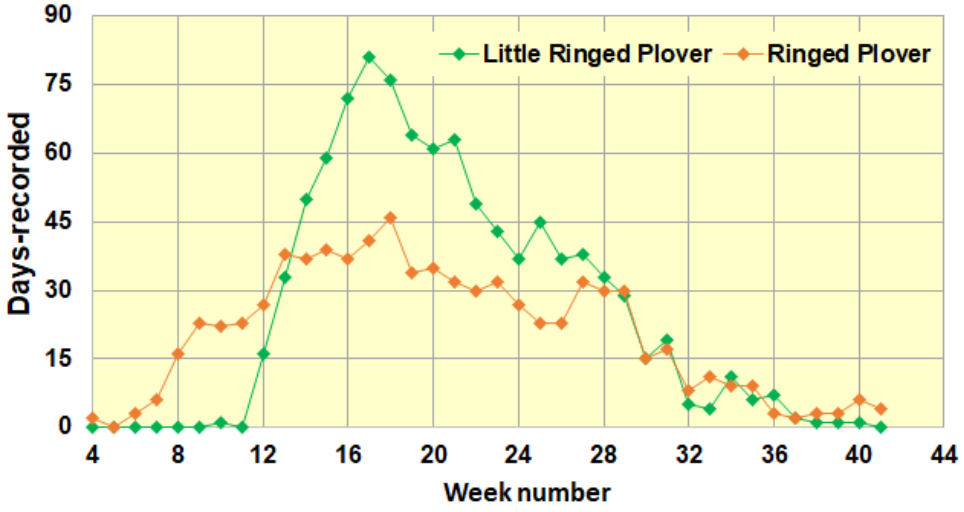


Figure 73*. Days-recorded by standard week for Little Ringed Plover and Ringed Plover in the period 2004-23*

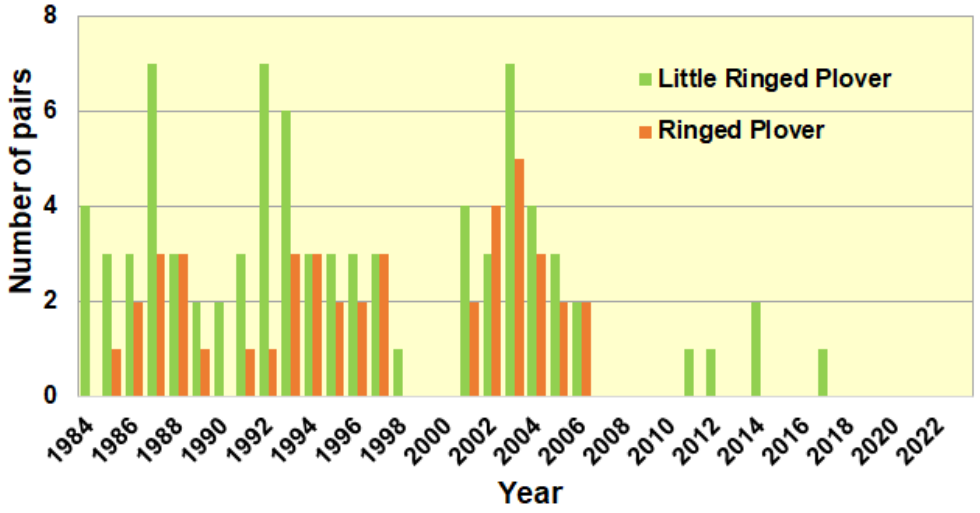


Figure 74. *Pairs of Ringed and Little Ringed Plover in the years between 1983 and 2023.*

The First Gravel-Pits. Good fortune led to first, the observations of the breeding *Little Ringed Plover* in 1971 being entered retrospectively onto eBird and then second, these records being unearthed during some of data-mining efforts in 2022. A bit more e- mining and a couple of emails later, and we had further details about these early records from Tyttenhanger GPs (as it was to become) and more specifically the area around what is now the Gravel Workings. The following was recollected:

> *"My old notebooks reveal two visits to "Colney Heath near St Albans" on 27th May 1971 and 8th June 1971, the first alone, the second with Martin E. Griffiths, whose family lived in St Albans at the time. On the first visit I found a Little Ringed Plover at a nest with a clutch of 4 eggs in a "flat area in bottom of recently abandoned gravel pit, with thin vegetation and scattered water pools". The other birds I noted down were 3 Red-legged Partridge (song), 2 Common [Grey] Partridge, 4 Lapwing (noted as "prob. have yg, mobbing") and 10 Yellow Wagtail. The second visit was used to return to the LRP nest and photograph the clutch (which was still being incubated) and 2 Kestrels were noted."* David Holyoak, 2022.

It's always heartening when stories and distant memories concur and the following confirmed the general nature of the area in the early 1970s:

> "*My first visit to what is now Tyttenhanger GP was in about 1973. There was a string of gravel pits south of the A1 and east of what was then the A405 and is now the A414, beginning with pits that came up to the edge of the A1. I used to visit the pit by the A1 when I was a kid, circa 1970. I remember once - whilst I was catching newts, frogs and, on one occasion, a grass snake - how my younger brother and a friend were digging a tunnel in a sand cliff, which then collapsed on my brother (he got out OK).*
> *Most of what is now rough ground between the A1 and Tyttenhanger are ex-gravel pits. In 1973 what is now the works were gravel pits - rough ground with numerous pools. That year I remember walking along the track that starts at the Rainbow garage entrance, then turning the corner where now you have the fishing lake and bailiff's cottages - but what I saw was a cattle meadow stretching south (towards what was then the A5 or A6). Through the pastures meandered the River Colne (its present course is artificial)…*
> *Cow pasture didn't interest me at the time, so I didn't revisit until "Mar/Apr '83" ... when I turned the same corner I saw what is now the fishing lake, but still being excavated. Either a Green Sand or a Redshank flew off and I started visiting regularly from that point.* Steven Pearce, 2022.

The latter part of the above provides a picture of an area in the early 1980s that still had active gravel workings and which would later become the Fishing Lakes. Further recollections from this time confirm the above:

> *"In the early 80's most of these were fresh gravel diggings rather than mature pits and then extended further northeast … My older brother David Holyoak was studying quaternary geology for his PhD at the time and looking at fauna and flora before the last ice age, and extensively using gravel pits (e.g. Theale Pits and the Reading area in general) as study sites. He took me and my other brother Rob Holyoak there and it became a regular birding site for us after that."* Marcel Holyoak, 2022.

Subsequent records to those in 1971 come from the 9th April and 1st June 1982 – with single Little Ringed Plover noted on both dates along with *Goldfinch*, 2; *Great Black-backed Gull,* 2; *Green Sandpipe*r; a *Jack Snipe*; *Lesser Black-backed Gul*l, 5; *Linnet*, 60; Little Grebe, 6; a *Snipe*; *Tree Sparrow*, 25; *Tufted Duck*, 15; a pair of *Wheatear* and *Yellowhammer*, 15 (on the 9th April) and *Lapwing*, 8; *Red-legged Partridge*, 3 and a *Redshank* (on the 1st June). Visits became more regular from February of the following year and by the time the 1983 Hertfordshire Bird Report was published in *March 1985* the name Tyttenhanger GPs has come into common usage and there were clearly a number of birders visiting the site.

Finally, during the course of compiling all of the data for this report we have also unearthed a number of other pieces of information that highlight occurrences before 1971. Of course, there are summary data for TL10X from the 1967-73 Hertfordshire Bird Atlas – the most notable occurrences ("*Uncommon species"* in the parlance of the Hertfordshire Bird Atlas) being *Little Ringed Plover, Lesser Spotted Woodpecker, Willow Tit* and *Nightingale*, Several attempts to find the raw data from the atlas surveys have been unsuccessful, but the data from the Bird Atlas are summarised in *Appendix 4.* Our unsuccessful searches for Bird Atlas data did however, unearth data from the period prior to 1983 from the National Biodiversity Network, which are along with the above data and those from the 1967-73 Hertfordshire Bird Atlas are summarised in *Appendix 4.* For completeness, the list of species for which specific records exist in the Tyttehanger GPs dB from before 1983 (in chronological order) include; *Rook* (mentioned in van Koughnet's "*A History of Tyttenhanger*", 1895, p143) as present around Tyttenhanger House in the early 1800's and also recorded on-site in the 1971 Hertfordshire Rookeries Survey), *Barn Owl* (1945) *Lesser Spotted Woodpecker* (1958), *Chaffinch* (1959), *Song Thrush* (1960), *Whitethroat* (1961), *Kestrel* (1961), *Blackbird* (1964), *Greenfinch* (1964) and *Starling* (1982).

Ringed Plover *Charadrius hiaticula* (0, 15, 15) [≥6] [All]

A regular passage migrant in the past with birds staying to breed in many years. Median arrival date 23rd February (2004-18); median departure date 2nd September (2004-21). The earliest arrival was the 16th January and the latest autumn departure the 11th October. The last breeding was in 2006 and all records are now considered notable.

2023. Not recorded. **Coursers Road** produced a number of records this year with a bird on the 1st May followed by a string of records between the 22nd of May and 6th of June in which numbers built to an impressive count of 12 on the 21st May.

Pre-2004. The first entry in the Tyttenhanger GPs dB is of two birds on the 1st April 1983 - the only record for the year - with 1984 also providing just a single record of a bird on the 11th February. Recording significantly improves after this and the period from 1983-2003 has 733 days-recorded in the dB and shows a very similar pattern of recording/occurrence to the above species during this time (see *Figure 71*). Numbers through much of this period appear to be slightly lower than for the above species[44] with maximum counts of 15 birds on the 22nd August 1986 and the 15th August 1996. Arrival and departure dates are slightly compromised by the nature of the dB but the earliest migrant date is the 24th January 1997 and the latest the 22nd September 1996 – although there are records from the 1st October 1989, 11th October 1986 and the 15th November 1986 which are probably considered winter rather than passage birds.

2004-23. The start of this period was probably the high point for this species in terms of occurrence (*Figure 71*), numbers (*Figure* 72) and breeding pairs (*Figure* 74), but by 2007 it was clearly starting to decline on-site. After a slight resurgence in 2017 (49 days-recorded) and a poor 2018 (10 days-recorded) it has since disappeared almost completely, with the last five years producing just two days-recorded (both in 2021). Data from this period shows that summering and passage birds begin to arrive by week 3 (15th January) with a steady increase in occurrence through until week 18 (29th April) after which there is a slow decline through until week 42 (14th October) (*Figure 73*). The earliest arrival in this period was on the 16th January 2005 (median = 23rd February, n = 16) and the latest autumn departure was on the 8th October 2008 (median = 29th August, n = 15) – with an atypical bird also recorded on the 22nd November 2014. The largest count was of 12 birds on the 13th March 2004 with seven other counts of ten or more birds – all in the period 2004-2006.

Breeding. Breeding of this species was confined to the period from 1986 to 2006 when it bred in most years with up to 5 pairs present (2003) (*Figure 74*). Despite the numbers of attempts, fledging numbers always appeared to be low suggesting conditions probably weren't optimal, with predation and disturbance appearing to be major factors affecting success. August and September were often marked by the arrival of juvenile birds that had not hatched on-site, possibly indicative of other local breeding.

Additional Information: *Appendix 1* – Migrant Arrival and Departure (*Figure 90); Appendix 4* – Year Lists (*Figure 78*). See also *Table A2-1* and *Table A2-2.*

Grey Plover *Pluvialis squatarola* (0, 3, 7] [All}

Infrequent visitor.

2023. Not recorded.

Summary. With just three records since 2003 and only one since 2006, this is a species many observers will still need for their Tyttenhanger list. However, those regularly birding the site in the late 1980s and 1990s would probably have encountered the species - possibly on more than one occasion. A summary of all records is provided below.

1987. A single summer-plumaged bird on 25th May.

1991. Seven summer-plumaged birds on the 31st May.

1991. Two on the 14th September.

1993. A single bird on the 6th August.

1993. A long-staying bird from the 26th September to the 11th October.

1994. A single bird on the 8th and 9th May.

1994. A single on the 22nd May.

1995. A single on the 21st April.

1996. A single bird present from the 27th January to the 6th February.

1996. One on the 29th September.

1997. One from the 15th to 17th May.

1997. A single on the 30th and 31st May[45].

1997. A single on the 9th August.

2001. A single on the 8th September.

2004. Three birds on the 26th September.

2006. One on the 13th August.

2017. A single on the 4th May.

[44] 95th percentiles from counts made in this period are seven birds for Little Ringed Plover (n= 647) and seven birds for Ringed Plover (n=681) – the former also showing a slight bias towards higher counts.

[45] The Hertfordshire Bird Report of 1997 states "birds at Tyttenhanger GP 15-17th and 30th and 31st May (2) and 9th August." The 30th May involved a bird heard at dusk and then on the 31st a bird "*flew N from spit*". We have parsimoniously interpreted this as a single bird whereas the Bird Report suggests there were two birds involved.

Summary. Of the 17 occurrences shown above, seven had an arrival date in May five in September and three in August, during the purple-patch for this species at Tyttenhanger GPs (1993-97) there are ten occurrences out of a total of 20 in the county over that time with Tring (4) and Amwell (3) accounting for another seven. The record count from the 31st of May 1991 – seven birds - is still a record count for the county, which rarely produces counts of more than one or two birds.

Additional Information: *Appendix 4* – Year Lists *(Figure 78).*

Golden Plover *Pluvialis apricaria* (5, 19, 2160) [≥210] [All]

Now an erratic winter visitor to the Upper Colne Valley, it was once encountered in much larger numbers. Median spring departure date (2004-19) 30th March; median autumn arrival date (2004-22) 10th October. The latest spring departure was the 22nd April and the earliest autumn arrival the 16th September. All records are currently considered notable.

2023. Not recorded. This is the first year in the period 1983-2023 this species has not been recorded at Tyttenhanger GPs. Elsewhere in the county birds were reported in small numbers in both winter periods but were scarce all year in the Upper Colne Valley[46].

Pre-2004. The Upper Colne Valley has been one of the county strongholds for this species for some time, with both Sage (1959) and Gladwin and Sage (1986) referencing flocks of up to 700 birds regularly recorded in the area. While Tyttenhanger GPs lies within this area, counts of 500 or more birds prior to the winter of 1994/95 were limited to the winter of 1990/91 when up to 800 birds were recorded in December 1990 and 700 birds in March 1991

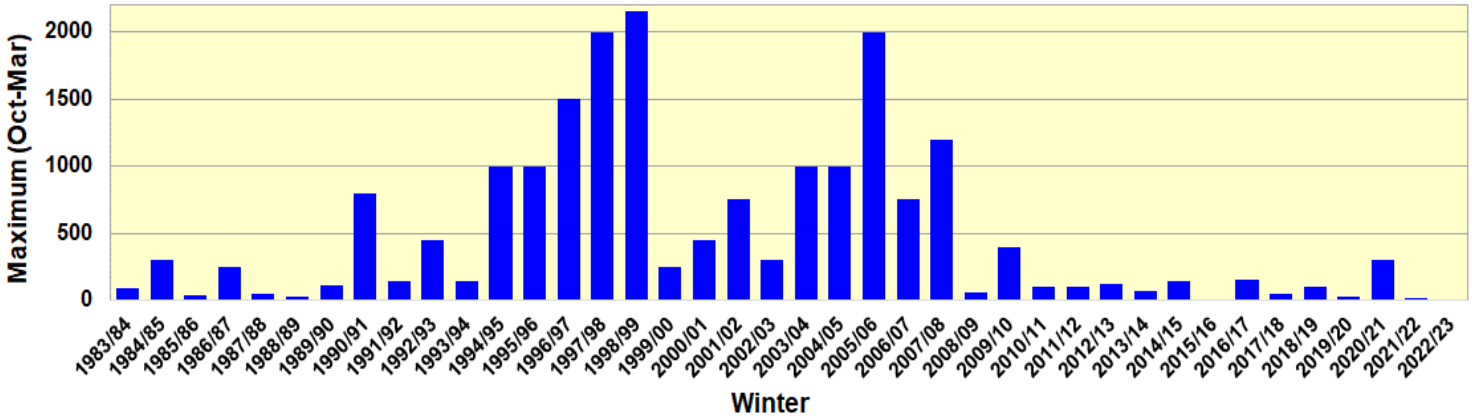


***Figure 75**. Maxima from the winter periods (October-March) between 1983/84 and 2022/23*

***Table 46**. Summary month-by-month data for Golden Plover for the periods from 1983-2003 and 2004-23.*

	Jan	Feb	Mar	Apr	May		Aug	Sep	Oct	Nov	Dec
Days-rec. (%) 1983-2003*	9.4	9.6	14.1	6.7	0.0		0.6	0.7	12.4	22.8	23.7
Days-rec. (%) 2004-23*	8.6	20.7	12.7	1.6	0.3		0.6	1.0	20.7	19.5	14.3
Maxima 1983-2003	300	1000	1500	500	0		1	100	2000	2160	1000
Maxima 2004-23	500	750	900	150	1		1	109	400	1200	2000
Counts ≥100[47] 1983-2003	4	6	17	12	0		0	1	8	15	19
Counts ≥100 2004-23	9	21	16	3	0		0	1	12	13	11

***** Days are corrected for coverage in both periods.

(*Figure 75*). The species then had one of its purple-patches in the winters between 1994/95 and 1998/99 when every winter produced at least one count of 1000 birds with the maximum being 2160 on the 30th November 1996 – still the site record. The latest spring date in this period was the 22nd April 1998 (250 birds) while the earliest returning birds were on the 29th September 2002 (100 birds). There are also two records from August (6th August 1993 and 20th August 2001) - probably wandering non-breeding birds rather than normal seasonal migrants.

2004-23. The winters from 2003/04 to 2007/08 proved to be the last good ones on-site for this species, with maximum counts initially falling (*Figure 75*) and then days-recorded falling rapidly after 2012/13 (data not shown). A monthly analysis of days-recorded, maxima and counts of 100 birds or

[46] The Upper Colne Valley includes Radlett Aerodrome, Napsbury, Shenley, Salisbury Hall, Tyttenhanger GPs, Coursers Road, Beech Farm, Coopers Green and Stanborough GPs.

[47] The total number of counts ≥100 birds were 82 (42.9% of all daily maxima) for the period 1983-2003 with a total of 191 days recorded i.e. a recoding rate of 6.2% for the months October-March. For the period 2004-23 the October-March recording rate was 3.3% and the number of counts of 100 or more birds was 86 i.e. 30.0% of all daily maxima.

more, through both this the above periods is shown in *Table 46*. Notable features of these data include a drop in days-recorded from December to January and relatively low January maxima; a shift in the distribution of numbers of larger flocks (counts ≥100 birds) between 1983-2003 and 2004-23 most notably the February peak in the latter period. Autumn arrival dates in the period 2004-23 ranged between the 16th September (2018) and the 28th November (2014) with a median of the 10th October (n= 16) – a lone August record is from the 30th August 2008. Spring departure dates range between the 2nd February (2015) and 19th April (2019) with a median of the 29th March (n = 17) - with a single May record on the 12th May 2013. The largest count of this period was 2000 birds on the 3rd December 2005 with further records of 1000 birds or more (all in November/December) from 2004, 2005 and 2007 (see Figure 75).

Additional Information: *Appendix 1* –Migrant Arrival and Departure *(Figure 112); Appendix 4* – Year Lists *(Figure 78).*

[Dotterel *Charadrius morinellus*

Only ever recorded at Coursers Road; scarce passage migrant in Hertfordshire. ***Never recorded on-site.***

Summary. A record of "*16 at Bowmansgreen Farm Colney Heath on the 7th May*" 1994 is the only record we have found of this species in the Tyttenhanger area. While the location is somewhat ambiguous i.e. Bowmansgreen (Willows) Farm is usually considered a London Colney address (but is in the parish of Shenley), the record actually came from across Coursers Road on what is now Coursers Road GPs. This is one of only two species, the other being *Quail*, that have been recorded on the Coursers Road site but not at Tyttenhanger GPs.]

Lapwing *Vanellus vanellus* (5, 20, 2000) [≥300] [All]

Previously present through much of the year with large winter flocks in many years but has declined dramatically both on-site and across the rest of the county in the last decade. Previously nested on site in most years up until 2010 – when it last bred,

2023. Recorded on just 11 days this year, with a maximum count of 28 birds on the 27th January but no further counts in double figures. The failure of March, May, November, and December to produce any records was a first for these months with June and August also failing to produce any records again. **Coursers Road** fared much better than Tyttenhanger GPs this year and produced 43 days-recorded (a recording rate of 34.3%) with a maximum count of 100 birds on the 1st February.

Table 47*. Monthly maxima data for Lapwing in the periods 1984-2003 and 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023*	28	3	0	2	0	0	1	0	4	6	0	0
Maximum 2004-23	630	617	600	50	50	137	307	1000	313	700	500	556
Median 2004-23	285	250	70	14	15	30	114	142	116	210	250	250
Maximum 1984-2003	2000	1000	400	30	40	200	500	850	700	1150	2000	2000
Median 1984-2003	300	120	12	10	8	43	173	191	120	200	390	285

* Record low-counts are highlighted.

Pre-2004. The first record for this species in the Tyttenhanger GPs dB is from the 27th May 1971 when 4 birds were seen mobbing other species in the area around the Gravel Works (see *The First Gravel Pits*). The next entries are from 1982 and 1983, and from 1984 onwards a pattern emerges for this species which shows several pairs breeding in most years- albeit with variable success – and large flocks reported during the winter months. In this period there was a relatively strong breeding population in the Upper Colne Valley and a large over-wintering population that ranged freely across the open areas from Coursers Lane across to Salisbury Hall, London Colney and Shenley. As shown in *Figure 77*, the peak period for this species at Tyttenhanger GPs was in the mid-late 1990s when winters regularly produced counts of over 1000 birds (the site maximum of 2000 birds was recorded on the 10th December 1993, 5th November 1994 and the 20th January 1996)[48]. Notwithstanding the hiatus in the Tyttenhanger GPs dB in 1999 and 2002, numbers seemed to decline quite quickly after the turn of last century.

2004-23. While a regular breeding species until 2010 (see "*Breeding*" below) this species has been characterised on-site over the last 40 or so years by large roosting/resting flocks in the months from July through until March with a decided peak from October to February (*Table 47*). This period saw a slow decline from the winter of 2003/04 until 2018/19 but with counts of 500 birds still regularly made and maximum counts of 1000 birds on the 20th August 2008 and 1008 birds on the 30th November 2003. From the winter of 2018/19 however, the decline gathered pace and was more dramatic than the gradual decline across the rest of county. The county-decline had been on-going since the early 2010s with the last record in the county of 1000 birds in

[48] Nearby there have been several counts of over 2,000 birds i.e. 3,000 at Salisbury Hall on the 20th December 1987, 2,500 at London Colney on the 31st January 1998, 3,000 at Coursers Lane on the 16th December 1989, 2,400 at Salisbury Hall on the 13th January 1990, 3,000 at Coursers Lane on the 20th January 1991 and at London Colney on the 23rd November 1991, 2,500 at Coursers Lane on the 31st January 1993, 3,000 at Salisbury Hall on the 3rd January 1994.

early 2014 and most winters since failing to produce a count of 500 birds or more. The decline in numbers was matched by a substantial decline in breeding since the early 2000s onwards.

Breeding. With the wet-meadows of the Upper Colne Valley being a breeding stronghold for this species through much of this report period, 1983 to 2014 saw probable or confirmed breeding in all years apart from 1989-91 and 1998-2000, with the final breeding event taking place in 2017. The number of broods in these years was variable, ranging from just a single brood in several years up to ten in 2003 - but fledging success always appeared to be poor. It was a confirmed breeding species in the 1988-92 and 2008-2012 Hertfordshire Bird Atlases but strangely absent in the 1967-73 Atlas.

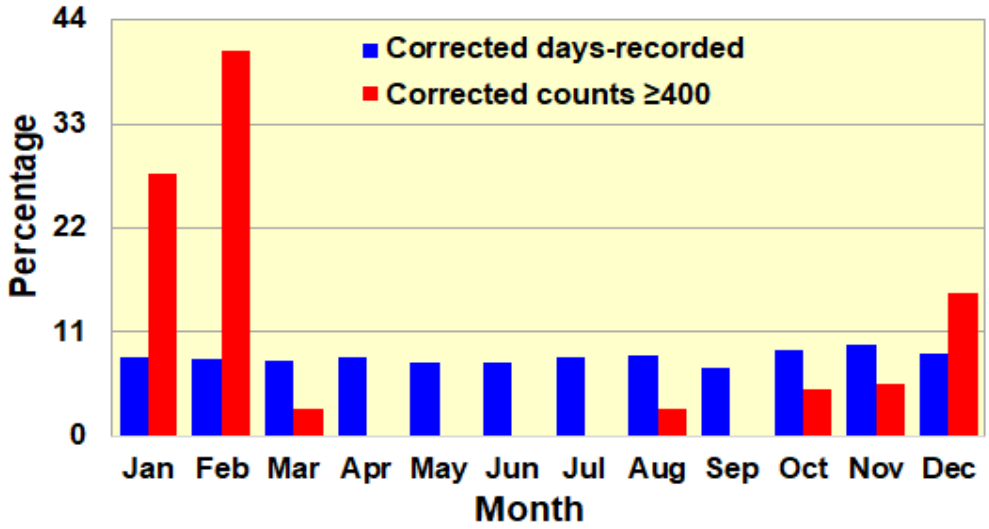


***Figure 76**. Percentage of days-recorded and significant counts by month for Lapwing; data are from the period 2004-23*

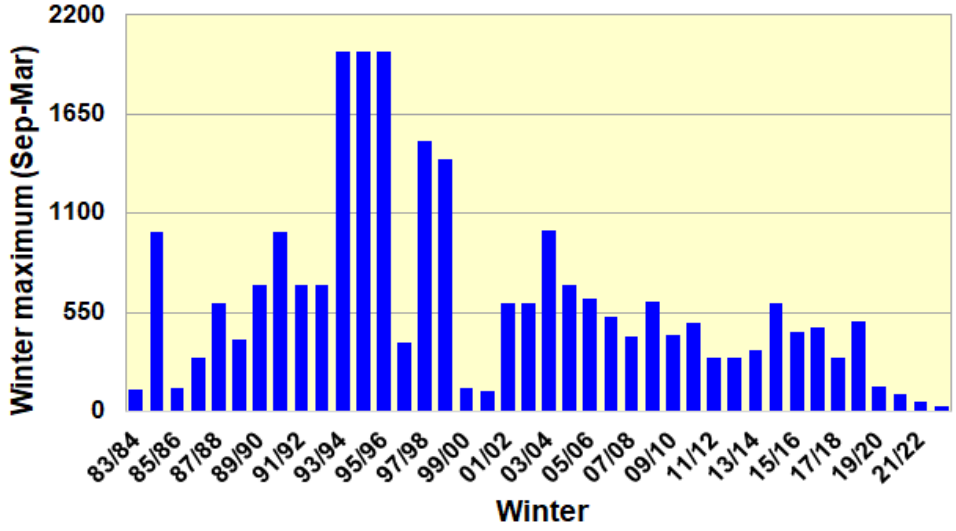


***Figure 77**. Maxima for Lapwing in winter periods (September-March) between 1983/84 and 2022/23*

Additional Information: *The First Gravel Pits; Appendix 4* – Year Lists (*Figure 78*). See also *Table A2-1.*

Knot *Calidris canutus* (2, 6, 4) [All]

Infrequent visitor recorded on just ten occasions.

2023. Not recorded.

Summary. The first record for this species was on the 19th August 1986 and the last on the 27th August 2014. Overall, there have been ten occurrences of this species – all of which are summarised below and in *Figure 79*.

1986. One on the 19th August.

1996. A bird that appeared on the 22nd September stayed until the 24th of the month.

2007. A single bird on the 2nd March.

1993. A single on the 11th September.

2004. A single bird on the 9th October.

2009. Two birds on the 14th September.

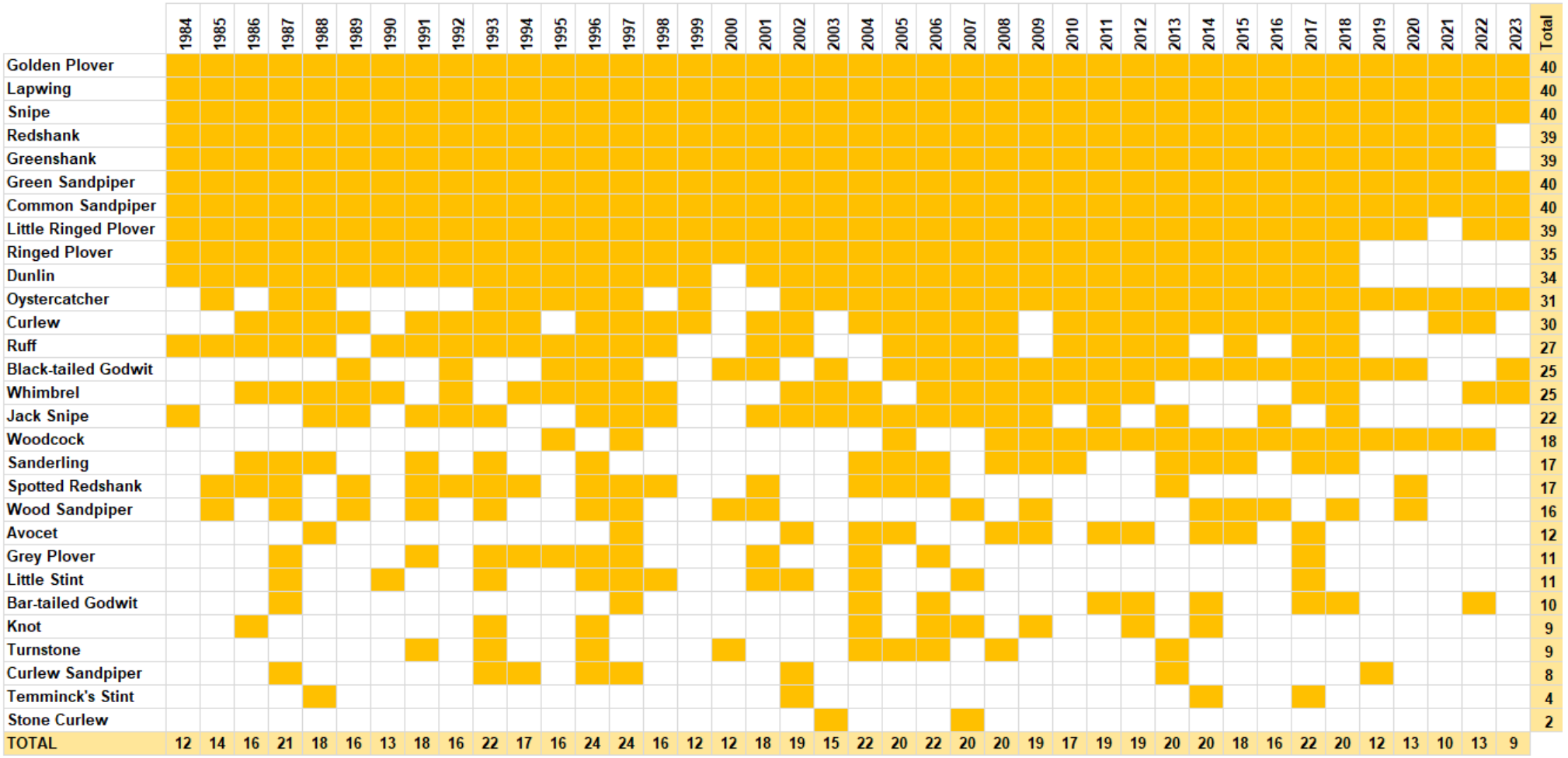
2014. A single bird on the 27th August.

1996. A single on the 10th November.

2006. A bird that appeared on the 3rd February stayed until the 11th - was seen on seven of the nine days.

2012. Four birds on the 2nd June – a record count for the site.

Additional Information: *Appendix 4* – Year Lists (*Figure 78*). See also *Table 48* and *Figure 79*.



	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Golden Plover																																										40
Lapwing																																										40
Snipe																																									40
Redshank																																									39
Greenshank																																									39
Green Sandpiper																																									40
Common Sandpiper																																									40
Little Ringed Plover																																									39
Ringed Plover																																									35
Dunlin																																									34
Oystercatcher																																									31
Curlew																																									30
Ruff																																									27
Black-tailed Godwit																																									25
Whimbrel																																									25
Jack Snipe																																									22
Woodcock																																									18
Sanderling																																									17
Spotted Redshank																																									17
Wood Sandpiper																																									16
Avocet																																									12
Grey Plover																																									11
Little Stint																																									11
Bar-tailed Godwit																																									10
Knot																																									9
Turnstone																																									9
Curlew Sandpiper																																									8
Temminck's Stint																																									4
Stone Curlew																																									2
TOTAL	12	14	16	21	18	16	13	18	16	22	17	16	24	24	16	12	12	18	19	15	22	20	22	20	20	19	17	19	19	20	20	18	16	22	20	12	13	10	13	9	

Figure 78. *Wader species recorded each year at Tyttenhanger GPs between 1983 and 2023. Navigation back to the species accounts can be made via the following links; Oystercatcher, Stone Curlew, Plovers, Lapwing, Calidris spp. Ruff, Snipe, Godwits, Curlew, Tringa spp* and sandpipers. *See also Table 48 for information on the scarce waders (Avocet, Curlew Sandpiper, Knot, Little Stint, Sanderling, Stone Curlew, Temminck's Stint, Turnstone and Wood Sandpiper) at Tyttenhanger and across the rest of Hertfordshire.*

Sanderling *Calidris alba* (0, 10, 4) [All]

Occasional visitor.

2023. Not recorded. **Coursers Road** did however record a single bird on the 2nd June.

Summary. The first record in the Tyttenhanger GPs dB is of a single bird on the 10th May 1986 and is generally reflective of the remaining 21 occurrences of this species at Tyttenhanger GPs i.e., a single bird present for a single day. Days-recorded are spread across 17 years (see *Figure 79)*, are heavily skewed towards May (15 of 22 occurrences), single birds (15 of 22 occurrences) and a stay of just a day (19 of 21 occurrences). The more atypical of the Tyttenhanger GPs records are as follows:

1987. A bird on the 22nd and 23rd May was joined by a further three birds on the 24th – four is a record count for the site only equalled by the record in 2006.

1991. Two birds on the 24th May was repeated again on the 30th of the month – the coverage between these dates suggests these were separate occurrences

1996. A single bird on the 4th February (the earliest record) and two birds on the 10th May was the third of four occurrences for the year.

2004. The latest record for the site was of a single bird on the 30th October.

2006. Four birds on the 15th May equalled the site record-count.

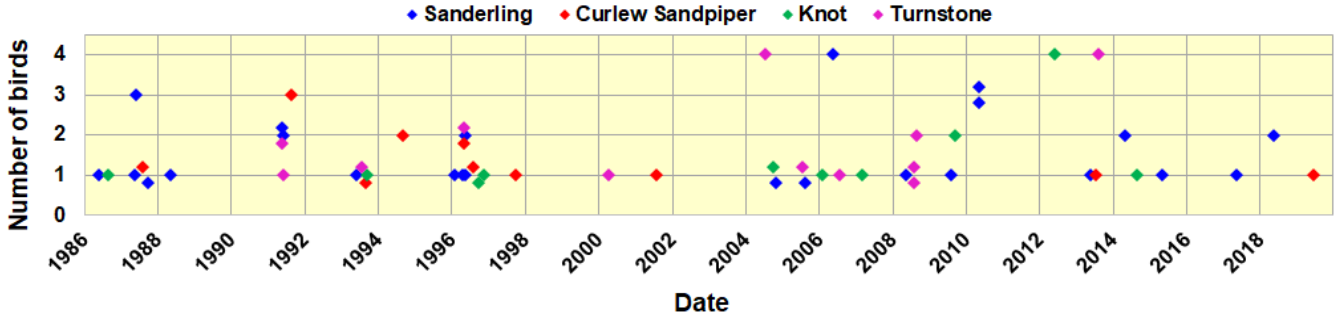


Figure 79. *Time-line showing occurrences of Sanderling, Curlew Sandpiper, Knot and Turnstone between 1st January 1986 and 31st December 2019 (records range between the 18th May 1986 and 24th June 2019. The vertical scale around the individual numbers is expanded to better show clustering of records.*

2010. Three birds that appeared on the 7th May stayed into the following day – one of only two multiday records, the other being in May 1987 (see above).

Aside from the above there are also single records from 1988, 1993, 2005, 2008-09, 2013-17, with the last record from the 23rd May 2018 - all occurrences shown in *Figure 79*.

Additional Information: *Appendix 4* – Year Lists (*Figure 78). See also Table 48* and *Figure 79.*

Little Stint *Calidris minuta* (0, 3, 27) [All]

Infrequent visitor.

2023. Not recorded.

Pre-2004. The first record of this species was of two birds on the 22nd July 1987 with a further 47 days-recorded in this period – most of which were in 1996 (see below). A summary of all occurrences at Tyttenhanger GPs is provided below and shows seven before 1996 and a further eight from 1997-2003; records from the Tyttenhanger GPs dB not mentioned in the Hertfordshire Bird Reports are indicated (TdB). See "*Summary"* at the end of this account for further analysis of records from this period.

1987. Two birds on the 22nd July.

1987. A single bird on the 19th September.

1990. Three on the 19th September.

1991. A report of six birds on the 28th August was belatedly included in the 1992 Hertfordshire Bird Report.

1993. Two birds appeared on the 18th August, with one of the two remaining until the 21st.

1993. Two birds on the 4th September.

1993. A single on the 16th September

1996. This was a truly amazing autumn at Tyttenhanger GPs for waders with this species being the star of the show. Between the 20th August and the 20th October there were 20 days-recorded and in the peak period between the 22nd and 30th September counts reached 11 or more birds on each day with a maximum count of 27 birds on the 27th September - still the largest count for this species in the county. The numbers passing through Tyttenhanger GPs were such that Smith *et al*. (2015) were led to write the following *"The largest single party was of 27 birds at Tyttenhanger Gravel Pits, but the birds were passing through quickly, being replaced by new ones on an almost hourly basis so that an accurate assessment of the numbers of birds involved was difficult".* Further information on this amazing period can be found in *Figure* 80.

1997. One flying over on the 31st August.

1998. One on the 1st September.

1998. One on the 9th September

1998. A single bird on the 23rd and 24th September.

2001. A single bird on the 25th and 26th June.

2001. A bird that arrived on the 6th August was recorded on six dates (from 10 days coverage) up to the 19th August.

2001. A single on the 21st and 22nd September.

2002. One on the 20th March.

2004. A single on the 2nd September.

2007. A single bird on the 25th May was recorded each day until the 30th.

2007. A juvenile on the 30th September.

2007. A juvenile on the 6th October.

2007. A single on the 20th October (TdB).

2017. A single on the 7th and 8th October.

2004-23. This period produced just seven occurrences (see above) all involving single birds. See the "*Summary"* below for further analysis.

Summary. The autumn of 1996 aside (dealt with above and in *Figure 80*), this species has been recorded on a total of 38 days representing 21 occurrences spread across 11 years with four instances of more than a single bird involved. Stays of more than one day are not uncommon I.e., six of 21 occurrences involved such stays (the greatest being 14 days in August 2001). Of the 38 days-recorded, 24 (63.2%) have been in August/September, with further days in March (one - 20th March 2002), May (6 days-recorded), June (2 days-recorded), July (one day - 22nd July 1987) and October (4 days-recorded; the latest being the 20th October 2007).

Additional Information: *Appendix 4* – Year Lists (*Figure 78*). See also and *Table 48* and *Figure 80.*

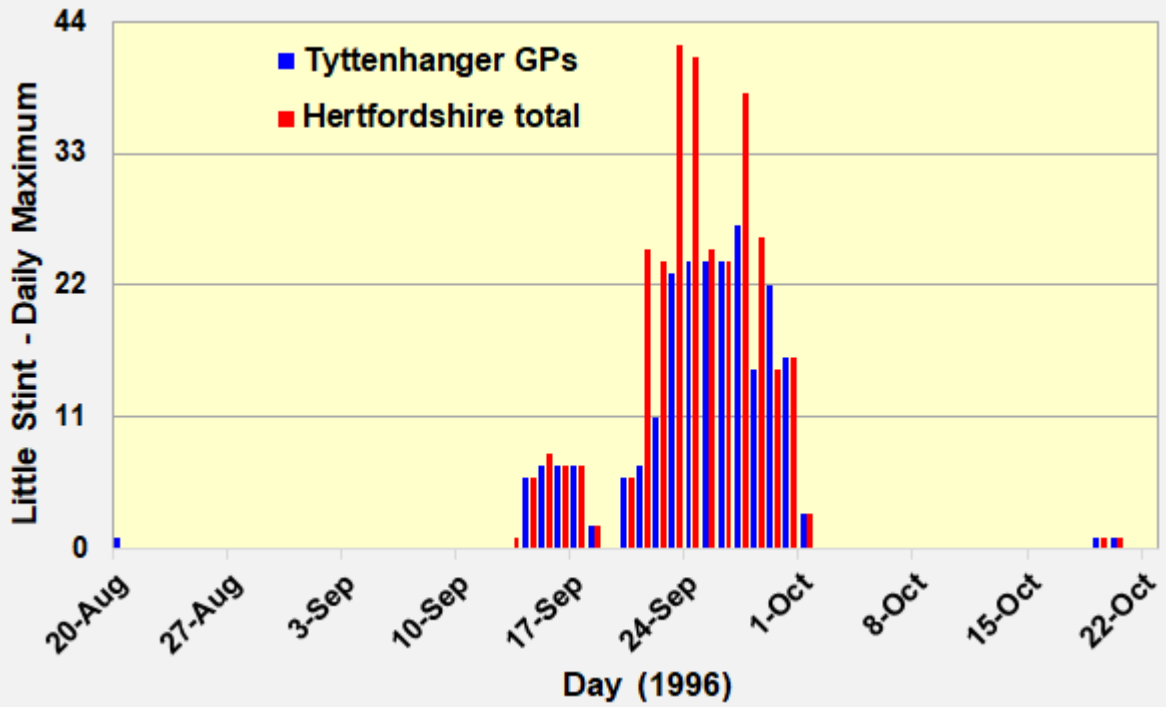


Figure 80. One Autumn… The autumn of 1996 proved to be an exceptional period for *Little Stints* and a number of other waders at Tyttenhanger GPs - although when the first bird of the autumn appeared on the 20th August there was little evidence to indicate what was to happen over the next several weeks. The next *Little Stints* did not appear at Tyttenhanger GPs until the 14th September - although with the excellent conditions on the Fishing Lakes things had not been quiet by any means. Up to the 14th August several waders had already been attracted to the site, the pick-of-the-bunch were two *Curlew Sandpipers* on the 8th August, a lingering *Wood Sandpiper* (16th to 21st August), one or two *Ruff* from the 29th August to the 18th September, up to eight Dunlin (several birds present on many days between the 15th August and the end of September), eight *Black-tailed Godwit* on the 14th August, an *Oystercatcher* on the 19th August, and up to three *Spotted Redshank* in early September (with two birds lingering to the 21st September) This was besides the more regular August/September fare of *Little Ringed* and *Ringed Plovers, Greenshank, Green* and *Common Sandpipers* and *Redshank* – most of which were appearing in larger than normal number. So, conditions were clearly spot-on for waders when six Little Stints arrived on the 14th September. This first "wave" of birds had moved on by the 19th September but then things really took off with numbers rising to an amazing 27 birds on the 27th September before falling quickly to just 3 on the 1st October … with them all gone by the following day.

Elsewhere in Hertfordshire there were good numbers as shown in the plot above – although no sites seemed to match Tyttenhanger GPs for numbers Finally, a straggler passed through Tyttenhanger GPs on the 19th and 20th October to end what was certainly one of the highlights in Tyttenhanger GPs birding-history - and probably without parallel in the recent annals of Hertfordshire birding.

Photograph from May 2014. courtesy of Simon West.

Photograph from May 2014 courtesy of Simon West.

Photograph from April 2017 courtesy of Steve Blake

Temminck's Stint *Calidris temminckii* (0, 2, 3) [All]
Infrequent visitor recorded on four occasions

2023. Not recorded.

Summary. Since the first record of this species in Hertfordshire in 1939 there have been just 21 occurrences[49] in the county to the end of 2023 with a total of 43 days-recorded and 57 bird-days. Most of the occurrences prior to 1983 (13) came from Tring and Rye Meads but from 1983 onwards this species was virtually synonymous with Tyttenhanger GPs - the latter producing four of the seven records in this time (see *Table 48*). All of the records are summarised below and images from the birds found in 2014 And 2017 are shown above.

1988. "*A single was seen at Tyttenhanger on 12th May....*".

2002. "*A loose group of three small waders was seen at Tyttenhanger GP on 18th May (SM) and identified by the observer as Temminck's Stints. The observer noted that the group was very mobile and that his views of individual birds were often confused as they constantly changed places along the water's edge. The Rare Birds Panel concluded that he had certainly seen one Temminck's Stint and that it was highly probable that the other two birds were the same species.*"

2014. Two birds were found on the Main Pit on the 19th May…and flew off at 13.15 pm before being fully identified, Subsequent identification was confirmed from photographs taken at the time and the birds (thankfully) reappeared the following day. They then stayed until 22nd May during which time they were seen by most Tyttenhanger regulars and many of Hertfordshire's other birders – some of whom were

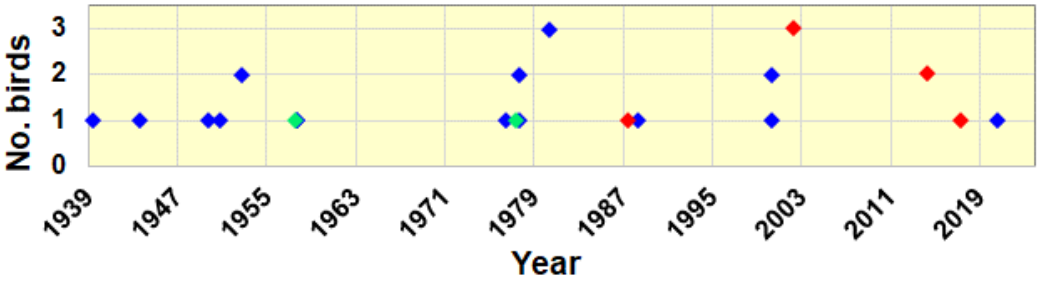


***Figure 81**. Time-line showing the occurrences (♦) of Temminck's Stint in Hertfordshire. Records from Tyttenhanger GPs (♦), a cluster of three records from 1957 and single birds in 1977 at Rye Meads (♦) are indicated.*

[49] These figures include the two birds at Royston Sewage Work on the 23rd August 1977 that are shown in the Hertfordshire Bird Report for 1976/77 as "probables".

treated to the sight of the pair mating on the 20th May (Tyttenhanger Bird Report, 2014).

2017. A single bird was found on 30th April at 07.15 am and was seen by a couple of the other regulars before flying off at 08.22 am. (Tyttenhanger Bird Report, 2017).

Additional Information: *Appendix 4* – Year Lists. See also *Figure 78* and *Table 48*.

	Herts 1984-2012	Tytten'r 1984-2012	Herts 2013-23	Tytten'r 2013-23	Herts 1984-2023	Tytten'r** 1984-2023
Avocet	18	12	18	4	**36**	**13**
Curlew Sandpiper	55	8	5	2	**60**	**10**
Knot	39	8	12	1	**51**	**10**
Little Stint*	65	20	15	1	**80**	**21**
Sanderling	55	15	23	5	**78**	**22**
Stone Curlew	9	2	1	0	**10**	**2**
Temminck's Stint	4	2	3	2	**7**	**4**
Turnstone	74	11	22	1	**96**	**12**
Wood Sandpiper	149	22	15	8	**164**	**30**
TOTAL	**468**	**96**	**114**	**21**	**582**	**117**

* Because of the difficulty of assigning occurrences/arrivals in the bumper autumn of 1996 see *Little Stint*, we have not used these data in the analysis for this species. ** Does not include Coursers Road.

Table 48. Scarce Waders at Tyttenhanger GPs – 1984-2023. The table to the left is an extension of an analysis undertaken for the 2013 10th Anniversary Tyttenhanger GPs report. The period 1984-2012 was originally used in the analysis as it matched several analyses in the Birds of Hertfordshire (Smith *et al.,* 2015). This original time-frame has been retained in the current analysis along with additional analysis for 2013-2023 and a summary of the period 1984-2023. Despite the last several years showing a general decline in overall wader records at Tyttenhanger GPs** (see *Figure* 78) the period from 2013 to 2023 still managed to produce 18.4% of all the Hertfordshire records for these species (compared to 20.5% in the period 1984-2012). Across the period from 1984-2023 the two standout species from a county perspective have been Temminck's Stint (57.1% of all records) and Avocet (44.4% of all records); the remaining species having produced between 12.5% (Turnstone) and 26.3% (Little Stint) of all county records.

Curlew Sandpiper *Calidris ferruginea* (1; 2, 3) [All]

Infrequent visitor.

2023. Not recorded.

Summary. The first record for the site was on the 1st August 1987, and with six of the further nine occurrences for the site also being in August, this is clearly a bird of the autumn. All records are summarised below (see also *Figure 81*). Notably of ten occurrences the only birds that stayed for more than a day were those in 1997 and 2001 and there were four occurrences that involved multiple birds – the highest count being three birds on the 23rd August 1991.

1987: One on 1st August.

1991: Three on the 23rd August.

1993: A juvenile bird on the 27th August

1994: Two on the 29th August.

1996: Two birds in summer plumage on the 6th May.

1996: Two on the 8th August.[50] (see *Figure 80)*

1997: A juvenile from the 26th to 30th September.

2001. A moulting adult present from the 1st to 3rd August (TdB)[50]

2013: One on 20th July.

2019. A summer plumaged bird on the 24th June.

Additional Information: *Appendix 4* – Year Lists (*Figure 78*).See also *Table 48, Figure 79* and *Figure 80.*

[50] The Hertfordshire Bird Report of 1996 shows this as a single bird. However, the Tyttenhanger GPs dB has several entries showing it as two birds. We have used the latter for our analysis. The record from 2001 is not included in the Hertfordshire Bird Report of that year.

Dunlin *Calidris alpina* (0, 15, 12) [≥4] [All]

Regular passage migrant and occasional winter visitor likely to turn up at any time of the year. Records have declined dramatically in the last 5 years.

2023. Not recorded[51]. **Coursers Road** produced five days-recorded this year including two on the 10th March, singles on the 21st and 29th March, three on the 31st May and another single on the 6th June.

Correction 2022. While not a correction to the 2022 Tyttenhanger Bird Report, during the course of compiling the current report it came to our attention that the 2022 Hertfordshire Bird Report erroneously showed a record of this species in April on the Main Pit. This record is considered to be from **Coursers Road** and not Tyttenhanger GPs[52].

Pre-2004. The first record of this species in the Tyttenhanger GPs dB is from the 21st April 1983, with records in virtually all[53] subsequent years through until 2018 since when, it has failed to be recorded on-site. While the recording rate for this species shows a number of peaks and troughs (*Figure 82*) it is interesting to note the total number of days recorded in the period 1983-2003 and 2004-2023 are virtually the same i.e. 276 and 278 respectively. The pattern of occurrence through the year is presented in *Figure 83* and shows a pattern of spring and autumn passage along with occasional winter records – virtually identical to that in the later period (2004-23). The maximum count for the period was 12 birds on the 3rd March 1987 and the 26th April 1997 – the only other double-figure count was of ten birds on the 23rd April 1988, years producing counts of seven or more (99th percentile) are shown in *Figure 82.*

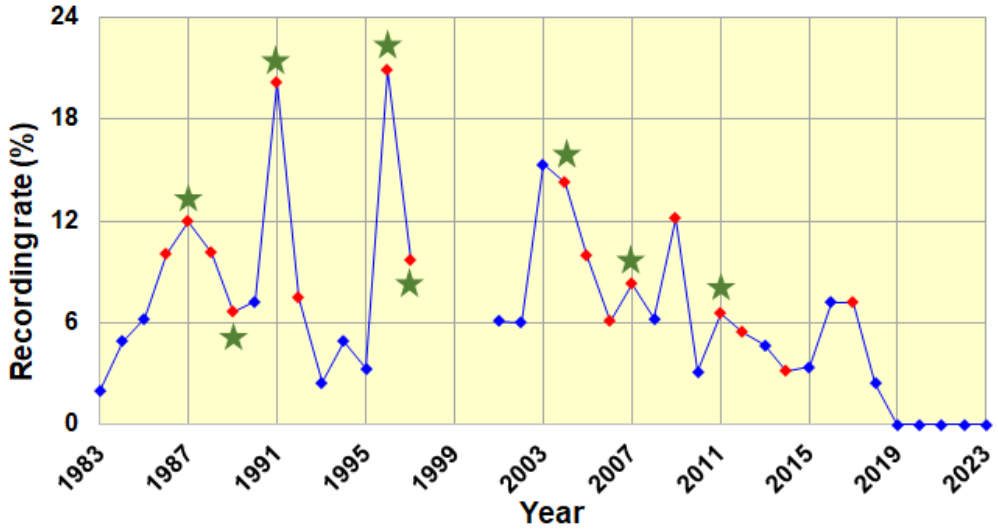


Figure 82. *The recording rate for Dunlin for period 1983-2023; years producing significant counts (≥4 birds) are shown (♦) as are those producing counts ≥7 birds (★). Data for 1998-2001 has been omitted as the gap in the database may be misleading in this instance.*

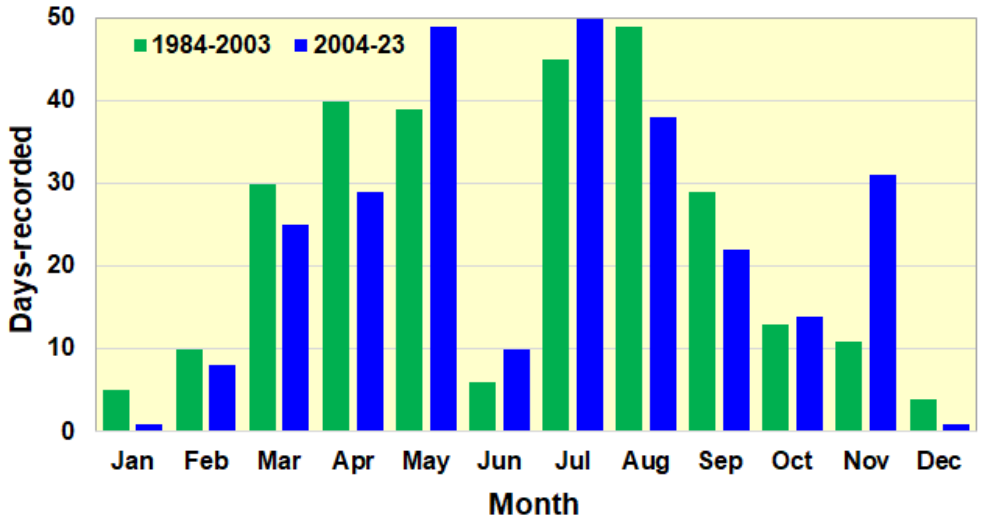


Figure 83*. Days-recorded by month for Dunlin in the periods 1984-2003 and 2004-23[54].*

[51] A record in the Tyttenhanger GPs dB from the 23rd June cannot be assigned to either the Tyttenhanger GPs or Coursers Road and so has not been included in any further analysis.

[52] The only April 2022 record for Tyttenhanger GPs in the Herts Bird Club Records Archive is for Coursers Road on the 23rd of the month – there are no 2022 records for the Main Pit at Tyttenhanger in the Tyttenhanger GPs dB.

[53] The years 1998, 1999 and 2000 produced just 1,1 and 0 records respectively although this may well be due to the "gap" in the Herts Bird Club dB rather than any absence during the period i.e. the Hertfordshire Bird Reports of 1998 cited 39 records from 9 sites, 1999 – 53 records from eight sites and 2000 – 29 records from an unnamed number of sites. In all three of these years the only sites mentioned were those that produced significant counts and it is highly likely that several of the other records were from Tyttenhanger GPs.

[54] In the current instance there is evidence this species is well-reported and so less subject to issues of coverage and data-capture in the period 1984-2003. As the total number of days-recorded were almost identical in the two periods we did not feel the need to compensate for coverage as the scale is applicable to both.

2004-23. The recording rate shows a steady decline through this period before records ceased in 2019 – the last birds (2) being seen on-site on the 21st November 2018. The decline is undoubtedly due to failing site-suitability as seen with most wader species over the last several years (see *Figure 78*). Occurrences in this period show a very similar pattern of distribution through the year to the above period[55] and numbers are also similar i.e. daily maxima comprising counts of single birds were 66.2% and 76.3% of all days-recorded for the 1983-2003 and 2004-2023 periods respectively. The two periods produce significant counts of ≥5 and ≥4 birds for the early and later periods respectively while the maximum count in this period was nine birds on the 22nd and 23rd February 2011.

Additional Information: *Appendix 4* – Year Lists (see also *Figure 78*).

Ruff *Calidris pugnax* (0, 11, 26) [All]
Infrequent visitor.

2023. Not recorded.

Summary. Between the first record on the 15th July 1984 through until the last record on the 7th March 2018 the Tyttenhanger GPs dB contains a total of 167 days-recorded. However, this simple statistic hides a more complex phenology at Tyttenhanger GPs than for of any other wader and so we have decided to treat the periods 1983-2003 and 2004-23 together. The plot in *Figure 84* shows the distribution of arrivals[56] by year along with days-recorded, while *Figure 85* shows the distribution by month of arrivals and days-recorded. Although there are records from all months of the year, there is a pattern in *Figure 84* that shows a small passage in Spring (March/April), with a more noticeable peak in autumn i.e. August and September. The autumn peak is much clearer for days-recorded and when compared to the number of occurrences indicates long-staying birds are more likely to occur at this time of the year. The year-by-year distribution of occurrences and days-recorded in *Figure 84* indicates a variable pattern of occurrence from year to year with some obvious peaks and troughs. The absence of database entries in many

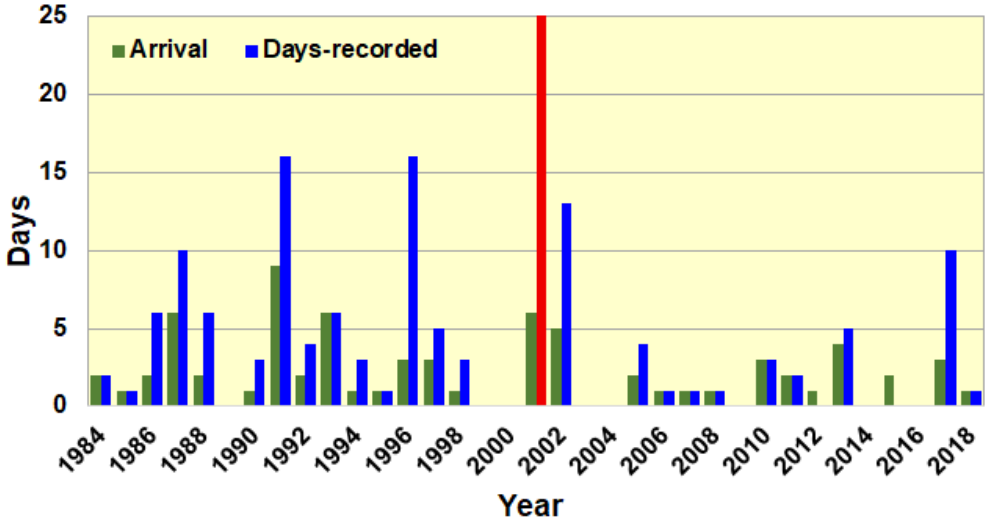


***Figure 84**. Number of occurrences and days-recorded for Ruff in the period between the first (1984) and last (2018) records. There were 44 days-recorded in 2001 – shown in red.*

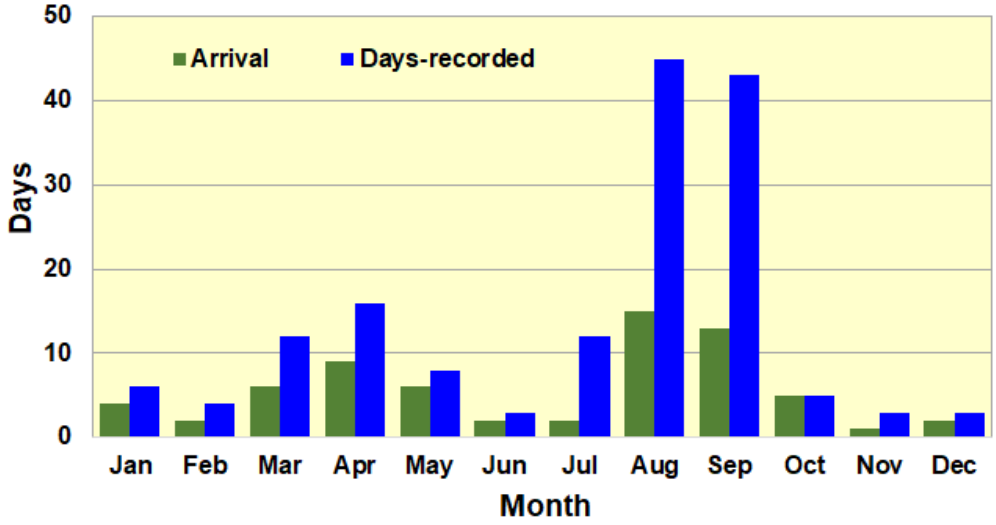


***Figure 85**. Month of arrival for each occurrence of Ruff along with the total number of days recorded in each month.*

[55] The November peak in the period 2004-23 is due to three long-staying birds in this month in 2011 (6 days) and 2018 (5 days).

[56] The complex pattern of database entries and days-recorded in many periods made the delineation of occurrences/arrivals quite difficult. However, following the general principal outlined in *Records* on p11, a series of database entries that appear to relate to an individual or group of individuals is treated as a single record (synonymized with "*occurrence*") but additions to this "core" are separate records i.e. new arrivals are as a separate record/occurrence. For example, two birds seen on the 11th and 13th September are treated as a single record, but if three birds are present on the 12th then an additional record is counted for the third bird.

years is probably a true reflection of the lack of birds, but the absence of records from 1999 and 2000 may be due to issues with the database (see *Appendix 2*). Moreover, the Hertfordshire Bird Reports of 1999 and 2000 indicate birds were quite thin-on-the-ground in these years and consequently the Tyttenhanger GPs dB is probably correct – unsurprising given the notability of this species in Hertfordshire.

The general pattern of variability between years, set against a backdrop of an autumn peak with tendency for birds to stay longer is further supported by the observation that the 167 days-recorded is comprised of 71 occurrences of which only 50 of these involve birds that stayed for just a single day. The following provides a summary of some of the more interesting periods on-site for this species and illustrates some of the complexity of analysing its occurrence at Tyttenhanger GPs.

1986. A single bird appeared on the 13th August and was then recorded every day until the 18th before there was a gap of several days and four birds were reported on the 24th August.

1987. Four birds were reported on the 16th April, with a further two birds present on the 17th before a single bird was reported on three dates between the 21st and 25th April.

1991. One of the good years for this species started with a record of ten birds on the 30th March – the second highest count for the site. Then the 29th, 30th and 31st May produced counts of one, two and three birds respectively that was then followed by a single bird on the 8th June. August then saw two birds on the 20th, 22nd and 25th before a third bird joined them between the 26th and 31st with two birds last seen on the 1st September. The year finished with singles on the 1st October and then on the 24th and 25th of the month.

1992. Three birds were reported on the 21st April but the 22nd saw this climb to 26 birds – a record count for the site. The single bird reported on the 25th and 27th may be a remnant of the earlier birds but the Tyttenhanger GPs dB shows the dates between the 22nd and 25th were covered – as was the 26th.

1996. At least one bird present on 16 of the 21 dates between the 29th August and the 18th September inclusive. However, two birds were present on 5 days i.e. the 29th August, 7th, 8th and 9th September and the 16th September.

2001. At least one bird present from the 16th July through until the 8th September for a total of 55 days recorded. However, two birds were present between the 4th and the 7th September and then on the 27th of September three birds were recorded. The end of the year then produced records of a single bird on the 3rd and 4th November, another on the 25th November and then two birds on the 1st and 2nd and 31st December. The latter birds then appeared to continue through into 2002.

2002. Two birds on the 1st, 4th and 5th January seem to be the birds from the end of 2001. However, after this there was a series of records of a single on the 14th January and then between two and three birds on the 10th and 13th February, 28th February and six dates between the 23rd and 30th March. Interestingly, while there are few records in the Hertfordshire Bird Report to indicate if these records involve the same birds moving between different sites the London Bird Report of 2002 shows a large number of this species at Rainham Marsh in March, albeit nothing to indicate birds elsewhere in January and February.

2013. Three birds were recorded on the 18th and 22nd August and then five birds on the 25th; these were the only days-recorded despite reasonable coverage on the intervening days.

Several of the examples above demonstrate the problems with interpreting the gaps between occurrences – especially when the Tyttenhanger GPs dB shows there was coverage in the intervening period and a species such as this would normally be considered reportable. The obvious conclusion is that birds are very mobile and while favouring an area e.g. Tyttenhanger GPs they also move backwards and forwards between alternate sites. However attractive this explanation may be it does lack supporting data, the most obvious point being the presence of birds elsewhere.

Additional Information: *Appendix 4* – Year Lists (*Figure 78*). See also *Figure 80*.

Jack Snipe *Lymnocryptes minimus* (0, 10, 6) [All]

Previously a regular winter visitor that has appeared less frequently since 2010/11 and not at all since late 2018.

2023. Not recorded.

Pre-2004. A single bird recorded on the 9th April 1982 is the first record for the site, this cryptic winter visitor producing a further 35 days-recorded up to the end of 2003. Primarily recorded between October and March[57] outside of this period there are records in April 1982 (see above) and one in September 1998 ("*one in September*" cited in the Herts Bird Club detailed bi-monthly list for September/October 1998). The distribution of days-recorded by winter period is shown in *Figure 86* with 12 of the 22 winters between 1981/82 and 2002/03 producing at least one day

[57] Summed across the two periods i.e., 1982 to 2023, the six winter-months have produced remarkably similar numbers of days recorded – October, November and December with 13 days, January with 12 and 11 from February and March.

recorded and several producing up to six days recorded. Although reasonably frequently recorded, the majority of counts were of single birds with two birds seen on the 2nd December 1989 and 3rd February 1991 and three birds on the 18th January 1996. Also notable is the reference in several of the records from late 1992 until early 1996 of the "Rainbow Field" – the area behind the service station on the A414 - described by Jim Terry in his 1987 survey of Upper Colne Gravel Pits as "*infilled and grassed, rough and very wet with pools*"… which sounds an excellent spot for Jack Snipe; unfortunately it has become just rough pasture in the recent past and appears to be infrequently visited.

2004-23. The peak winters for this species were undoubtedly 2004/05 (12 days-recorded) and 2005/06 (10 days-recorded) when the condition on the Back Scrape were probably optimal for the species and also produced the site-record count of six birds on the 12th March 2006. The last record for this species on-site was in the winter of 2018/19 on the 24th November 2018 but notably the species had been recorded in ten of the 16 winters between 2003/04 and 2018/19 producing 43 days recorded.

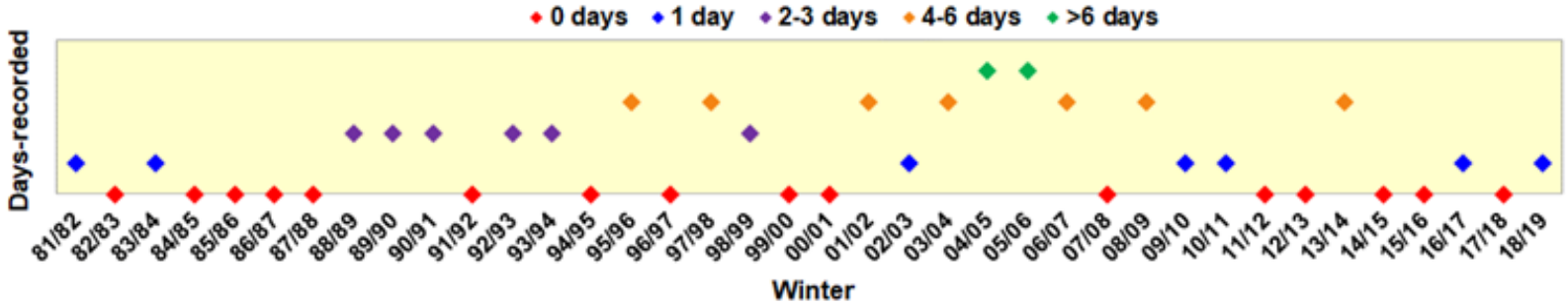


Figure 86. *Occurrence by winter period of Jack Snipe The vertical axis is not to scale with the maximum days recorded being in 2004/05 (12 days) and 2005/06 (10 days). Details on the other winters can be found in the text.*

Additional Information: *The First Gravel Pits; Appendix 4* – Year Lists (see also *Figure 78*).

Snipe *Gallinago gallinago* (5, 20, 68) [≥15] [All]

Currently a winter visitor and passage migrant that may have bred in the past. Median autumn arrival date (2004-22) 8th August and median spring departure date (2004-22) 23rd April. Records between the 8th May and 24th July are especially notable as are counts of 15 birds or more. The earliest autumn arrival is the 23rd July and the latest spring bird the 8th May.

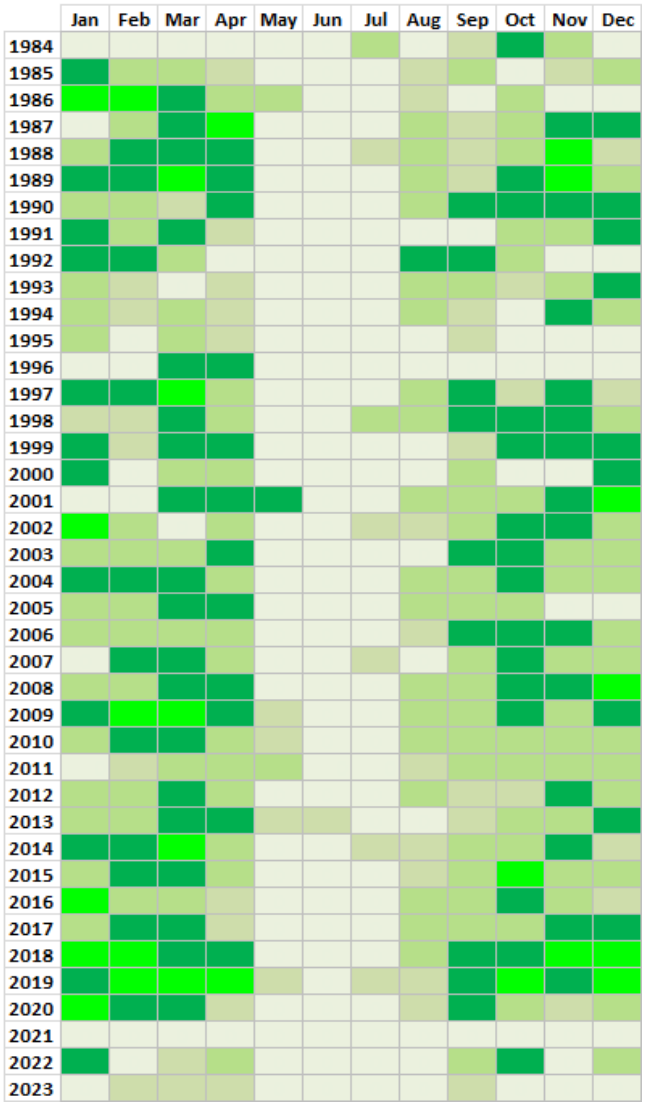
2023. Just four days-recorded for the year, all records involving single birds and on single dates in February, March, April and September. **Coursers Road** fared slightly better with six days-recorded and a maximum count of 20 birds on the 29th December.

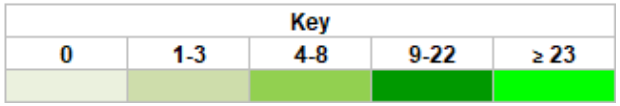
Table 49*. Summary date for Snipe in the period 1983-2003 and 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	0	1	1	1	0	0	0	0	1	0	0	0
Maximum 2004-23	60	38	68	20	2	1	1	5	11	40	19	40
Median 2004-23	4	6	7	3	0	0	0	1	3	6	5	3
Rec. rate (%) 2004-23	25.4	31.9	34.6	28.3	1.8	0.7	1.6	8.6	30.3	37.3	28.1	28.2
Maximum 1983-2003	24	21	23	25	7	0	2	12	10	16	20	35
Rec. rate (%) 1982-2003	18.8	14.9	28.2	17.1	0.6	0.0	2.0	18.3	19.0	25.4	20.0	16.4

Pre-2004. The first record in the Tyttenhanger GPs dB is from the 9th April 1982 and is followed by a further 485 days-recorded in the period up until the end of 2003. Throughout this period the overall recording rates in the August to April window was 20.2%, the count rate was high 97.3% and counts of ten or more birds comprised 19.8% of all counts. All of these factors indicate the overall record for this period is fairly comprehensive and so we were able to combine all monthly maxima for the period January 1984 to December 2023.[58] to produce *Figure 87*. The latter shows that this is clearly a passage migrant and winter visitor – although the paucity of records in the dB from May-July is not fully consistent with its possible breeding status in the late 1980s/early 1990' (see "*Breeding*" below). Entries in the Tyttenhanger GPs dB in this period broadly agree with the autumn and spring dates derived from the later period (see "*2004-23*" below) with most years producing records in July/August – the earliest being the 23rd July 1983 (a site-record). Likewise with spring departure, there are records in April from most years with the latest being the 28th April 2001. There are no June records from this period and the only May records are of seven birds on the 17th May 2000 and three birds on the 23rd May 1985.

[58] This analysis does not include 1983 as we know records from the beginning of that year are absent from the Tyttenhanger GPs dB i.e. regular recording did not commence until April/May of that year.





Monthly maxima for this period are shown in *Table 49* – the largest count in the period being 35 birds on the 23rd December 2000 with this month also producing counts of 29 on the 3rd and 28 on the 10th. Also notable in this period was the high recording rate in August and lower rate in September when compared to the later period possibly suggesting an earlier passage than in later years?[59]

2004-23. Increased recording and better data-capture produced a total of 1180 days-recorded in this period and an overall recording rate of 32.3% in the September-April window. The count-rate through this period was over 99% of all daily maxima and counts of ten birds or over comprised 11.2% of daily maxima; counts of 15 or more birds are significant in this period. Counts of one or two birds comprised 52.3% of all daily maxima - very similar to the 53.1% from the earlier period (1983-2003). Autumn arrival through this period has ranged between the 25th July and the 1st October with a median date of the 8th August (n = 19) while spring departure ranges between 4th April and the 8th May with a median date of the 23rd April (see *Figure 90)* There have been significant differences in numbers and occurrence between winters with 2018/19 being a stand-out followed by (in approximate order) 2008/09, 2017/18 and 2019/20 (see *Figure 87* and *88*). The three highest on-site counts were 68 on the 2nd March 2019 (see photo below), 60 on the 7th January 2020 and 50 on the 28th March 2019. Finally, we would be remiss not to mention the very obvious decline over the last several winters where the median winter recording-rate from 2003/04 to 2019/20 of 28.6% (range 17.8% to 75.3%) has fallen to 16.8%, 11.0% and 10.1% in the subsequent three winters; available also data suggest the winter of 2023/24 may have produced just a single record in September 2023.

Breeding. Although it may come as a surprise to many, this species was a possible breeding species at Tyttenhanger in the late 1980s and early 1990s when there were several pairs of Snipe in the Upper Colne Valley - with confirmed breeding elsewhere on several occasions. At this time drumming birds were seen/heard at Tyttenhanger in at least two breeding windows i.e. 1987 and 1996 - further details available in *The Breeding Birds of Tyttenhanger Gravel Pits* 1967-2023.

Part of a larger flock of Snipe photographed on the 2nd March 2019 , when a site-record count of 68 birds were flushed from across the site, 42 of which are shown in this image. Photo courtesy of Andrew Steele.

Figure 87. (left) *Plot of monthly maxima for Snipe between 1984 and 2023.*

[59] The August days-recorded in this period were spread across most years i.e. the high recording rate was not biased by a small number of good years.

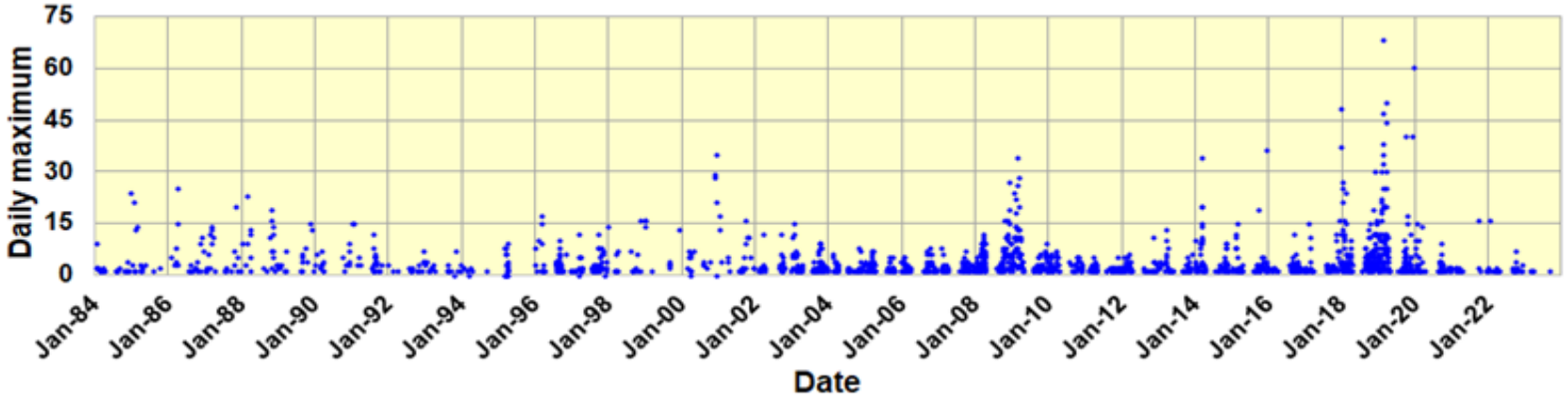


***Figure 88**. Plot of daily maxima for Snipe between 1984 and the end of 2023.*

Additional Information: *The First Gravel Pits;* Migrant Arrival and Departure - *Figure 90; Appendix 4* – Year Lists (*Figure 78*). See also *Table A2-1.*

Woodcock *Scolopax rusticola* (4, 16, 5) [All]

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

2023. Not recorded.

Summary. The first record for this species was on the 31st December 1995 after which there were three records in 1997 (all in the first quarter) and then a gap of around eight years before the next record on the 12th March 2005. Since then, there have been a further 45 days-recorded making a total of 50 days-recorded for the site (*Table 50*). Outside of the normal November to March window there has been just a single record of a bird on the 3rd April 2018, with January (15 days-recorded) being the most prolific month followed by February (11 days), December (11 days), March (5 days) and November (5 days). While birds have been seen at a number of locations across the recording area, when the location has been recorded (46 occasions) the great majority of these (33) have been from Garden Wood. The latter may also partly explain the gap in records between 1997 and 2005 when this area was out-of-bounds due to a paint-balling operation in the Wood. Unsurprisingly, the majority of days-recorded involve single birds (40), with eight days producing counts of two birds along with single counts of three (23rd February 2011) and five birds – a site record – on the 18th February 2012. Finally, a mention to Alfie, who in his hey-day was probably the greatest contributor to the Tyttenhanger GPs tally of Woodcock records…good on 'yer Alfie (see p223 for a tribute to Alfie and his faithful companion).

***Table 50.** Days-recorded for Woodcock between 1995 and 2023.*

	Pre-2005	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Days-recorded	4	3	0	0	3	5	5	2	2	1	2	1	2	7	3	5	1	1	3	0

Additional Information: *Appendix 4* – Year Lists (*Figure 78*).

Bar-tailed Godwit *Limosa lapponica* (1, 8, 4) [All]

Infrequent migrant.

2023. Not recorded.

Summary. The first occurrence of this species was on the 24th October 1987 and is one of just 12 for the site (14 days-recorded) – all records are summarised below:

1987. A single bird on the 24th October.

1996. One on the 3rd February - an unusual month for a Hertfordshire record.

2004. One on the 2nd of May.

2006. A single summer-plumaged bird on the 1st May.

2011. Two birds present in the evening on the 1st May.

2011. Three birds at 5.30 am joined by a fourth at 7.15 am; departed at 8.30 am.

2012. A bird in full breeding plumage on the 29th and 30th April.

2012. A Single on the 5th and 6th May.

2014. A single bird seen for 10 minutes on the 30th October.

2017. Four birds present for 45 minutes on the morning of the 22nd April.

2018. A bird on the 13th April lingered for less than an hour, with a second (different) bird see at a separate location.

2022. A single over the Main Pit at 5.20.

Summary. As the above shows, this is a species unlikely to hang around (if at all) and has generally been seen at Tyttenhanger GPs around the peak time for Hertfordshire i.e., the last week of April/first week of May (Smith *et al.,* 2015). In fact, seven of the 12 occurrences have been between the 24th April and 7th May with 11 of the 14 days recorded in April and May. The only two autumn records are from October 24th (1987) and 30th October (2014). The maximum count for the site is of 4 birds on the 2nd May 2011 and the 22nd April 2017.

Additional Information: *Appendix 4* – Year Lists (*Figure 78*).

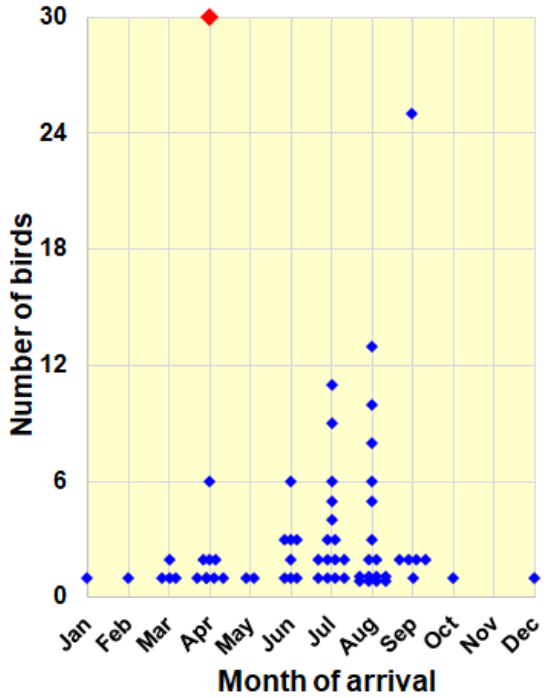


Figure 89. *Distribution of daily maximum counts between months for Black-tailed Godwit for all occurrences between 1987 and 2023 (♦ = 96).*

Black-tailed Godwit *Limosa limosa* (3, 17, 96) [All]

Irregular passage migrant most frequently encountered in the autumn.

2023. Just a single record for the year which saw three birds fly over Willows Farm on the 29th April.

Pre-2004. Two birds seen on the 24th April 1987 are the first record for the site with a further 19 subsequent days-recorded in this period. There were three instance of birds that lingered for more than a day, one in December 1989, one in August 1996 and the final one in October 1997; making the total number of occurrences 17. The maximum count was of 11 birds on the 13th July 1992 with eight birds seen on the 14th August 1996.

2004-23. This period produced a total of 83 day-recorded although several long-staying birds contribute substantially to these days-recorded i.e. 2006 (January 21st to 5th February, 12 days-recorded), 2019 (2nd to 16th September, 15 days-recorded) and 2020 (one of three birds that arrived on the 22nd July stayed until the 29th, 8 days recorded). The total number of occurrences in this period was 48. The largest flock recorded was 96 birds on the 28th April 2018 which landed on the Main Pit at 5.45 am and departed just 37 minutes later at 6.17 am; the previous record was 25 birds on the 2nd September 2007.

Table 51. *Monthly breakdown of days-recorded and occurrences of Black-tailed Godwit.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Days-recorded	8	5	4	10	2	8	23	19	20	2	0	2	**103**
Occurrences	1	1	4	9	2	8	15	16	6	1	0	1	**65**

In summary, the distribution of days-recorded and occurrences for the whole period 1987-2023 is shown in *Table 51* and *Figure 89*. The majority of the 103 days-recorded produced counts of just one or two birds (45.3% and 23.4% of all days-recorded respectively), but flocks of three or more birds are clearly not unusual. The maximum count of 96 birds in 2018 has only been bettered in Hertfordshire by the 150 seen flying over Cassiobury Park on 26th August 2011, and the flock of 300 seen over Baldock on the 18th March 2023.

Postscript – Coursers Road. There were records of single birds in June and August 2024 but 2025 seems to have drawn a blank at both Tyttenhanger GPs and Coursers Road.

Additional Information: *Appendix 4* – Year Lists (*Figure 78*) See also *Figure 80*.

Whimbrel *Numenius phaeopus* (2, 12, 31) [All]
Irregular passage migrant.

2023. The 1st May saw one fly north over the site at 8.30 am with a further two birds flying SE and calling over Garden Wood at around midday**. Coursers Road** saw a single record of three birds on the 29th April.

Pre-2004. As with several of the larger waders this species tends to be quite flighty and even if it stops, it is often for only short periods. The first record on the 13th August 1986 being a point in case when a single bird was seen to alight for 5 minutes before taking off again. The remaining 18 years of this period saw a total of 21 further days-recorded from 13 years with a maximum count of ten birds on the 6th May 2002 – the only record of a bird staying for more than a day being from April 1987[60].

2004-23. This period produced a total of 24 days-recorded from 12 of the 20 years and a maximum count of 31 birds on the 8th May 2010 (a site-record); the only other double-figure count was of 13 birds on the 30th April 2001. Birds that appeared to stay for more than a day are from the 30th April to 1st May 2012 and again that year, slightly later in May[50].

Summary. The majority of days-recorded are from April (20) and May (16) , with the peak dates between week 16 and 19 i.e., 15th April to 12th May inclusive; there are somewhat fewer records in the autumn months of July (4), August (3) and September (3). Most of the days-recorded comprise just a single bird (30 days; 65.2% of all days recorded) but apart from the counts of ten or more birds (see above) there are counts of two (7), three (3), four (2) and five (1). The earliest spring date was the 7th April 2003 and the latest bird the 13th September 1988.

Two of a group of four Whimbrel on the Main Pit on the 8th May 2010, which with the addition of 27 birds that flew over, set the record on-site count of 31 birds, Photo courtesy of Steve Blake.

Additional Information: *Appendix 4* – Year Lists (*Figure 78*).

Curlew *Numenius arquata* (2, 16, 19) [All]
Infrequent passage migrant

2023. Not recorded.

Table 52. *Distribution by month of days-recorded and multiple counts for Curlew (1986-2022.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Days-recorded	2	3	9	20	3	6	4	9	1	2	1	1	**61**
Days with multiple birds	0	1	2	4	0	1	1	2	0	0	0	1	**12**

Pre-2004. Even more than the preceding three species, Curlews are most often reported as fly-overs and in several cases as "heard only". It is therefore surprising the first record for the site on the 13th August 1986 was of ten birds ("*mostly juveniles*") that left after 5 minutes on the ground. Subsequent days-recorded up until the end of 2003 total 59 with a further 13 years represented. Although 29 of the 37 days-recorded (78.4%) relate to just single birds, other notable counts are of 19 birds on the 27th August 1998 (a site record), the ten birds in August 1986 (see above), six birds on the 9th April 1993 and five birds on the 22nd March 1996. The only bird that stayed for more than a day before 2004 was present between the 24th and 26th January 1997[61].

2004-23. This period saw less days-recorded than above with 24 days spread across 16 years – the last being on the 24th April 2022. The highest count in this period was of four birds on the 1st December 2010, otherwise there with just three counts of two birds – one each from 2004, 2006 and 2021. There have been two instances in this period where birds may have stayed for

[60] The other occurrences where birds may have stayed more than a day are from the 23rd and 24th April 1987, the 30th April 2012 where one of the two birds recorded appears to have lingered to the 1st May and the 5th and 6th May 2012. The latter two instances were at the peak time for this species to pass through the county and so quite possibly relate to different birds.

[61] This bird is shown in the Tyttenhanger GPs dB as being present on the 24th and 26th January of that year, but the occurrence does not appear in the 1997 Hertfordshire Bird Report.

more than a day[50] – but these may also have involved multiple birds.

Summary. From 1986 through until 2022 there were 61 days recorded and although birds have been seen in all months of the year (*Table 52*) there is a clear peak of occurrence and numbers in March/April and August. Although recent years has shown a marked decline of records of most wader species (*Figure 78*), given the nature of most records of this species it will undoubtedly continue to cross the skies above Tyttenhanger GPs in the future – hopefully there will be somebody there to see them.

Additional Information: *Appendix 4* – Year Lists (*Figure 78*).

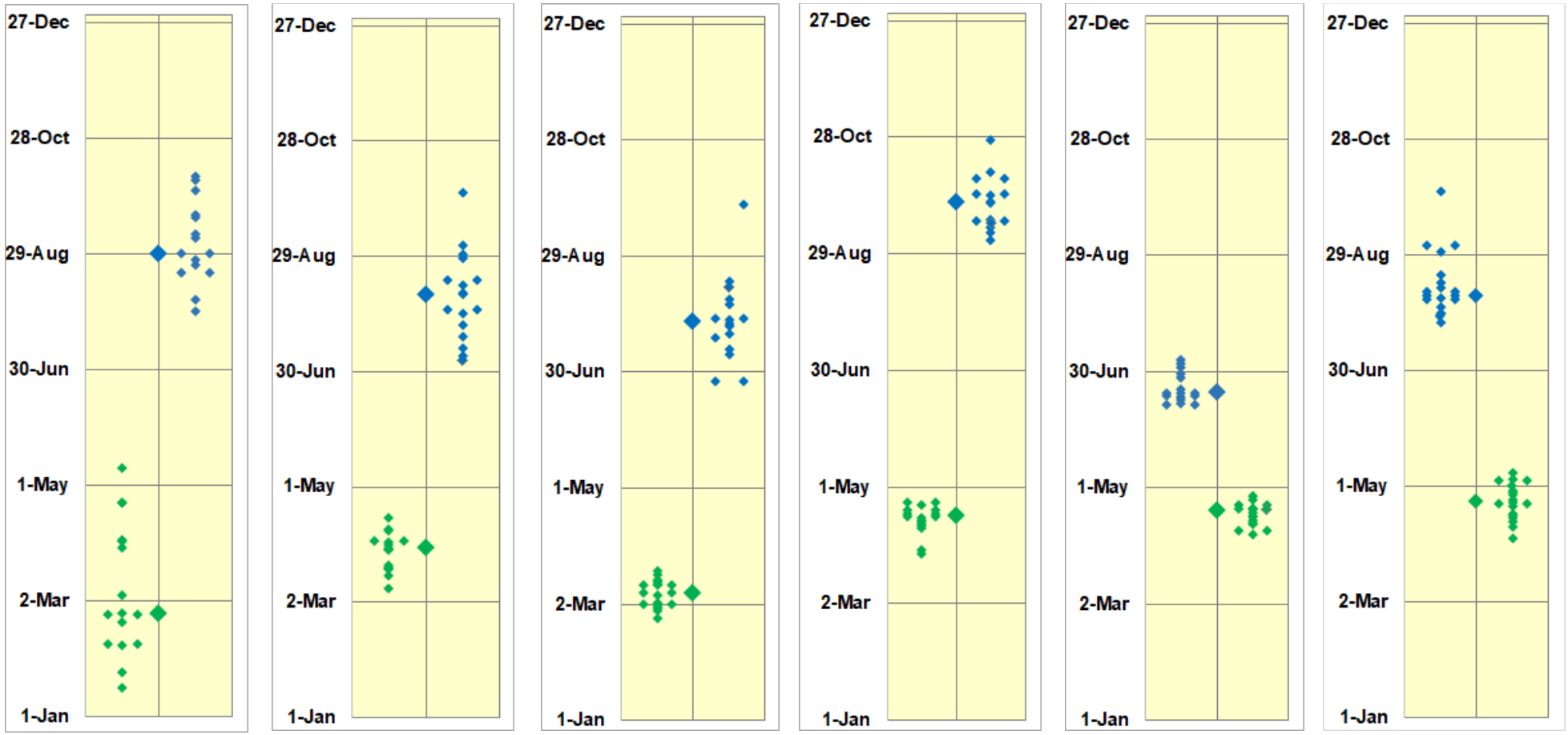


Figure 90. *Spring arrival (♦) and autumn departure (♦) dates for Ringed and Little Ringed Plovers, Redshank and Common Sandpiper along with spring departure (♦) and autumn arrival (♦) dates for Green Sandpiper and Snipe. See also Appendix 1 for the data – 2004-23..*

Spotted Redshank *Tringa erythropus* (1; 4, 6) [All]
Irregular migrant.

2023. Not recorded.

Summary. Since the first record of a single bird on the 20th April 1985 this species has been recorded on a further 69 days with the last day-recorded being late on the evening of the 14th June 2020 when a full adult plumage bird was seen on the Main Pit that lingered after its arrival the day before. However, this statistic is slightly mis-leading and, more than any other scarce-wader at Tyttenhanger GPs, the number of days recorded for this species has been driven largely by several long-staying birds[62] a summary of these extended-stays is provided below:

***Table 53**. Days-recorded and arrivals date for Spotted Redshank summarised by month (1985-2020)*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days-recorded	18	6	0	9	1	3	0	12	20	0	1	0
Arrival date	1	1	0	7	1	2	0	8	6	0	1	0

1992. A bird in partial breeding plumage was present from the 21st to 24th April.

1996. The amazing autumn in this year (see *Figure 78)* included this species as part of its repertoire. The autumn started with three juvenile birds arriving on the 4th September which dwindled to a single bird on the 10th before being joined by an adult bird on the 12th. Both birds (or two birds at least) were present until the 18th with a third bird present on the 16th. A juvenile was also reported on the 19th to 21st to round off an amazing sequence of days-recorded in which birds were reported on 17 days (no reports on the 11th but there appears to have been only limited coverage on this day) with at least 5 birds involved – however, given the rapid passing of other species it is possible there were more birds involved (see *Figure 78*).

1997. Two juvenile birds which arrived on the 12th August were observed every day (5 days-recorded) through until the 16th.

2006. A bird found on the 1st January spent until the 7th February moving between the Fishing Lakes and the Main Pit and was recorded on 24 of the 29 days covered during this period. Amazingly at the same time as this, the regular over-wintering *Greenshank* was present along with another winter-special - a *Black-tailed Godwit* between the 21st January and 5th February - the only January occurrence of this species as well.

2020. A summer-plumaged bird found on the 13th June stayed on the Main Pit into the late evening of the following day.

Taken together the 70 days-recorded comprise just 27 occurrences, with the monthly distribution of both shown in the table above. The maximum count for the site was of 6 birds on the 19th August 1986 and while there have been a good number of days recorded with two birds (18), there are just three further counts of multiple birds i.e. 3 birds on three dates in autumn 1996 (see above). Despite the comings-and-goings of 1996, there have been at least 36 birds involved in the history of this species at Tyttenhanger GPs.

Additional Information: *Appendix 4* – Year Lists (*Figure 78*) See also *Figure 80*.

Redshank *Tringa totanus* (54, 19, 17) [≥7] [All]
Summer visitor that last bred in 2010. For summering birds, the median arrival date (2004-22) is the 8th March and the median last date (2004-19) the 24th July – records outside of the period from the 28th August to 16th February are especially notable.

2023. Not recorded. The only year this species has not been recorded on-site since the first record in 1982. **Coursers Road** provided some hope for the future with several records in the first half of the year (March-June), but it appears this species has now disappeared completely as a breeding species in the Upper Colne Valley.

Pre-2004. From the 1980s through until 2010 the Upper Colne Valley – Tyttenhanger GPs included - was a key breeding location for this species in the county (see *Breeding Birds of Tyttenhanger Gravel Pits* – 1967-2023 for more details). So, it is unsurprising this species is well represented in the Tyttenhanger GPs dB in this period, with the first record from the 1st June 1982, a total of 779 days-recorded over the years 1982-2003 and a recording rate of 40.9% in the period (March-August). The breeding months from March to May produced the peaks in occurrence and

[62] There have been eight long-staying birds which account for 51 days-recorded spread across five separate occurrences.

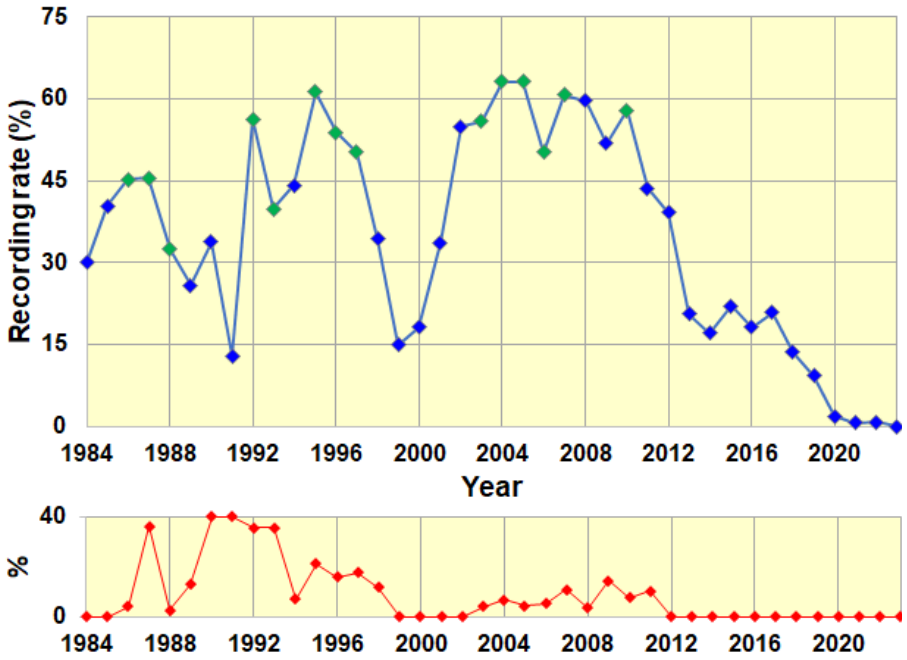


***Figure 91**. (upper) Recording rate (March-August) for Redshank in the period 1984-2023; confirmed breeding is also indicated (♦). The lower panel shows the percentage of total counts that were significant (≥7).*

numbers (*Table 54*), but birds lingered in most years through until August (*Table 54*). The record count in this period (also a site-record) was 17 birds on the 29th May 1992 ("*flock of 13 plus local birds*") – this year also produced a count of 15 birds on the 20th March and the same count was again made on the 27th March 1991. This period produced 125 significant counts of 7 or more birds (16.0% of days-recorded) – predominantly in March-and April (107 of the 125 days). The days-recorded from November and December involved up to five birds in 1989 (6 days - including two birds on the 10th December), 1994 (1 day), 1998 (1 day) and 2003 (6 days). The remaining winter (November-January) occurrences were on the 8th January 1994 and the 19th January 2003.

2004-23. This period saw the last Tyttenhanger GPs breeding of this species in 2010 (see *Figure 91*) after which numbers declined to the current point where the species was not recorded at all in 2023 and produced just one day-recorded in 2021 and 2022. The rapid decline was probably due to both loss of suitable breeding habitat and suitable conditions for passing birds. Nevertheless, the whole of this period produced a total of 925 days recorded – which represents 32.1% of days-covered (March-August) – which in the peak period of 2004-2012 reached 54.3% of days-covered. There were 51 days-recorded with significant counts (≥7 birds) in this period (5.5% of all counts - all prior to 2012), the maximum count was of 12 birds on the 11th April 2009. The first birds of the year tended to arrive in February-March with a median date of the 8th March (range for 2004-2022 is 23rd February to 19th March, n = 19) with the birds lingering through until August/September and the last birds of the year reported with a median date of the 13th August (range – 25th June (2014) to 29th October (2005); n = 17). There is evidence to suggest that after breeding ceased on-site (2010) the arrival date began to increase and so the latter values may be slightly biased.[63]. The only winter (November to January) records in this period were on the 23rd November 2016 (2 birds) and 6th November 2019 .

***Table 54**. Summary monthly data for Redshank in the periods 1984-2003 and 2004-23.*

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Days-recorded	1984 to	2	18	164	213	190	93	48	28	4	5	12	2	**779**
Significant Counts	2003	0	1	44	63	10	6	0	1	0	0	0	0	**125**
Days-recorded	2004 to	0	7	225	286	169	105	99	15	16	1	2	0	**925**
Significant Counts	2023	0	0	11	35	0	5	0	0	0	0	0	0	**51**

Breeding. The years with confirmed breeding are shown in *Figure 91* with the last confirmed record on-site in 2010.

Additional Information: *The First Gravel Pits; Appendix 1* – Migrant Arrival and Departure (*Figure 90); Appendix 4* – Year Lists (*Figure 78*). See also *Table A2-1, Table A2-2* and *Figure 80*.

[63] The median arrival date in the years between the first and last breeding (1987-2010) was the 1st March (n = 15) and for just those years in which breeding was confirmed. For all years from 1987-2010 the median arrival date was the 29th February (n = 22). Arrival dates after 2010 were all in March ranging between the 2nd and 19th.

Greenshank *Tringa nebularia* (4, 19, 18) [≥3] [All]

Spring and autumn migrant generally in small numbers, median spring arrival date 20th April; median autumn departure date 2nd September. Records outside of the period 26th September to 4th April are particularly notable.

2023. Not recorded. The first year since the first bird was seen in 1983 this species has not been recorded on-site.

Correction 2007. Rather intriguingly a record from the London Bird Report of 2007 states "*an overwintering bird was seen at Queen Elizabeth II Res on Nov 25th and two were found at Tyttenhanger on December 17th*". The Tyttenhanger GPs dB or the Hertfordshire Bird Reports makes no mention of these birds and so we have not included them in our current analysis.

***Table 55**. Summary statistics for Greenshank from the periods 1984-2003 and 2004-23.*

	1984 to 2003	2004 to 2023
Days-recorded	491	216
Bird-days	1098	544
Spring days-recorded /bird-days	74/83	61/82
Autumn days-recorded/ bird days	362/981	174/305
Days-recorded winter	64	175
Days covered (Apr-Oct)	1753	2451

Summary. The history of this species at Tyttenhanger GPs is so intriguing we have followed a slightly different format from most visiting species by showing an analysis based around seasons rather than across the two major periods. This species tends to be a bird of the autumn, and unsurprisingly, was first recorded in the autumn of 1983 when a single bird was seen on the 27th July. After this, and until the relatively recent past, the pattern was then established of a small spring passage followed by a more substantial movement in autumn. However, for a period around the turn of the century there was also a regular visitor during the winter months – a strong factor in using a seasonal presentation of results for this species.

Spring Passage (4th April to 31st May). Because of the possibility of over-wintering bird(s) lingering into the beginning of spring passage it was difficult to decide exactly when the first migrants arrived at Tyttenhanger GPs in many years. However, data from the Hertfordshire Bird Reports indicates the 4th April as a suitable start date and using this we find the median for the earliest spring date at Tyttenhanger GPs is the 20th April (n = 17) with a range of 12th April to the 6th May. The maximum counts in spring are much lower than in autumn (*Figure* 92), with the highest in the period prior to 2004 being five birds on the 1st May 2000. The period post 2003 produced the highest spring count with nine birds on the 30th April 2011.

Summer. (1st June to 3rd July). Records in June are unusual but the nine days-recorded span from the 7th to the 30th, representing six years i.e. 1985, 1989, 1992, 2002, 2005 and 2011 (4 days-recorded). Most of the June records refer to single birds apart from 2 birds on the 5th June 2005 and 2 birds on the 3rd June 2011.

Autumn (July 4th to 25th October). The autumn passage starts around the beginning of July with the first birds appearing around a median date of the 19th July (n = 20, range - 2nd July to 13th September)[64] with the last birds recorded with a median date of 31st August but with birds appearing as late as the 25th October. As indicated above, autumn tends to produce many more records than spring as seen in *Table 55* and *Figure* 92. Numbers were generally better in the period prior to 2004 but it is worth noting the autumns of 1996 and 1997 were truly spectacular for this species at Tyttenhanger GPs – summarized in *Figure 93*. In the case of 1996 we have already seen how impressive this was for waders generally (see *Figure 80)* and Greenshank were clearly not excluded from the party. The species was recorded on most days between the 4th August 1996 and the 29th September with every day covered between the 28th August and 17th September producing counts of six or more birds. In total there were 48 days-recorded for a total of 249 bird-days. The following autumn proved to be just as impressive with 57 days-recorded and a total of 260 bird days, the peak numbers in 1997 were slightly earlier than in 1996 i.e., between the 7th and 28th August with the maximum count of 18 birds (a site record) made on the 27th August *(Figure 93)*. Passage records after the end of September are quite unusual and there are only four records in October from 1984 (7th), 1988 (1st) 2001 (25th) and 2021 (8th).

Winter (26th October to 3rd April). Using the parameters for spring and autumn from above we have assumed that all records between the 26th October and the and the 4th April relate to overwintering birds. Interestingly using this definition, the first winter records are from 1988 and relate to a bird seen on eight dates between the 12th November and the 4th December. The next record of interest from this period is of three birds on the 28th March 1991 – although in this case it probably relates to very early migrants/winter visitors from over-wintering sites on the coast[65].The next winter record is from two dates at the end of 2000 (26th November and 3rd December) and then a year later a record from the 27th December - after which things really take-off. The beginning of 2002 produced 12 days-recorded between the 9th February and the 31st March and then the next 5 winters produced the series of records summarised in *Figure 94*.. These

[64] Due to possible issues with data capture/coverage, data were only used for those years prior to 2004 that met the criteria of 106 days or more coverage in the period covering April/May and July/September – the cut-off was set from the lowest coverage in this period in the years 2004-22.

[65] The BTO winter surveys show the distribution of Greenshank around the coast of the UK – and the reports from the annual WeBS survey give an idea of population size around the UK in winter -e.g. for 1990/91 (see p67).

records are presumed to relate to the same bird returning across those winters and, given Greenshank have been recorded to live up to 16 years and the general paucity of winter records in Hertfordshire, there is no reason to suppose the records do not refer to the same bird – with the possibility the bird was even present in the early part of the winter of 2000/01 but did not linger into early 2001. The following summarises some of the features of this remarkable series of winter records:

- After the winter of 2001/02 the following winters produced the following numbers of days-recoded 2002/03, 34 (22nd December 2002 to 31st March 2003); 2003/04, 43 (6th December 2003 to 11th April 2004), 2004/05, 56 (3rd December 2004 to the 11th April 2005); 2005/06 78 (25th November 2005 to 10th April 2006) and 2006/07, 2 (10th and 23rd December). There is an outside possibility the bird returned at the end of 2007 (See *Correction 2007* above), but there is still some uncertainty around the voracity of the record.
- In several of the winters in question there are records from other sites in the general area i.e. Beech Farm and Cooper's Green GPs, Hadham Hall and Redbournebury, which indicate the bird was moving between sites. Notably, it appears the bird spent more time at Tyttenhanger GPs as the winters progressed as not only the number of days-recorded increased but so did the recording rate over the period it was present i.e. going from 56.6% in 2003/04 to 82.1% in 2005/06 – the latter also seeming to correlate to less reports from elsewhere.

One factor that should be borne in mind when reading the above is this species was one of the most recorded species in the period prior to 2004 and had an overall reporting rate of 24.8% for the whole spring-autumn period – which given the highly variable nature of the spring passage is quite impressive. This increases to 35.4% when the autumn period alone (July-September) is considered, which is remarkably high for a passage migrant.

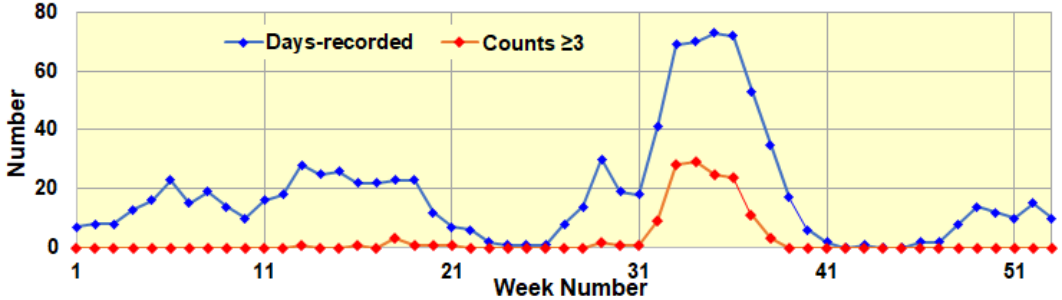


Figure 92. *(above). Days-recorded and days producing counts of ≥3 birds for Greenshank from the period 1984 to 2022*

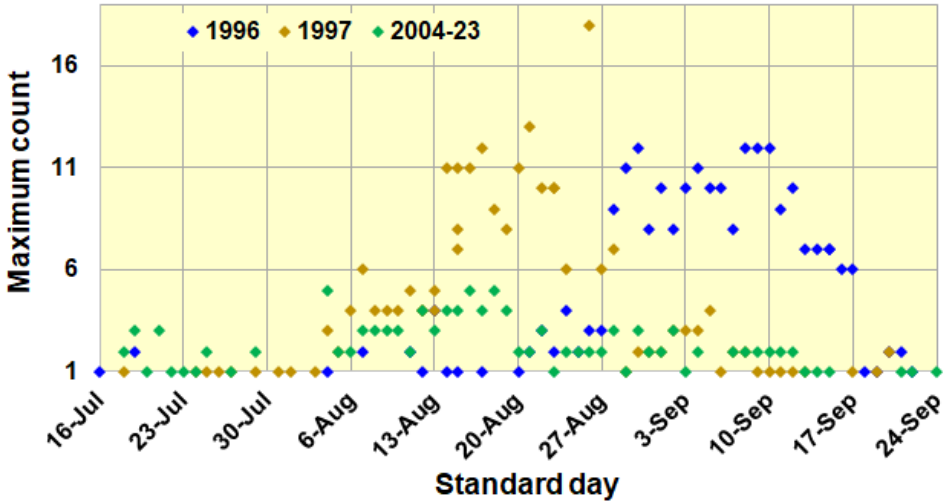


Figure 93. *(right). Daily maxima for Greenshank through the period from the 16th July to 24th September for the years 1996 (♦), 1997 (♦) and for all years from 2004-23 (♦).The plots have used a standard day and so may not match exactly with the specific dates in the text*

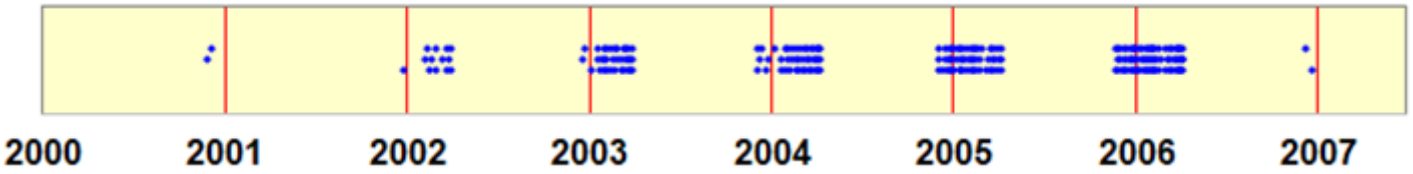


Figure 94. *(left) Distribution of winter records of Greenshank from 2002-2007 (inclusive). The red vertical lines indicate the beginning of each year.*

Additional Information: *Appendix 4* – Year Lists (*Figure 78*). See also *Table A2-1* and Figure *80*.

Green Sandpiper *Tringa ochropus* (5, 19, 14) [≥5] [All]

Winter visitor and passage migrant; median spring departure date (2004-20) 19th April; median autumn arrival date (2004-21) 19th June. Records between the 27th April and 6th June are particularly notable.

2023. Just two records for the year - both of single birds - with one on the 9th April and the other on the 11th November. **Coursers Road** did slightly better with 13 days-recorded and several of these producing counts of two or three birds. Nothing in recent Hertfordshire Bird Reports indicates there has been a decline of this species in the rest of the county and so it would appear the lack of records at Tyttenhanger GPs is due to declining habitat-suitability.

Table 56. *Monthly maxima and percentage of significant counts (≥5 birds) in each month for Green Sandpiper in the period 1983-2003 and 2004-23. Winter, spring and autumn passage, and summer months are indicated by the blue, green and yellow shading respectively.*

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum	1983 to	5	4	8	8	8	5	10	14	8	10	5	6
≥5 birds (%)	2003	0.7	0.0	3.5	7.7	0.0	1.4	21.0	49.0	10.5	2.8	2.1	1.4
Maximum	2004 to	4	4	5	5	2	6	14	9	9	5	7	6
≥5 birds %	23	0.0	0.0	1.8	0.9	0.0	2.6	24.6	41.2	18.4	3.5	4.4	2.6

Pre-2004. It was a little surprising to discover this is **the** most recorded species in the Tyttenhanger GPs dB for the period 1983-2003 with 1373 days-recorded and an overall recording rate (excluding the month of May) of over 46%. As shown in *Figure 95*, the yearly cycle of occurrence was almost identical in this period to that in 2004-23 with over-wintering birds from the start of the year to around week 9, then a small passage supplementing winter birds beginning in week 10 (4th March) that peaks around week 13-14 (25th March – 14th April) before falling dramatically to the end of week 20 (19th May). Birds are almost completely absent in May (just 18 days-recorded in the period from 1983 to 2023) with the autumn passage beginning in week 23 (3rd June) and peaking between weeks 33 and 37 (12th August to 15th September)[66]. Passage then slows through until week 41 (7th October) after which the wintering population establishes itself. This pattern of occurrence leads itself to further treatment based on season in which, for convenience, we have split the year in to four phases: winter (October to February), spring passage (March and April), summer (May and June) and autumn passage (July to September). A summary of data for these seasons is shown in *Table 56.*

Winter pre-2003/04. The winters up until 2003/04 were reasonably consistent in terms of the recording rate (see *Figure 95*) – with the trough in 1998/99 possibly due to recording/data-capture issues (*Appendix 2*). Significant counts (≥5 birds) in winter were reasonably rare in this period and totalled just five (1.43% of all counts) with each being a count of five birds

Spring Passage pre-2004. Passage in spring has generally been less pronounced than in autumn, and this pattern is seen in most years in this period, as is the relative deficiency of significant counts (≥5 birds) (*Figure 95*). With regard to the latter, this period did produce a total of 16 significant counts in spring (5.6% of all spring days-recorded) and a maximum spring count of eight birds on the 5th April 1993 and the 20th March 1995. Last spring dates in this period range between the 31st March and the 30th April with a median date of the 23rd April (n = 20).

Summer pre-2004. May records are generally quite unusual, although this period managed to produce a total of 14 days-recorded with days in 1985 (1), 1987 (1) 1989 (1), 1991 (1), 1993 (2), 1994 (1), 1996 (6 – including a count of three birds on the 18th) and 2000 (1). June is generally the start to the autumn passage although included here is the end of week 26 (30th June) when occurrence reaches typical winter-levels (*Figure 95*). June in this period produced a total 42 days-recorded with a maximum count of 5 birds on the 23rd and 24th June 1989 (see *Table 56*).

Autumn Passage pre-2004. With a few exceptions, autumn passage through this period was generally quite good with recording rates frequently over 50 % and most years producing at least one significant count (≥5 birds) and several producing over 12 i.e. 1993 (22), 1996 (15), 2001 (32) and 2003 (13). Overall significant counts comprised 19.3% of all day-recorded in autumn during this period and suggest that there is a bias in the database towards higher counts probably arising from a bias in reporting/data-capture. The highest autumn count in this period (and a site record) was 14 birds on the 20th August 2001 – this month also producing another 9 counts of 10 or more birds between the 6th and 30th; the only other years to produce double figure counts were 1986, 1993 and 2003. First birds of the autumn in this period appeared between the 9th June and 6th July with a median date of the 21st June (n = 20).

2004-23. The last few years has seen a decline in days-recorded at Tyttenhanger GPs as well as a decline in numbers. The winters of 2020/21 and 2021/22 were the first ever to draw-a-blank (*Figure 96*), and despite the slight resurgence in 2022/23, there is every indication the winter of 2023/24 will have produced just a single day-recorded.

[66] Analysis of all data from 2004-23 indicates that the limits for spring departure and autumn arrival are the 27th April and 6th June – any records between these dates are less likely to involve birds on passage.

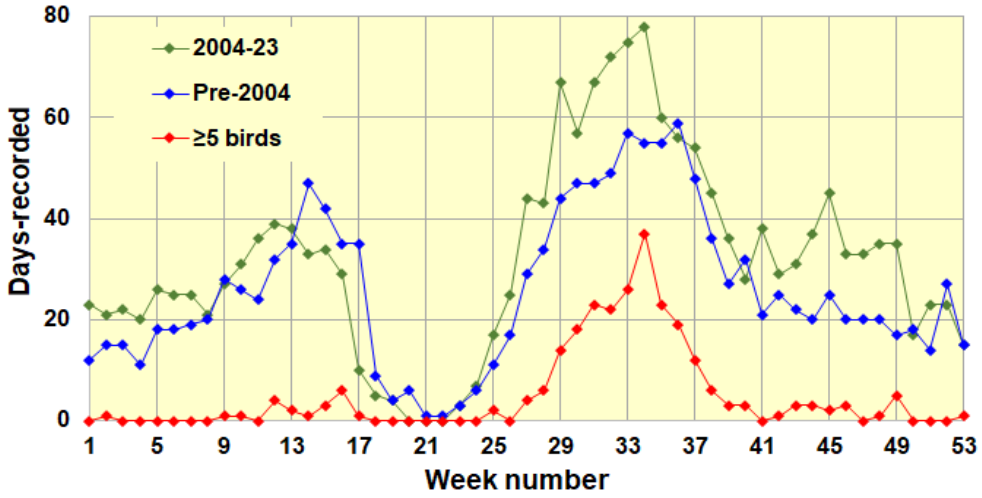


Figure 95. *Days-recorded (uncorrected) by week for Green Sandpiper along with counts of ≥5 birds. Data for the latter are drawn from the whole period 1983-2023.*

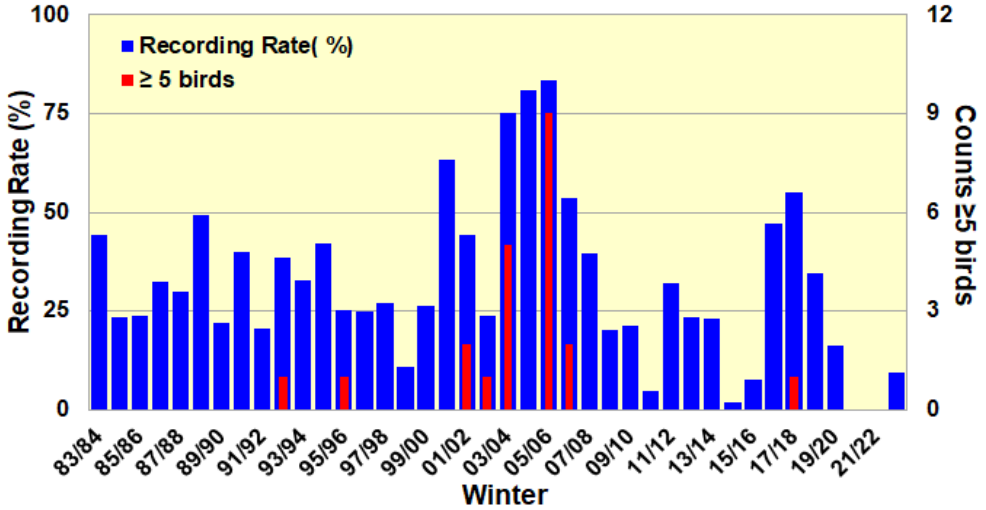


Figure 96*. Winter recording rate(October-February) for Green Sandpiper for the winter period from 1983/84 to 2022/23 shown along with the number of counts of ≥ 5 birds.*

<u>*Winter post 2002/03*</u>. As indicated above there have been some poor winters in the recent past but this was not unprecedented in this period and the winters of 2010/11, 2015/14 and 2015/16 all failed to produce recording rates above 10.0%. On the other side of the coin, the winters of 2003/04, to 2005/06 produced the best ever recording rates as well as most of the significant winter counts in this period i.e. 14 of 17 counts. The maximum winter count in this period was of seven birds on the 29th November 2007 with counts of six birds on the 2nd December 2007 and 3rd December 2017.

<u>*Spring Passage 2004-23*</u>. Spring passage has been quite variable through this period with the best in terms of occurrence and numbers being those from 2004-2006 (*Figure 97*). Significant counts have fallen since these years and even in the relatively good autumn of 2018 only around 10% of all days-recorded produced significant counts. The maximum autumn count in this period was of 14 birds on the 30th July 2006, the next highest being nine birds on several dates from July 2004 (2), August 2005 (1) and August/September 2006 (4). The last spring passage records range between the 7th April and 26th April with a median of the 19th April.

<u>*Summer 2004-23*</u>. May records were still uncommon in this period – with just four i.e., three dates in 2011 between the 1st and 4th and one on the 3rd May 2020. June records were more frequent in this period and comprised 3.7% of all days recorded with a maximum of six birds on the 28th, 29th and 30th June 2005.

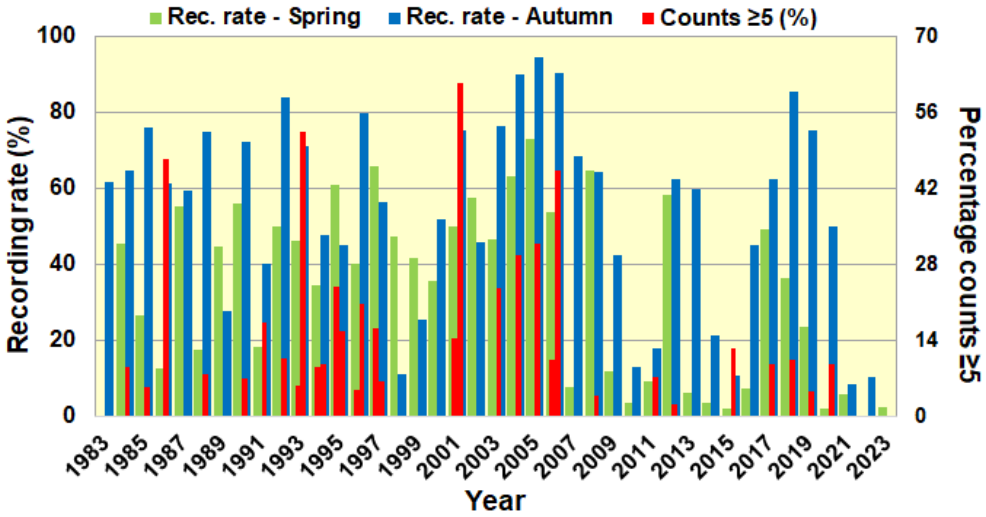


Figure 97 *Plot showing the recording rate in spring and autumn for Green Sandpiper in the period 1983-2023 along with the percentage of total counts that were ≥5 birds.*

<u>*Autumn Passage 2004-23*</u>. Despite the ups and down of the last 20 years autumn passage has still dominated at Tyttenhanger GPs both in terms of days-recorded (44.3% of all days-recorded) and significant (≥ 5 birds) counts (84.2% of all significant counts in the period). First dates for returning birds in this period range from the 13th June to the 6th July (2020) with a median date of the 19th June.

Additional Information: *The First Gravel Pits; Appendix 1* – Migrant Arrival and Departure *(Figure 90); Appendix 4* – Year Lists (*Figure 78*). See also *Figure 80*, *Table A2-1* and *Table A2-2*.

Wood Sandpiper *Tringa glareola* (1, 7, 13) [All]

Infrequent passage migrant occurring between April and September; the earliest spring occurrence is the 12th April and the latest in autumn is the 13th September

2023. Not recorded.

Pre-2004. While still undoubtedly a scarce wader at Tyttenhanger GPs, this is probably the one that has fared less well here than in the rest of Hertfordshire (see *Table 48*). The first entry in the Tyttenhanger GPs dB is of a single bird from 27th April 1985 followed in the autumn by another single on the 31st August – only the latter finding its way into the 1985 Hertfordshire Bird Report. Occurrences followed in 1987 (2 – both singles, 1989 (2 – both singles), 1991 (3 – including the first record of multiple birds with three on the 28th May), 1993 (1 - a long-staying bird from the 13th to 21st August) and 1996 (2 – again long-staying birds in August from the 7th to 11th and 16th to 21st – see also *Figure 80*). Then 1997 produced a single bird on the 23rd May followed by one of Tyttenhanger GPs most unusual records as recounted in the 1997 Hertfordshire Bird Report:

"A flock of 13 circling Hilfield Park Res at 07.00 on the morning of the 27th Aug must have been an impressive sight as indeed they were at Tyttenhanger GPs when what was undoubtedly the same 13 turned up at 08.30 but sadly departed after only five minutes."

The latter is clearly the best ever count for Tyttenhanger GPs, and is still the best ever count in Hertfordshire. The final occurrences in this period were in 2000 (2 - both single birds) and 2001 (a single in April and a long-staying bird between the 22nd and 31st August). All-in-all this period produced 43 days-recorded involving at least 33 birds and 19 separate arrivals.

Table 57. *Monthly distribution of days-recorded and the arrival date of each occurrence of Wood Sandpiper (1985-2022)*

	Apr	May	Jun	Jul	Aug	Sep
Days-recorded	3	8	2	2	43	4
Arrival date	3	7	2	2	14	3

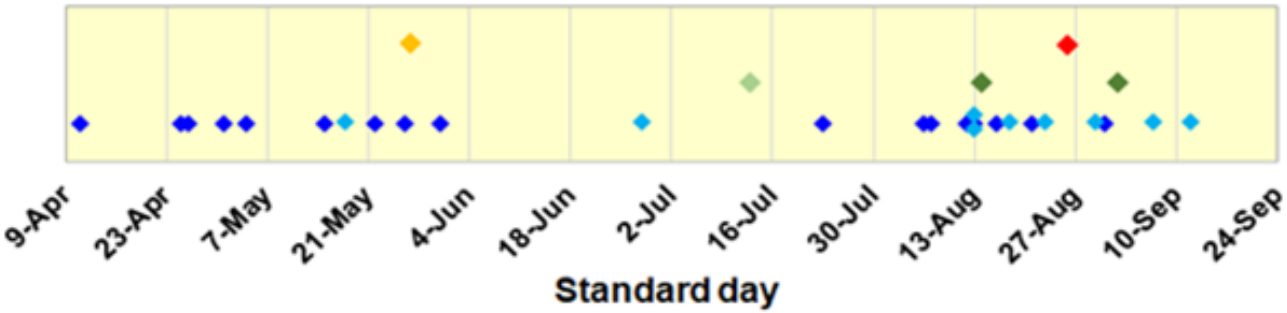


Figure 98*. Arrival dates for all occurrences of Wood Sandpiper (1985-2022). Single birds are shown (♦) along with arrivals from 2004 onwards (♦); arrivals of two birds are shown (♦) along with those after 2003 (♦). The three birds that arrived on the 28th May 1991 are shown (♦) as well as the 13 birds on the 27th August 1997 (♦).*

2004-23. After the long-staying bird in August 2001 it was nearly six years before the next record saw two birds appear on the 14th July 2007 . This was closely followed by a single bird present on the 8th and 9th September of the same year and then birds appeared every two or three years starting in 2009 (one occurrence on June 29th) then 15th August 2011 and the 14th August 2014. Exactly one year later a bird was seen on the 14th August 2015 followed by a long-staying bird from the 19th to 29th August 2015. All further records were of single birds on single days in August 2016, May 2018. August 2020 and September 2022, the only exception being two birds seen on the 3rd September 2018. All-in-all this period produced 19 days-recorded involving 15 birds and at least 12 separate arrivals.

Summary. Across the whole period from 1985 to 2022 the following has been noted (see *Table 57*). First, of the 31 arrivals/occurrences eight of them have been long-staying birds with stays between two and ten days and arrival dates primarily in August (6) with one in each of May and September. Five of the occurrences have involved multiple birds – the record of 13 described above, along with three birds on the 28th May 1991 and two birds on the 14th July 2017, 15th August 2011 and 3rd September 2018. Second, August predominates in days-recorded (43) due primarily to the number of long-staying birds in that month – with 13th August specifically accounting for four days-recorded and the 19th and 23rd three days each.

Additional Information: *Appendix 4* – Year Lists (*Figure 78*). See also *Table 48*.

Common Sandpiper *Tringa hypoleucos* (5, 20, 18) [≥4] [All]

Regular passage migrant, generally more frequent in autumn. Median arrival date (2004-20) 16th April; median departure date (2004-21) 24th September; the earliest arrival in the 28th March and the latest departure the 13th November. Records between the 25th May and the 28th June are also considered significant.

2023. After Lapwing this was the most-recorded wader in 2023 with six days-recorded (all single birds) – although three of these days could be attributed to a late arriving bird - which also happened to be the first bird of the year)- present between the 6th and 8th May. The latter were the only spring records and single autumn birds were recorded on one day in each of July, August and September – the last bird being on the 1st of the latter month.

Pre-2004. As with several other waders, this is amongst the top 12 species with most days-recorded at Tyttenhanger GPs during this period – which is maybe a little surprising given the restricted time-range in which it may be expected i.e., spring passage is mostly between the 10th April and 21st May and autumn passage between the 29th June and 12th October, with just a scattering of records outside of those periods (see *Figure 98*). Recording throughout this period were relatively good (*Figure 99*) in the spring and autumn windows[67] albeit generally higher in autumn than spring with recording rates of 43.2% and 21.7% respectively. March records in this period total three, all involve single birds and are from March 2003 on the 15th, 20th and 21st. June days-recorded are slightly more numerous with 1985, (1) 1990 (1) and 1997 (3) contributing to the five days-recorded. October in this period has produced 13 days-recorded with the latest being the 29th October 1993 – ten days later than the next best of the 19th October 2003. While passage timing is very similar between this and the latter (2004-23) period, numbers are generally much higher in the earlier period – albeit there is evidence that selective recording/data-capture may have biased these numbers. Notwithstanding this possible bias it is clear counts were higher in this period than post-2003 when the maximum in every month between April and October is greater in the earlier period (*Table 58*). The spring maximum in this period is 13 birds on the 10th May 1986 with a next best count of six birds on the 19th May 1996 and an April maximum of 5 birds on the 30th April 1995. In autumn the maximum count is

Table 58. *Monthly maxima and percentage of significant counts (≥5 birds) in each month for Common Sandpiper in the periods 1983-2003 and 2004-23. Autumn passage, spring passage and summer months are indicated by the blue, green and yellow shading respectively.*

		Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Maximum	1983 to	1	5	13	3	15	18	12	2	0
% counts ≥4	2003	0.0	3.3	6.1	0.0	23.9	42.4	18.2	0.0	.0.0
Maximum	2004 to	1	2	5	2	8	10	5	1	1
% counts ≥4	23	0.0	0.0	4.0	0.0	5.6	13.9	3.3	0.0	0.0

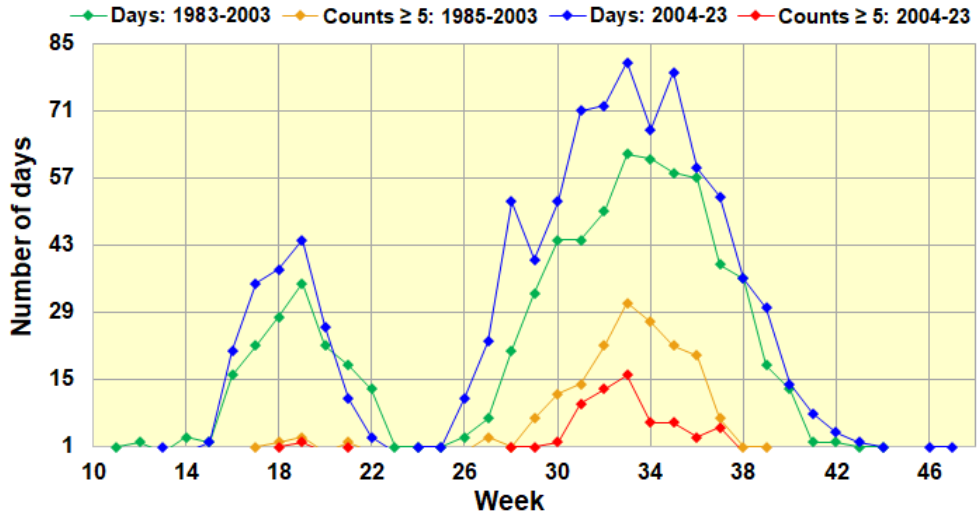


Figure 98*. Days-recorded and significant counts (≥5 birds) shown by week number for Common Sandpiper in the periods 1983-2003 and 2004-23.*

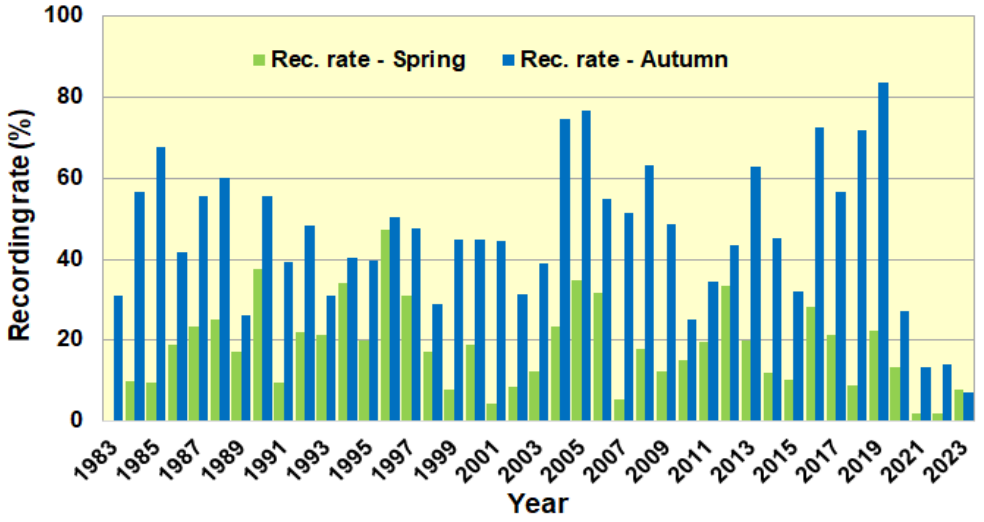


Figure 99. *Spring and autumn recording rates for Common Sandpiper in the years from 1983-2023 There are no data for spring of 1983*

[67] For convenience we have used coverage in April-May and July-October as denominators for the spring and autumn periods respectively.

of 18 birds on the 7th August 1996 with a count of 16 birds on the 16th August 1986, and counts of 15 birds on the 22nd July 1987 and 12th August 1997[68].

2004-23. Recording rates were high through most of this period - until the last few years when they have declined dramatically to reach an all-time low of 7.1% in 2023. Prior to 2021 spring arrival dates had been reasonably consistent with an earliest date of the 28th March 2007, a latest of the 23rd April (2010 and 2011 respectively) and a median date of the 16th April. The last three years has seen the first birds appear on the 30th April 2021, 29th April 2022 and 6th May 2023 – but with so few days-recorded/covered these dates probably just reflect declining site-suitability. Maximum counts in spring are of five and have all come from May 2012 (2 dates), 2017 (1) and 2019 (1). Days-recorded in June (16 days – 3.9% of all days-covered) have been more frequent in this period than in the earlier period (5 days – 2.4% of all days-covered), with most of them (10) between 2008 and 2012. Autumn was still the predominant season for this species through much of the last 20 years and although recording rate reached new highs (*Figure 99*), numbers were generally lower than prior to 2004 i.e. the maximum count was of ten birds on the 20th August 2006, followed by a count of eight on the 30th July 2005 and counts of seven from August 2004 and 2006, and July 2005. Late dates in autumn range between 5th September 2006 and 27th October 2014 and have a median date of the 24th September (n = 16) - inclusion of the two November records (8th November and 13th November 2016 – the latest ever record) only change the median date slightly to the 26th September.

Photo courtesy of Simon West

Additional Information: *Appendix 1* – Migrant Arrival and Departure (*Figure 90*); *Appendix 4* – Year Lists (*Figure 78*). See also *Table A2-1, Table A2-2* and *Figure 80.*

Turnstone *Arenaria interpres* (0, 5, 4) [All]

Infrequent visitor.

2023. Not recorded.

Summary. With just 12 days-recorded between the 24th May 1991 and the 15th August 2013, this is a species that many Tyttenhanger regulars are yet to add to their lists. What has made this species extra-tricky is that many of the limited arrivals have been very short-stays as can be seen in the summary below:

1991. Two birds on the 24th May and a single on the 30th.

1993. A single in the evening of 22nd July.

1996. Two birds on the 2nd May.

2000. A single bird on the 17th April and then another on the 29th that is not in the 2000 Hertfordshire Bird Report.

2004. Four birds early on the 18th July, three left around 9.00 am the remaining bird staying until late afternoon.

2005. A single on the 27th July.

2006. A single bird on the 30th July.

2008. A single bird briefly at 9.00 am on the 31st July, another on the 3rd August and 2 juveniles for 2 minutes on the 30th August.

2013. Four birds seen flying off west at 9.00 am.

Additional Information: *Appendix 4* – Year Lists (*Figure 78*). See also *Table 48* and *Figure 79.*

[68] The Tyttenhanger GPs dB appears to have a deficiency of lower counts for this species in this period i.e. counts of single birds comprise only 41.5% of all daily-maxima whereas in the latter period this is 57.6%. Conversely, counts of four or more birds comprise 24.9% of all daily maxima in this period whereas this is 7.1% in the latter period. Furthermore, while the cut-off for significant counts is set at ≥4 birds from the 2004-23 data, the equivalent cut-off (the 95th percentile) is ≥7 birds in the earlier period.

Mediterranean Gull *Ichthyaetus melanocephalus* (1, 14, 3) [All]
Sporadic visitor over much of the last 20 years.

2023. Not recorded. **Coursers Road** did however manage to produce a single record this year of three birds (all adults in winter plumage) on the 29th October.

Postscript. The low numbers of the last several years has continued with only one additional record in the period since the end of 2023 on the 10th September 2024.

***Table 59**. Month-by-month analysis of days recorded and best estimates of the number of birds involved for all days-recorded for Mediterranean Gull.*

	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
Birds	1	2	4	0	0	1	9	17	8	5	2	1

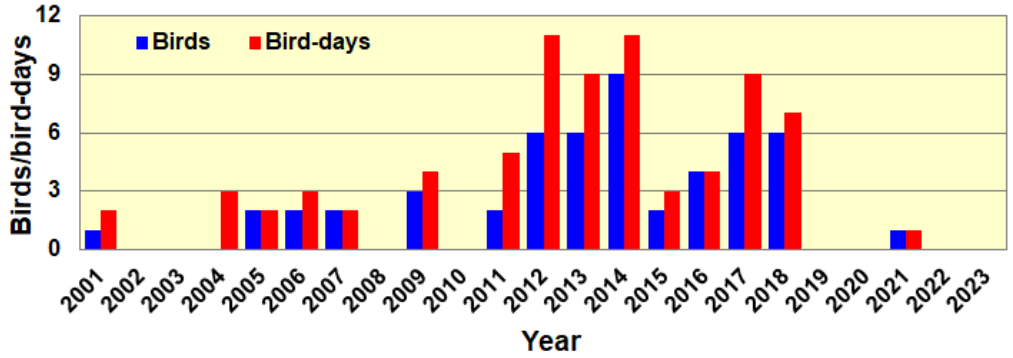


***Figure 100.** Number of birds and bird-days for Mediterranean Gull in the years from 2001 to 2023.*

2001-23. The only record before 2004 was of an adult bird seen on the 9th and 11th July 2001, which was followed almost exactly three years later by another adult bird on the 16th July 2004. Most years through until 2019 had at least one bird recorded with some obvious peaks between 2012 and 2014 and 2017 and 2018 (*Figure 100*). All-in-All there have been a total of 69 days-recorded, with days from all months with the exception of April and May (*Table 59*). These 69 days-recorded involved a minimum of 52 birds and generated a total of 76 bird-days; days-recorded with multiple birds include three days with two birds and counts of three birds from the 27th August 2012 (an adult and 2 juveniles) and the 7th November 2018 (un-aged birds). Of the 52 birds that visited the site, records indicate an age for 32 of these birds i.e. 13 juveniles, 12 first-winters, 2 first-summers, 5 second-winters and 17 adults. Obviously records of juvenile birds are clustered in the July/August window when this plumage is most likely to be observed, while those for adults reflect the pattern of days-recorded shown in *Table 59*. The decline in numbers in the recent past probably reflects the decline in site-suitability for this species also apparent in the numbers for Black-headed and Common Gulls (see *Figure 103*).

Photo courtesy of Steve Blake

Additional Information: *Appendix 4* – Year Lists.

Little Gull *Hydrocoloeus minutus* (0, 5, 4) [All]
Irregular visitor with just nine occurrences although four of these have involved multiple birds.

2023. Not recorded.

Summary. The first record for the site is of an adult bird on the 7th February 1987. There is then a gap of nearly nine years before the next bird, also an adult, found on the 14th January 1996 and reported on six days further up until the 24th January. A bird on the 11th April 1996 and then two first-winter birds on the 30th October 1999 round out the records up to the next in 2008. The birds that arrived on the 23rd April 2008 comprised two adults, a second summer bird and a first-summer bird – four being the maximum count for the site. April 2012 again produced multiple birds with two adults and a first-summer bird on the 25th April with remaining records from 16th April 2013 (1 un-aged bird), 11th April 2016 (an adult), 11th March 2017 (and adult and a first-

winter) and finally another adult on the 27th March 2017. All-in-all there has been a total of nine occurrences involving 16 birds, with most birds (12 of the 16) arriving in March/April and just the single occurrence in autumn i.e. October 1990.

Additional Information: *Appendix 4* – Year Lists.

Black-headed Gull *Chroicocephalus ridibundus* (5, 20, 1900) [≥400]

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

***Table 60**. Monthly maxima data for Black-headed Gull for the periods 1983-2003 and 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	200	1000	300	4	7	10	35	160	500	140	260	150
Median 2004-23	307	300	244	19	9	19	259	400	480	345	350	375
Maximum 2004-23	800	1000	800	30	26	109	600	1000	1500	800	1200	1200
Maximum 1983-2003	1900	382	500	150	13	37	300	400	380	900	330	800

2023. A seemingly poor year for this species with most months producing maxima that were below the 2004-23 median values (*Table 60*). However, the year did produce a count of 1,000 birds on the 18th February – which happens to be a record for this month - and illustrates that low coverage probably impacts parameters such as maximum counts more than other measures of abundance. Nevertheless, the usual post-breeding gatherings in July and August did seem to be absent this year and probably reflects the poor suitability of the site for such gatherings.

Pre-2004. The first record in the Tyttenhanger GPs dB is from the 2nd July 1983 and with just 209 further days-recorded it is clear this species was under-recorded in this period. Nevertheless, there are a number of interesting records/observations including the highest on-site count of 1900 birds flying over on the 27th January 1998 – albeit the only four-figure count in this period. Other records of interest include several records of yellow-dyed/dyed (unspecified colour) birds in 1984 (tail-dyed), 1987 and 1988 ("first-summer" on the 8th August) along with records of juvenile birds in June of 1992 and 1995. Finally, while this period holds the record count for January (1900 birds – see above), the count of 150 birds on the 14th April 1984 is by far the best-ever April count– the next best just 30 birds in 2012.

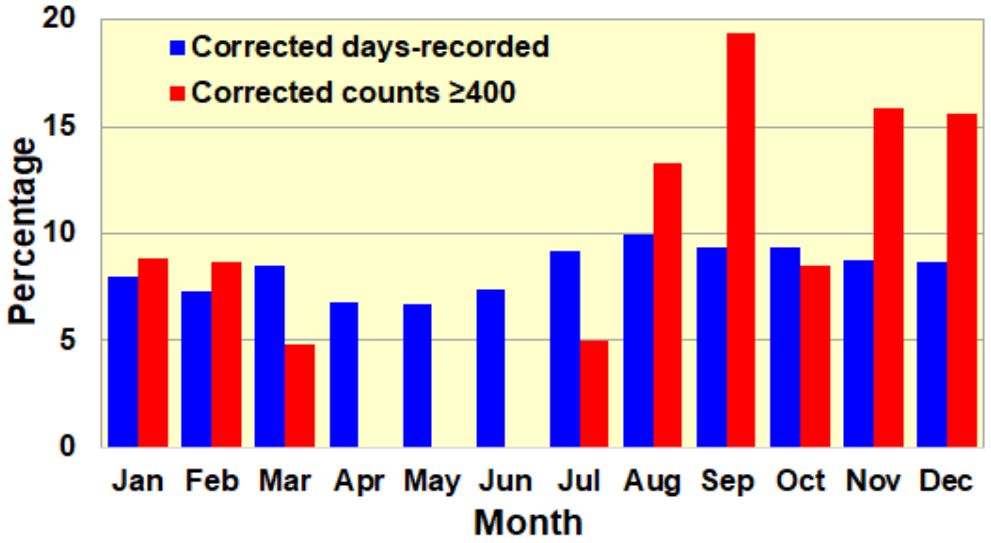


***Figure 101** Percentage of days-recorded and significant counts by month for Black-headed Gull; data are from the period 2004-23.*

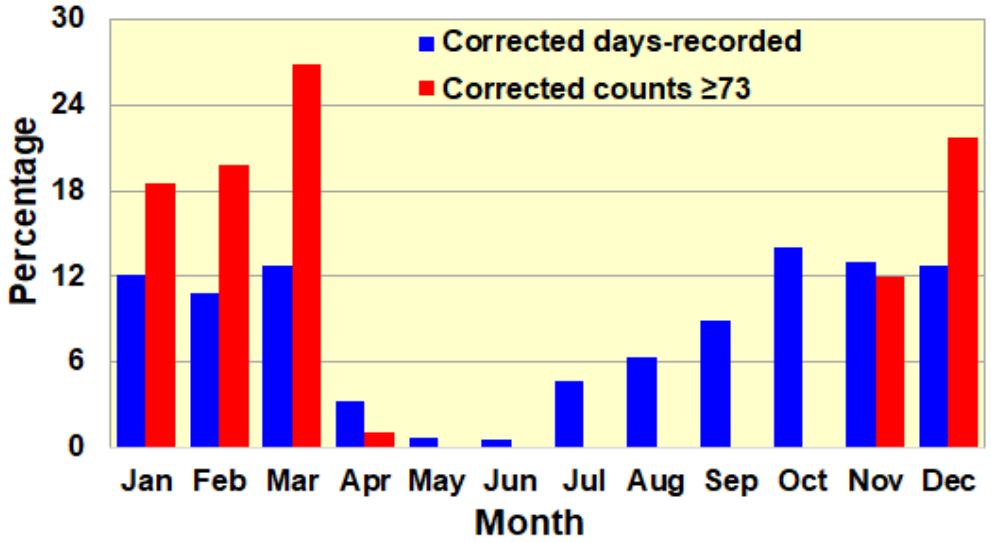


***Figure 102.** Percentage of days-recorded and significant counts by month for Common Gull; data are from the period 2004-23.*

A leucistic Black-headed Gull photographed on 9th September 2011 by Steve Blake

2004-23. While this species managed a recording rate of just 6.5% in the above period, the database in this period produces a rate of 47.0% - still well below the probable true-rate of over 95%, but comparable to a number of other species that are normally present on-site (see *Table A2-1*). As shown in *Figure 101*, this species is generally present through most of the year although in lower numbers through the period from April to July (see also *Table 60*). The maximum counts in this period were of 1500, birds on the 21st and 23rd September 2017 while counts of 1200 were made on the 9th November 2015 and 21st December 2020. Interestingly, there are five other four-figure counts all from August 2014 onwards with two counts in February, two in August and one in November. Other notable observations include instances between 9th September 2011 and 23rd September 2017 of a bird/birds variously described as "*leucistic adult*", "*virtually white adult*" and "*leucistic bird – pure white – no grey on back but black wing-tips*". There are records of these bird(s) from every year between 2011 and 2017 (inclusive) – except 2015 - and all of the days-recorded are in August (11 days) and September (11 days) apart from a record on the 23rd July 2013. Many years in this period produced records of juvenile birds, all in the period from June to August and usually involving between one and three birds. In August 2018 one of these juveniles was noted to have a white colour-ring on the right tarsus, but no further information to indicate possible origin has been ascertained.[69]

Additional Information: Monthly maxima – *Figure 103*; *Appendix 4* – Year Lists. See also *Table A2-1* and *Figure A2-3*.

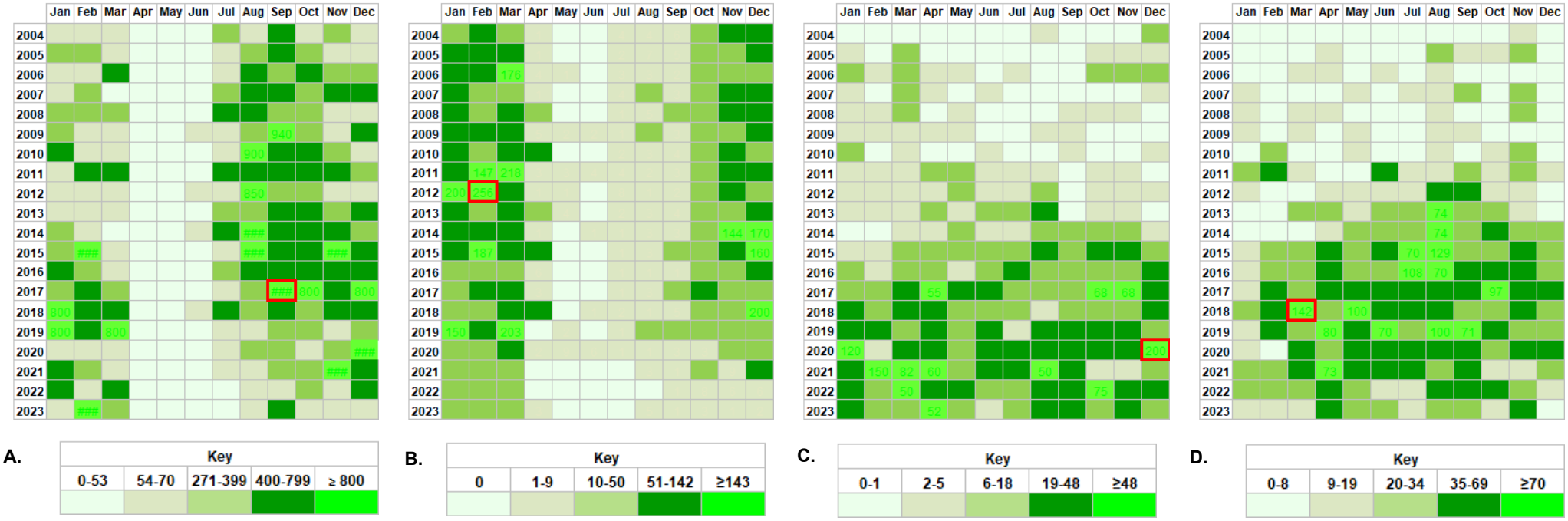


Figure 103. *Summary of monthly maxima data for: A. Black-headed Gull, B. Common Gull, C. Herring Gull D. Lesser Black-backed Gull for the period 2004-23. The keys for the shading is shown below the plot. The month with the maximum count for the site is indicated by the cell outlined in red.*

[69] The European Colour-ring Birding site indicates a number of projects that used white rings with black lettering but none could be matched to the comments with the records i.e. "*juvenile at main pit with white colour ring on right tarsus - blackcode. Too distant to be sure of code but looked like LF4F.*"

Common Gull *Larus canus* (5, 20, 256) [≥73]

Regular winter visitor; usually absent during the summer months between mid-April and early July with a median spring departure date of the 5th April (2004-23) and median autumn return date of the 10th July (2004-23).

***Table 61**. Monthly maxima data for Common Gull in the periods from 1983-2003 and 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	25	42	10	3	0	0	0	5	1	3	1	2
Median 2004-23	59	64	79	3	0	0	2	3	4	22	50	60
Maximum 2004-23	200	256	218	142	9	6	8	28	16	52	144	200
Maximum 1983-2003	72	130	185	3	0	0	12	7	3	61	26	100

Pre-2004. Although the first record of this species in the Tyttenhanger GPs dB is from the 24th July 1983, this period has just 126 days-recorded and a recording rate of only 5.2%. Initial impressions are this species was a less frequent visitor and in smaller numbers than in the recent past. Closer inspection of the data however, indicate higher counts (50 birds or more) were slightly over-represented -19.8% of all counts compared to 11.0% in the later period - but lower counts were quite similar to those from the later period i.e. counts of 5 birds or less comprised 43.6% and 40.5% in the earlier and later periods respectively. It was only when all counts were plotted against date that it was clear there was no obvious bias in the recording/data-capture but that whole periods were just missing data completely (plot not shown). On this basis it is difficult to compare occurrence with the period below, however the highest count was 185 birds on the 1st March 1998 and the next highest count was of 130 birds on the 28th February 1998. While there is a paucity of records from this period it did not mitigate against the highest counts for July (12 on the 28th July 1984) and October (61 on the 11th October 1997) being made *(Table 61)*.

2004-23. This species has seen a number of ups and downs over the last 20 years and is probably at its lowest ever point at the current time. The beginning of this period saw a relatively low recording rate and this may have been a continuation of some poor years at the beginning of the century. Occurrence had increased to peak recording rates by 2005 and remained high through until 2009 (*Figure 104*). Despite a trough over the next few years 2011 and 2012 still produced a peak in significant counts (≥73 birds) with the site record of 256 birds on the 17th February 2012 and the next-best count of 218 birds on the 12th March 2011 following the first count of 200 birds on the 7th January 2012. The winter/spring of 2018/19 was the only other period to produce counts of 200 or more birds with one count from December 2018 and two from March 2019. The last decade has seen the recording rate decline although several years have still seen significant counts made - at least up until March 2019. Departure dates in spring have ranged between the 18th March and 28th April over the last 20 years with a median date of the 5th April (*Figure 112*) – albeit there is some evidence that dates are getting earlier[70]. May and June continue to produce few records and the returning birds have been noted between the 4th July and the 2nd September with a median date of the 10th July. In contrast to spring departure there is some evidence that autumn arrivals are getting late[70].

2023. As with many other species whose activities are focussed on the Main Pit, the changing conditions of the last few years appears to have had a significant impact on their occurrence and numbers. This year has continued the general decline of the last few years with just 26 days-recorded (equating to a recording rate of 18.7%), no significant counts (the last was in December 2019) and all of the last four months of the year producing record-low counts (*Table 61*).

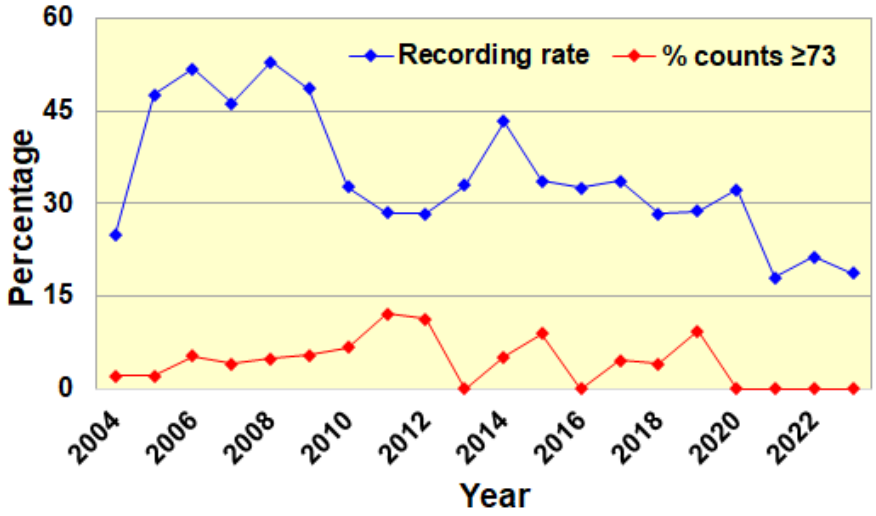


***Figure 104.** Recording rate and percentage of days-recorded producing significant counts (≥73 birds) for Common Gull in the period 2004-23*

Additional Information: *Appendix 1* **-** Migrant Arrival and Departure *(Figure 112); Appendix 4* – Year Lists. See also *Figure 103.*

[70] Both spring departure and autumn arrival dates could both be influenced by declining site-suitably/attractiveness which has led to a fall in occurrence and numbers. While this does not appear to have had a substantive effect on spring departure dates, it is notable that the latest autumn arrival dates have all occurred in the years from 2021-23 driving the appearance of increasing arrival date. If the last three dates are removed there is only a weak indication of increasing arrival date.

Lesser Black-backed Gull *Larus fuscus* (5, 20; 142) [≥40]

Present throughout the year; a recently established breeding population in nearby London Colney has substantially increased numbers in the summer months. .

2023. A species that has substantially increased in numbers over the last 20 years and although possibly past its peak, still occurs in much greater numbers than in the first decade of this century. This year was somewhat of a mixed bag with November and April producing maxima just above or on the median for the last decade (2014-23 – *Table 62*) and the remaining ten months with maxima less than the median. Moreover, December produced just a single count of two birds on the 30th - the lowest December maximum since 2002 when it went unrecorded. The maximum for the year was of 60 birds on the 9th April and although there was confirmed breeding at the London Colney Industrial Estate (see *Breeding* below), there was no reference to juvenile birds in the July-August window and numbers did seem to be a little on the low side at this time (see *Table 62*). The latter may reflect on poor breeding success this year but coverage was notably low in this period and there is also some evidence of under-recording this year despite an apparent drop in numbers.[71]

***Table 62**. Monthly maxima data for Lesser Black-backed Gull for the period 1983-2003, 2004-23 and 2014-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Maximum 2023	15	12	15	60	20	20	15	22	21	10	40	2
Median 2004-2023	14	10	14	18	19	21	16	35	27	17	24	11
Median 2014-2023	17	22	30	60	37	38	55	54	36	37	36	27
Maximum 2004-2023	30	42	142	80	100	70	108	129	71	97	50	50
Monthly Maximum 1983-2003	39	3	9	13	17	4	10	13	24	6	7	7

Pre-2004. The first record for this species in the Tyttenhanger GPs dB is of five birds on the 9th April 1982. However, there are only a further 103 days recorded over the next 21 years and with only four of these years producing ten or more days-recorded. It is not immediately obvious whether the lack of entries in the dB is due to the scarcity of the species or just poor recording/data-capture. There is some indication numbers were lower in this period than in the recent past, but the lack of records does appear to be a recording/data-capture issue and is probably related to generally low counts [72]. Notwithstanding the potential issues around under-reporting and data capture, the highest count in this period was of 39 birds on the 28th January 1984 and the next best 24 birds on the 8th September 1997 – the former not bettered until February 2011 (see *Figure* 103).

***Table 63**. Summary data for Lesser Black-backed Gull for the years from 2003 to 2023 ; along with median values (Med*) for the period 2004-23.*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Med*
Days-rec.	18	40	121	141	123	152	154	117	119	91	115	133	145	145	156	137	150	202	125	119	70	**129**
Rec. rate (%)	7.5	16.7	46.2	50.7	44.6	55.9	56.8	40.8	41.2	33.1	41.5	46.0	49.2	47.4	48.8	42.0	46.0	62.5	50.8	51.3	39.5	**46.1**
Ave. count	2.1	2.3	3.5	3.2	3.7	3.5	3.5	4.9	7.7	8.4	10.0	13.6	21.3	19.5	21.7	19.1	20.3	12.8	15.9	13.8	11.2	**10.6**

2004-23. Numbers and recording-rates increased steadily through the first part of this period through until 2010/2011 when both parameters increased more quickly to reach a peak that spanned the years 2015-2019 (*Table 63*). The latter coincided with the start of breeding at the nearby London Colney Site (see "*Breeding*" below) which was also at a time when the site was probably at its most suitable for the species. Although recording rates have varied in the last four years and are still reasonably high, total numbers seem to have fallen – though are still considerably better than at the start of the period (*Table 63*). Data from the whole of this period shows birds occur at around the same rate all year round (*Figure 105*) but that numbers clearly peak in July-August with a smaller peak in April. The highest count for the site was of 142 birds on the 5th March 2018 with counts of 129 on the 5th August 2015, 108 on the 23rd July 2016 and counts of 100 birds in July 2016, May 2018 and August 2019.

[71] Recording-rate fell to its lowest since 2012 while recording-frequency from one regular observer was similar to the mean value from the last 10 years, indicative of some degree of under-recording, although the slight fall in average count does also suggest a small decline in numbers.

[72] The "Guidance to Observers" in the Hertfordshire Bird Report from 1993 onwards has invariably been coded "MM R" i.e. "*MM = Dated monthly maxima from frequently visited sites, significant records from elsewhere*" and "*R = Roost counts*". With just 26 records captured in the Herts Bird Club dB in this period, only five of which happen to mention monthly maxima, it seems likely that records were not submitted *via* either the paper-routes or captured on the web-platform (see Appendix 2 for further discussions around data capture in this period) i.e. low counts were either not submitted or not captured as monthly maxima because they did not appear to be "significant". It is interesting to note the counts in this period have a median of 3 and a 95th percentile of 13 while the overall recording rate is just 3.35. In the period from 2004-2011 the counts had a median of 3 and a 95th percentile of 11 – but the recording rate was 44.5%.

Breeding. Although this is not a breeding species at Tyttenhanger, the colony on the roof-tops of the industrial estate just over the London Colney by-pass has had a significant impact on numbers in the decade since breeding began in 2015. The 2023 Hertfordshire Bird Report had this to say about the colony: "*At least 21 nests were recorded at the regular London Colney Industrial Estate, a similar number to last year though actual numbers could be at least twice as many as parts of the roof are out of sight …".* Add to this the observation that during one check of the roof-tops in the breeding season of 2022 the birds were spooked by an over-flying Red Kite and, as they took to the air, it was clear there was well over a hundred birds The above obviously indicates the potential impact on numbers over the road at Tyttenhanger GPs as they shuttle backwards and forwards, bathing and feeding and taking time-out to just loaf around[73]. A summary of breeding data from the London Colney site is provided in *Table 64*.

***Table 64**. Breeding pairs of larger gulls on the roof of the London Colney Industrial Estate 2015-23.*

	2015	2016	2017	2018	2019	2020	2021	2022	2023
Lesser Black-backed Gull	6	NC	NC	18	33	30	26	20	21
Herring Gull	0	0	0	2	5	5	11	5	9

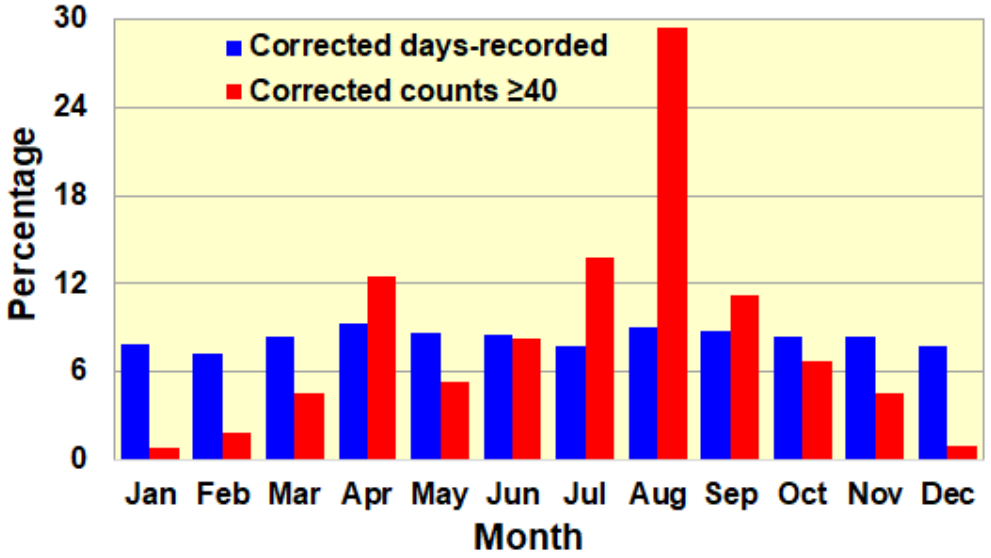


***Figure 105**. Percentage by month of days-recorded and significant counts for Lesser Black-backed Gull; data are from the period 2004-23.*

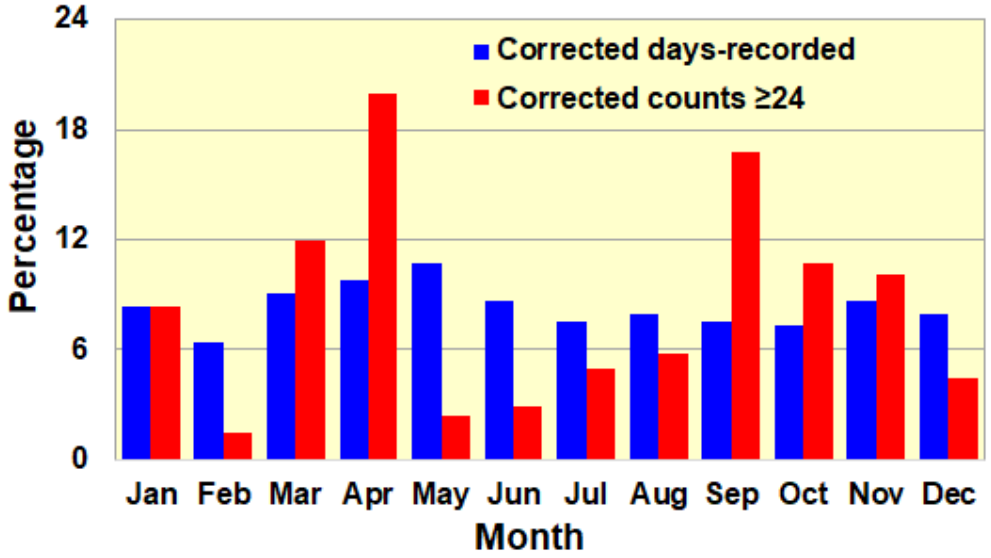


***Figure 106.** Percentage by month of days-recorded and significant counts for Herring Gull; data are from the period 2004-23.*

Additional Information: *The First Gravel Pits; Appendix 4* – Year Lists See also *Table 64*, *Table A2-1, Figure 103* and *Figure A2-3.*

Herring Gull *Larus argentatus* (5, 20; 200) [≥24]

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

2023. A very similar year to that of the other local breeding gull, *Lesser Black-backed Gull*, with falling occurrence (recording rate) and numbers (average count) compared to the last couple of years *(Table 66)* - but still a continuing presence in the breeding season. Despite this recent decline, monthly maxima were still mostly above the 2004-23 median values – but this is probably more a reflection of the low numbers through much of this period i.e. 2004-14, rather than a strong performance this year. The maximum count for the year was 52 birds on the 22nd April with another count of 50 birds on the 30th April

[73] Also noted by one regular observer is that when watching from the High Viewpoint in the last several years the numbers of gulls on the Main Pit is a moving-feast with numbers fluctuating over quite short periods of time, making it difficult to get an accurate count especially of the larger gulls in the summer months.

Table 65. *Monthly maxima data for Herring Gull for the periods 1983-2003 and 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2023	30	10	8	52	9	4	7	20	40	12	30	8
Median 2004-23	6	2	8	6	6	5	5	6	2	5	5	6
Maximum 2004-23	120	150	82	60	25	40	35	50	45	75	68	200
Maximum 1983-2003	38	0	4	5	6	2	3	10	0	1	1	12

Pre-2004. There are just 60 days-recorded for this species in the Tyttenhanger GPs dB for this period with the first being from the 16th July 1983. It does seem this species was much less common at this time and the count of 38 birds flying over on the 28th January 1984 was not only a record count for this period, but also received mention in the 1984 Hertfordshire Bird Report. The only other double-figure counts in this period are of 12 birds on the 26th December 1997 and ten birds on the 6th August 1991. The 1996 Tyttenhanger Gravel Pits Bird Report summary states this was an "*Uncommon winter visitor*" and also noted that records for the year were "*Mainly fly-overs*". Sparse though records are over the whole of this period many appear to have been fly-overs and there is no clear evidence of the under-reporting that is apparent for *Lesser Black-backed Gull*.

Table 66. *Summary data Herring Gull for the years from 2004 to 2023.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Median
Days-rec.	6	21	28	22	20	21	21	52	43	83	91	128	123	147	117	140	192	111	116	66	**75**
Rec. rate (%)	2.5	8.0	10.1	8.0	7.4	7.7	7.3	18.0	15.6	30.0	31.5	43.4	40.2	45.9	35.9	42.9	59.4	45.1	50.0	37.3	**30.7**
Ave. count	3.5	2.4	2.9	2.0	1.8	1.8	1.6	2.2	2.9	3.2	2.7	4.5	5.3	7.0	6.4	7.5	7.3	8.1	7.9	7.9	**3.3**
% counts ≥24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.8	1.6	4.8	3.4	6.0	11.2	16.7	16.5	13.3	

2004-23. This period is very much a story of two halves with the years up until 2014 a continuation of the preceding period. Like *Lesser Black-backed Gull* things took-off after 2015 (*Table 66*) when breeding started in London Colney and although numbers have generally been lower than for the former species, they are nevertheless impressive:

- The highest count prior to April 2015 (55 birds on the 30th) was that from 1984 (38 birds); since 2015 there have been 24 counts of 40 or more birds.
- The highest count of this period was 200 birds on the 31st December 2020 with the same winter period also producing the next best highest count of 150 birds on the 13th February 2021 and 120 on the 1st January 2020. These are the only three figure counts for this species compared to six for the previous species.

Across the whole of this period there has been some slight heterogeneity in occurrence throughout the year (*Figure 106)*, but this is quite small compared to the distribution of significant counts (≥24 birds) which shows substantial peaks in April and September and obvious troughs in February and May-June.

Breeding. As with *Lesser Black-backed Gull,* this species breeds on the roof-tops over at the London Colney Industrial Estate, albeit in lower numbers. This colony clearly has an effect on local numbers - especially in the summer months when numbers were historically low (see *Figure 10*6). A summary of breeding estimates from the London Colney site is shown in *Table 64.*

Additional Information: Monthly maxima – *Figure 103; Appendix 4* – Year Lists. See also *Table 64.*

Yellow-legged Gull *Larus michahellis* (5, 17, 3) [All]

Previously irregular visitor, becoming more regular.

2023. While many waterbirds are finding Tyttenhanger GPs less and less attractive, the more common larger gulls still seem to be doing quite well. Surprisingly the latter seems to be holding true for both this, and to a lesser extent *Caspian Gull*, and this year saw three days-recorded with up to six birds involved. The first record was of an adult on the 21st January, the evening of the 10th February produced an adult and a 3rd calendar year bird and finally the 8th March saw two adults present with a "*possible additional 2 later*". **Coursers Road** produced a total of 13 days recorded with a second-summer bird seen on the 28th May, again on the 14th June (now heavily in moult) and then 11 days-recorded with an adult bird from 17th June to 31st December - joined by a juvenile on the 5th August.

Pre-2004. The taxonomy of the yellow-legged Herring Gulls of the Mediterranean and Atlantic was in a state of flux in the latter part of last century and not fully resolved until the first decade of this. Taxa that are now treated as this species were first treated separately from Herring Gulls in the 1992 Hertfordshire Bird Report – although at the time as referred to "Larus cachinnans

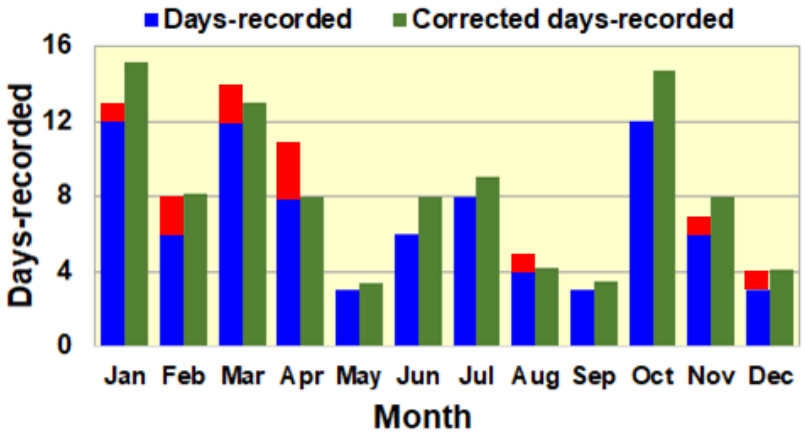


Figure 107. *Days-recorded (and corrected values) shown by month for Yellow-legged Gull. The red bars show the number of days which recorded more than one bird.*

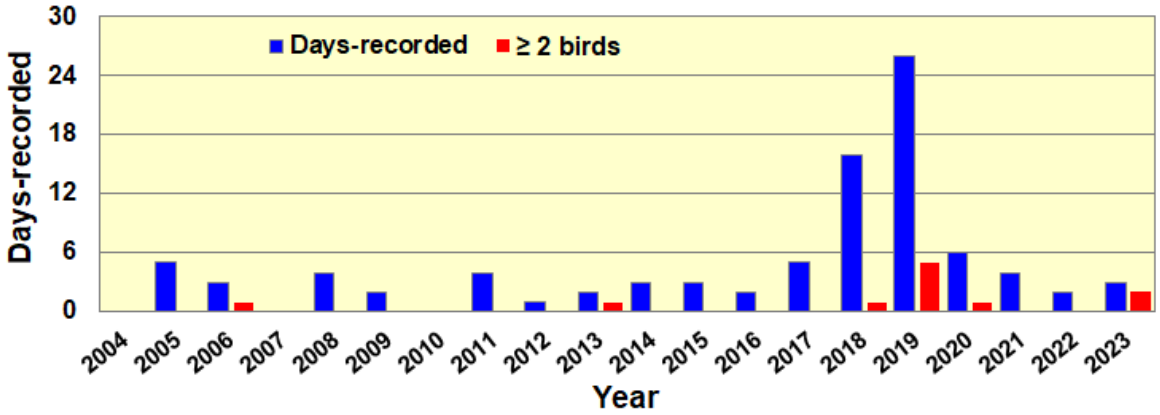


Figure 108. *Days-recorded and number of days recording multiple birds (≥2 birds) for Yellow-legged Gull in the years from 2004-2023.*

– Scarce passage migrant and winter visitor, showing characteristics of the Mediterranean race michahellis*".* The first Tyttenhanger GPs records of these yellow-legged birds were in 1996 with birds seen on the 29th July, 16th August (not in the Hertfordshire Bird Report, so presumably there was no description submitted) and 29th November (a second winter bird). There was then a record on the 5th July 1998 – which also failed to make it into the Hertfordshire Bird Report – which was the last record of this period.

2004-23. Next recorded on the 15th September 2005 - just before the BOU recommendations for the elevation of the taxon to full species status in 2005 - which was recognised as this species in the 2005 Hertfordshire Bird Report (published in December 2007). This period has gone on to produce days-recorded in every year apart from 2004, 2007 and 2010 (see *Figure 108*), for a total of 89 days-recorded and 103 bird-days. The maximum count was three birds on the 27th December 2018 when 3 different second-winter birds were seen; there have been ten other days when two birds were recorded, scattered across 5 years. Where records have contained information about the age of birds (80 instances), these have broken down into 1st Calendar year (1CY)[74] – 1 bird (a first-winter bird on the 1st November 2019), 2CY – 35 days, 3rd CY – 17 days, 4th calendar year 2 birds (both described as third-summer) and adults – 25 days. The monthly distribution of days-recorded and counts of 2 or more birds are shown in *Figure 107*.

Additional Information *Appendix 4* – Year Lists.

Caspian Gull *Larus cachinnans* (3, 7, 2) [All]

First recorded in Hertfordshire at Tyttenhanger GPs in 2006 it has since been a rather sporadic visitor to the site. Currently expanding its breeding range westwards across Europe[75], it may hopefully become a more frequent visitor again.

2023. Following on from last year's single record of a first-winter in mid-December (possibly the same bird seen on five dates at Coursers Road between the 22nd November and 27th December), this year produced a single record of a first-winter bird on the

A juvenile Caspian Gull in September 2018 that kept returning until mid-2019 – see Figure 109 (♦). Photo courtesy of Steve Blake.

[74] Notation included with the records have used both calendar-year (CY) terminology and that based on the seasonal age e.g. 2nd-winter. These have been standardised to calendar years for consistency and comparison. Note, a juvenile plumage has never been noted at Tyttenhanger GPs although notably there was one recorded from **Coursers Road** in August 2023.

[75] Litwiniak, K., Przymencki, M., and de Jong, A. (2021) Breeding-range extension of the Caspian Gull in Europe. British Birds, **114**, 331-40.

16th November. **Coursers Road** fared slightly better this year with a sub-adult on the 1st February, two adults on the 5th August and then a second-winter bird on the 24th December (last year's first-winter bird paying a visit?).

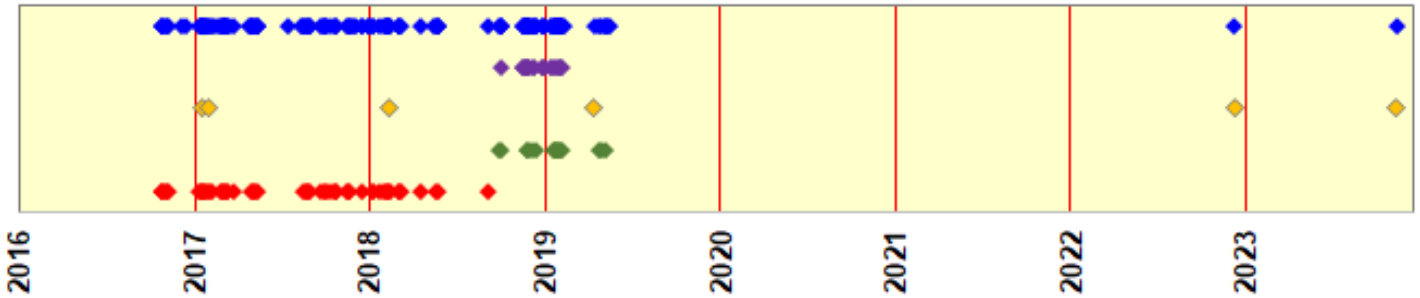


***Figure 109**. Timeline showing all days-recorded (♦) for Caspian Gull along with the days-recorded for presumed returning birds. The latter comprise the first winter first seen in October 2016 (♦); the juvenile in first seen in September 2018 (♦) and an adult that first appeared in October 2018 (♦). Additional birds that could not be assigned to any of the above returning birds are also shown (♦).*

An adult Caspian Gull that first appeared in October 2018 and was presumed to have stayed until early 2019 photographed on the 18th November 2018. Photo courtesy Steve Blake.

Summary. An adult bird found on the 29th January 2006 subsequently proved to be the first accepted record of this (then) sub-species for Hertfordshire. Raised to species status by the BOU in 2007, it proved to be a regular in the county over the period 2006-2015 with most records coming from Amwell NR and involving a total number of anywhere from 25 to 45+ birds[76]. However, from 2016 onwards birds begun to appear more frequently at sites away from this stronghold and we saw the second record at Tyttenhanger GPs with a first-winter bird that appeared on the 16th October. Based on data suggesting birds may consistently return to the same site[76] we have used this to make a conservative estimate of the number of birds that may have visited Tyttenhanger GPs in subsequent years as follows:

- The first-winter from October 2016 appeared off-and-on for another 57 dates through until the 17th September 2018 – by which time it had moulted sequentially into 2nd and 3rd winter plumages (*Figure 109)*. Additional birds joined it through this period - a second first-winter bird on the 16th and 31st January 2017 and a third-winter bird seen separately on the 9th February 2018.
- A juvenile appeared on the 26th September 2018 (see photo on page 116) and stayed around until the 7th May 2019 being reported sequentially in first-winter and first-summer plumages.
- An adult first seen on the 2nd October 2018 was seen up until the 6th February 2019 and on six separate occasions between the 25th November 2018; on the 6th February 2019 it was seen along with the above bird (then in first-winter plumage).

The final two occurrences for this species are detailed above under "*2023*" and summarised in *Figure 109*. Of course, the above narrative could involve considerably more than the 5-6 birds postulated, but given the subsequent gap in records (2019-22)[76] (see *Figure 109*) it still appears to be the most parsimonious explanation.

Additional Information *Appendix 4* – Year Lists**.**

[76] The oft-returning colour-ringed bird at Fairlands Valley Park (X307 – yellow; ringed in the nest at Reddern Germany) has provided a good indication of how often birds may return to the same site –in a given season, in consecutive seasons and across several years. First appearing in January 2017 as a first-winter bird it has subsequently been seen, with varying frequency, every winter through until at least 2024/25.. On the basis of this bird – which admittedly has subsequently been concluded to be a Caspian x Herring Gull hybrid (or containing at least some Herring Gull genes – see The Hertfordshire Bird Report 2019, Trans. Herts., Nat. Hist. Soc., 52 (2), 118) – and the fact the age of most birds was noted in the period from 2006-15, allows for the an ultra-conservative model to be applied that assumes that birds will continue to return to the same site. A slightly less conservative model – probably more reflective of the entries in the Hertfordshire Bird Reports of the period uses a mix of the ages of birds and the numbers of birds of those ages that have been recorded. It is these two approaches that gave the figures of 25+ to 45+ birds

Iceland Gull *Larus glaucoides* (1, 2, 10) [All]

Rare visitor, has occurred just three times.

2023. The third occurrence for the site, a second-winter, was found in "*driving sleet*" over the Main Pit on the evening of the 8th March. The 16th March saw what was presumably the same bird at **Coursers Road** and then the 18th March saw the bird (this time noted as a second-winter) at Tyttenhanger GPs. Nearly a month later on the 14th April a bird was found at **Coursers Road** that was described rather confusingly as "*The long-staying heavily bleached moulting immature*" – this description leading to the Hertfordshire Bird Report to conclude it as "*may well have been the same bird*" as the bird in March.

Summary. The two previous occurrences of this species are detailed below.

1998. A second-year bird seen in flight on 26th April was the first record for the site; a single observer record this was to prove a Tyttenhanger-blocker for close on 20 years.

2017. The evening of the 24th April saw a first summer bird found on the Main Pit which lingered until 8.00 pm that day disappearing into the evening gloom with the other gulls. Fortunately, the bird reappeared the following morning at 8.00 am on the Main Pit (see photo below), departing for good after an hour.

Additional Information *Appendix 4* – Year Lists.

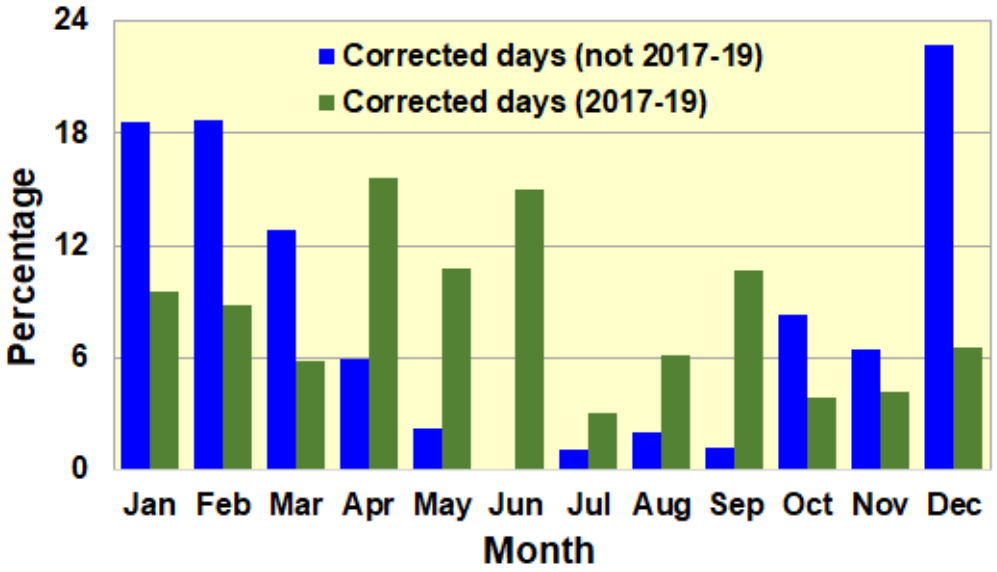


Figure 110 *Corrected days-recorded per month for Great Black-backed Gull in the period 2004-2023 – excluding 2017 to 2019 - and data for 2017-19 alone.*

Iceland Gull present on the 24th and 25th April 2017 Photo courtesy Steve Blake

Great Black-backed Gull *Larus marinus* (5, 20, 13) [≥2]

A usually infrequent visitor in small numbers with frequently returning birds in one period (2017-19) distorting the overall picture; 75% of all days-recorded relate to single birds.

2023. Just three days-recorded for the year with singles on the 1st January, the 15th February and a no-count on the 23rd June.

Pre-2004. A total of nineteen days-recorded in the Tyttenhanger GPs dB for this period with the first record of two birds on the 9th April 1982. The maximum count in this period was of 13 birds flying over on the 26th December 1997 – still a site-record count – which was notable enough to make it into the 1997 Hertfordshire Bird Report; eight birds flying over on the 15th August 1996 was the second-highest count from this period, which has also never been bettered.

2004-23. The 243 days recorded through this period and an overall recording rate of 4.4% is a little misleading and creates an impression a little at odds with the data (see *Figure 111*). In fact, through the majority of this period there were just 2-6 days-recorded per year with recording rates below 2.0% - the exception being the period from around the end of January 2017 to June 2019 when two adult birds (presumed to be the same birds) were often present, helping to produce recording rates in these three years of 16.6%, 19.0 % and 13.2%. Of course, as with other similar situations (e.g. see *Caspian Gull*), there is no way of being sure the same two birds were involved throughout this period. However, given the previous paucity of records, different birds appearing during this time (at a recording rate of 1.3% i.e. consistent with the period up to 2017) it does seem to be the most likely scenario. Whatever was behind what happened between 2017 and 2019, it is clear it did not match the years before and after - as shown in *Figure 111*. Ostensibly a winter species in more normal years i.e. a peak of occurrence between December and March and a smaller peak in October (of presumably passage birds), the years from 2017-19 showed a very different pattern with a very surprising peak between April and June (*Figure 110*). Further comparison of "typical years" (2004-16 and 2020-23) with 2017-19 provided the following observations:

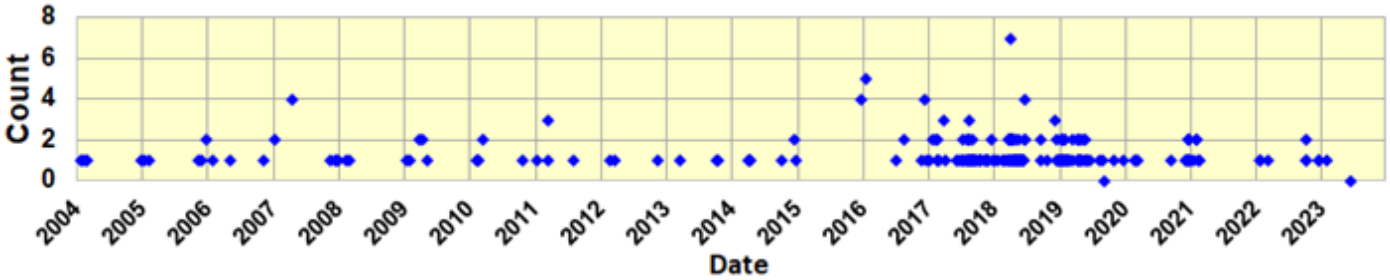


Figure 111 *. Time-line of all days-recorded in the period 2004-23 for Great Black-backed Gull. The last record for this species in 2023 failed to produce a count.*

- Days that recorded more than a single bird in the "typical" years are irregular (18 days-recorded – 20.0% of all counts) but show a monthly distribution in line with days-recorded i.e. skewed toward the winter months of December to March. The years 2017-19 however show a vastly different pattern with a heavy bias towards April and a number of records through the summer months that can be clearly attributed to the two returning birds.
- The maximum count in "typical" years was five birds on the 23rd January 2016 while in the period 2017-19 this was seven birds on the 8th April 2018 – the two regular adults and five birds seen flying-over.
- Of all the days-recorded in the 2017-19 period (153) adult birds were specifically noted on just 44 days, there were 37 days when two birds were recorded together but only eight occasions when the long-staying adults were specifically noted together. Outside of this period there were 116 bird-days but only 30 of these were of aged birds (22 adults, three first-winter, one first-summer, two third-winter and two fourth-winter).

All-in-all a very interesting period for a species that has otherwise been a tricky species to get onto one's Tyttenhanger GPs year list.

Additional Information *The First Gravel Pits; Appendix 4* – Year Lists.

Photo courtesy of Andrew Steele.

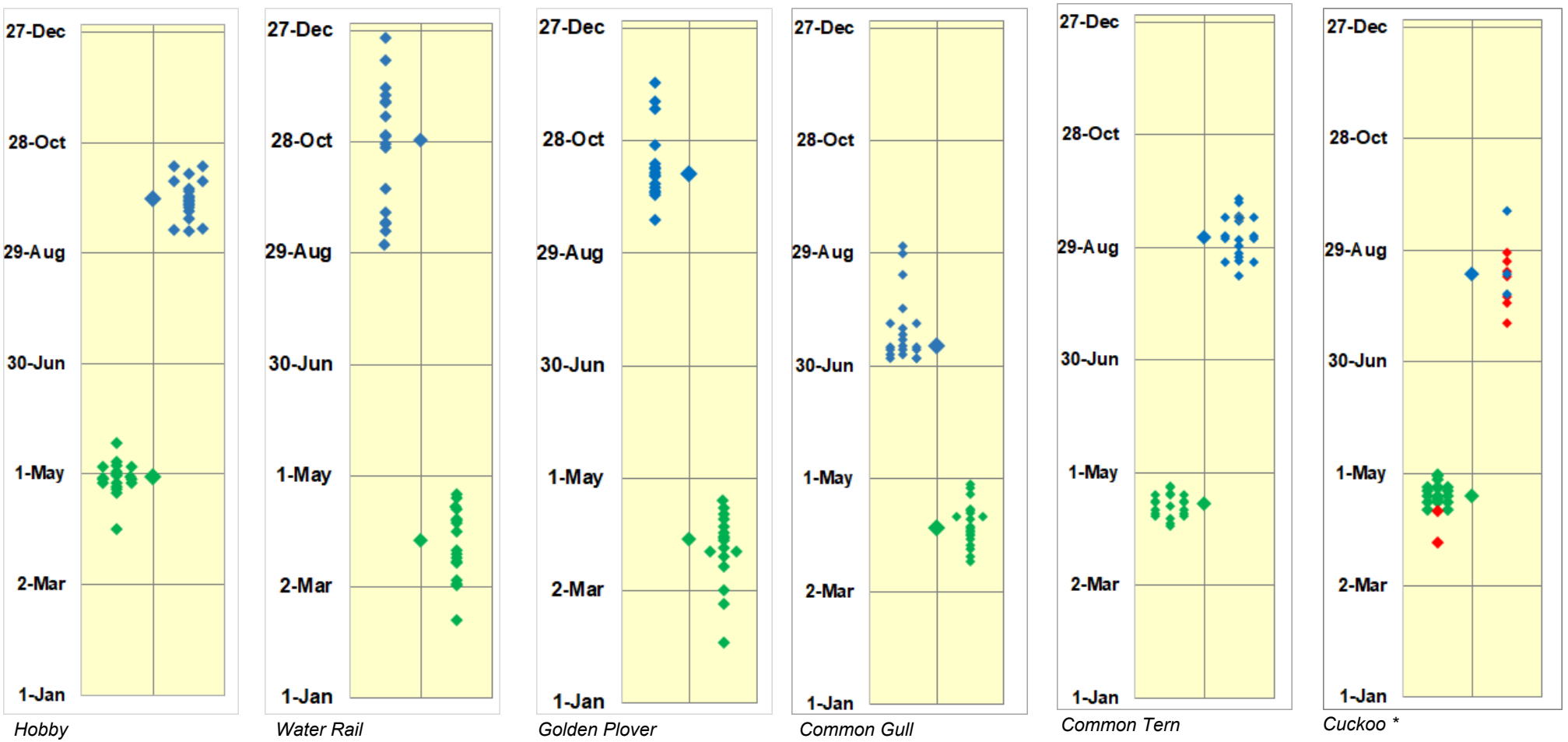


Figure 112. *Plots of spring arrival (♦) and autumn departure (♦) dates for Hobby, Common Tern and Cuckoo shown along with spring departure (♦) (See Appendix 1A for raw data) and autumn arrival dates (♦) for Water Rail and Common Gull (See Appendix 1B for raw data). Median dates for each arrival/deprture are shown by the larger symbols on the centre line. Date are from 2004-23 with the excption of Cuckoo (2002-23) * Dates for Cuckoo from the 7th July are plotted for the autumn departure date; this is the earliest the last record for Hertfordshire was recorded in the period 1983-23. Earliest and latest dates for Hertfordshire in the relevant years are shown in this plot by the red symbols (♦) for both spring and autumn respectively.*

Kittiwake *Rissa tridactyla* (0, 3, 29) [All]
Infrequent visitor recorded on just six occasions.

2023. Not recorded.

Summary. The following provides a summary of the six occasions on which this species has been recorded at Tyttenhanger GPs:

1993. The first record for the site and also the biggest ever count was 29 birds on the 25th January 1993; there were 17 birds at Tring on the same day.

1995. A small influx in the county on the 25th January (again) saw a first winter bird at Coursers Road that was subsequently seen at Tyttenhanger GPs on the 19th February and also at Hilfield

up until the 26th February.

1997. A first-winter bird on the 30th November proved to be the last record for several further years.

2010. Another January record this time of a freshly deceased first-winter bird found at Tyttenhanger Farm on the 16th January.

2012. An adult bird in breeding plumage was seen briefly on the Main Pit on the 15th May.

2018. A small passage in the county on the 31st March saw a first winter at Tyttenhnager GPs along with two adults at Amwell and an adult at Hilfield.

Additional Information *Appendix 4* – Year Lists.

Sandwich Tern *Thalasseus sandvicensis* (1, 7, 4) [All]
Infrequent visitor that has occurred on nine occassions, two of which involved multiple birds.

2023. Not recorded.

Summary. A total of 11 days recorded - all occurnces are summarise below

1996. A single bird on the 7th September.
1997. An adult on the 27th June.
2000. Four birds found on the 22nd August stayed until the 24th.
2004. A single bird on the 3rd May.
2010. A single bird on the 25th April.
2011. Singles on the the 4th and 10th April.
2015. A lone bird on the 8th May.
2018. A single bird on the 3rd September.
2022. Two birds on the 23rd April.

Additional Information *Appendix 4* – Year Lists

Common Tern *Sterna hirundo* (5, 20, 30) [≥13] [All]
Summer visitor that regularly attempted to breed in the past. Median arrival date (2004-23) 12th April; median departure date (2004-23) 3rd September. The earliest spring date is the 30th March and the latest autumn date the 12th October.

2023. Just 13 days recorded between the 15th April and 9th August and a maximum count of three birds on four dates in July and August all make for a disappointing year for this former breeding species. Conditions on the Main Pit and the Fishing Lakes have clearly not encouraged this species to visit and/or extend any accidental arrivals and it is unlikely the situation will improve in the future without some active management of the Main Pit and surrounds.

***Table 67**. Summary data for Common Tern in the period 2003-2023.*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Rec. rate (%)	34.7	50.4	41.0	55.0	49.6	75.2	78.3	53.1	58.3	41.0	46.8	51.1	61.7	56.8	57.9	57.1	47.3	61.4	28.4	36.9	25.0
Counts ≥10	3	15	11	6	10	13	13	11	24	17	13	6	12	15	1	0	0	2	0	0	0
Ave. count	4.6	6.6	6.2	4.6	5.6	6.2	6.3	6.4	7.3	7.5	6.3	4.5	5.0	5.4	3.0	3.1	2.7	3.1	1.4	2.4	1.7

Pre-2004. The first record in the Tyttenhanger GPs dB is from the 28th July 1984, but despite this seemingly late entry (there are 99 species recorded in the dB before 1984) a further 431 days-recorded are to be found in the dB – placing it in the top 20 for days-recorded in this period. The latter is even more surprising when considering the years from 1983-87 produced just seven days recorded. The latter, coupled with generally low counts through until the early 1990s i.e. the first double-figure count wasn't until the 25th April 1991 (see *Figure 113*), suggests this was less common at Tyttenhanger GPs than in later times. The seasonal pattern of occurrence in this period was very similar to that for the period 2004-23 (the latter summarised in *Figure 114*) and the distribution of higher counts (≥10 birds) also showed a bias towards the autumn as in the later period (data not shown). *Figure 113* gives a general impression of how the entries for this species in the Tyttenhanger GPs dB are distributed though this period, and allowing for the "gaps" in the dB it would seem this species was using the site on a consistent basis from 1995 onwards. There is a slight bias in this period towards the capture of higher counts, which means lower counts, and specifically those of the first and last birds of the year, were not always

captured (unless they were earliest/latest for the county). Nevertheless, the earliest arrival date in this period was on the 30th March 1990 and the latest departure the 12th October 1985. The highest count of the period was 26 birds on the 15th August 1999 with 25 birds on the 2nd May 2000 a close second.

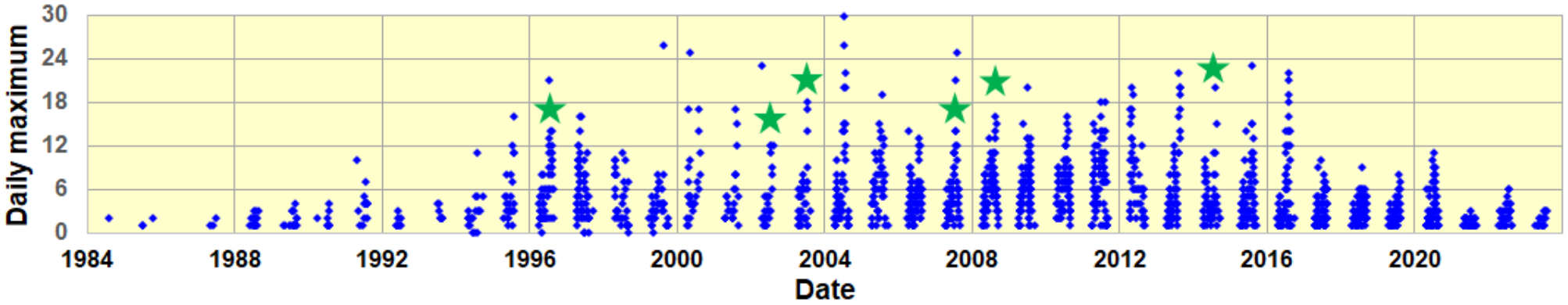


***Figure 113**. Plot of daily maxima (♦) for Common Tern for the period 1984-2023; years with confirmed breeding are also shown (★).*

2004-23. Since 2003 the first birds of the year have arrived between the 3rd April (2006) and the 24th April (2020) with a median date of the 14th April (n =19). The pattern of occurrence through until the end of the season is shown in *Figure 114* with a peak in spring around week 18 (29th April to 5th May) and then a peak in autumn in both occurrence and larger counts from week 29 through to week 31 (15th July to 4th August). Numbers and days-recorded generally decline from the middle of August with the last birds leaving between the 14th August (2019) and the 24th September (2016) with a median date of the 3rd September (n = 19). The maximum count in this period was 30 birds on the 18th July 2004 (a site record) with counts of 26 on the 17th July 2004 and 25 on the 2nd August 2007.

Photo courtesy of Steve Blake.

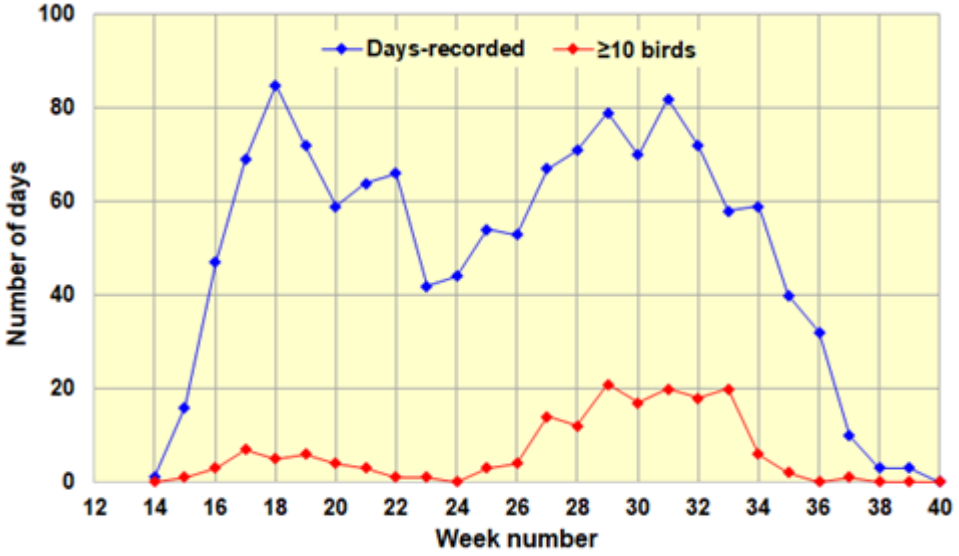


***Figure 114**. Days recorded and counts of ≥10 birds plotted against week number for Common Tern in the period 2004-23.*

Breeding. Successful breeding of this species has been very dependent on conditions on the Main Pit and in particular the presence of an island. For this reason breeding has only been confirmed in seven years i.e. 1996, 2002, 2003, 2007, 2008 and finally in 2014 (see *Figure 113*). Breeding in Hertfordshire has declined dramatically in the last few years from as many as 40 pairs in 2021 down to just six and two pairs in 2022 and 2023 respectively.

Additional Information *Appendix 1* – Migrant Arrival and Departure *(Figure 112); Appendix 4* – Year Lists

Arctic Tern *Sterna paradisaea* (2, 0, 31) [All}
Infrequent passage migrant.

2023. Not recorded.

Summary. A total of nine days-recorded with all records summarised below:

1991. Two birds on the 8th May.

1997. A single bird on the 29th April.

2003. Two birds on the 5th May.

1996. A bird around midday on the 11th April was joined by a second in the evening. Also a single on the 3rd May.

1998. A group of 31 birds on the 2nd May was followed on the 3rd by a single bird.

2016. A single bird over the Fishing Lakes on the late afternoon of the 24th April .

Additional Information *Appendix 4* – Year Lists.

Little Tern *Sterna albifrons* (0, 3, 2) [All]
Infrequent visitor.

2023. Not recorded.

Summary. Just eight days-recorded since the first record in 1988, all records are summarised below:

1988. Two adult birds that stayed for a couple of hours on the 17th June.

1991. A single bird on the 21st May.

1994. One on the 5th August.

1997. A single on the 3rd May.

2009. A bird found on the morning of the 7th August stayed until the evening.

2010. An adult found on the 11th July was not seen on 12th but reappeared on the 13th.

2014. A single flew through the Main Pit on the 1st May**.**

Additional Information *Appendix 4* – Year Lists.

Black Tern *Chlidonias niger* (1, 9, 20) [All]
Irregular passage migrant, primarily in spring.

2023. Not recorded.

Table 68. *Days-recorded by month for Black Tern in the periods 1983-2003 and 2004-23.*

	Apr	May	Jun		Aug	Sep	Oct
Days-rec. 1983-2003	3	13	0		1	5	1
Days-rec. 2004-23	1	7	0		3	4	0

Pre-2004. First recorded on the 25th May 1987 the period up until the end of 2003 produced a total of 23 days-recorded, 63 bird-days and involved at least 56 birds. The earliest date recorded on-site was the 17th April 2003 and the latest the 1st October 1989, both from this period as was the site-record count of 20 birds on the 6th September 1992. Interestingly the majority of daily maxima in this period were of multiple birds i.e. only 9 of the 23 days recorded involved counts of just single birds. There were two occasions when birds appeared to stay overnight; first, five birds were reported from the 6th and 7th May 2000 and then two birds were seen on both the 17th and 18th April 2003.

2004-23. This period produced 15 days-recorded, 24 bird-days and involved at least 21 birds with a maximum count of five birds on the 15th September 2008. Most days-recorded in this period involved just single birds i.e. 11 of the 15 days-recorded. There were two occasions when birds may have been present for more than a day. First, two birds were present on the 4th May 2008 and there were then two birds on the 6th May; despite coverage on the 5th May the species was not reported. Second, a bird reported on 22nd September 2011 was presumably the bird reported the following day.

Additional Information *Appendix 4* – Year Lists.

White-winged Black Tern *Chlidonias leucopterus* [All]
Vagrant with just a single bird in September 2017.

2023. Not recorded.

Summary. The first and only bird for the site was a moulting adult that was found on the 12th September 2017 and stayed, (to the joy of many) until the 17th September (full story on p65 of the 2016/2017 Tyttenhanger Bird Report). This was the 11th bird to be recorded in the county including the first two birds seen on the 7th October 1929. It is still the last record for the county and also the longest-staying individual – pipping the 1994 bird at Tring from the 24th to the 27th August.

The moulting adult White-winged Black Tern found on the 12th September 2017 put in an extended stay until the 17th September allowing many Hertfordshire birders to catch-up with this county rarity. All photos courtesy of Simon West

Additional Information *Appendix 4* – Year Lists.

Feral Pigeon *Columba livia* (5, 20, 1250) [≥80]
Common resident, particularly common around Willows Farm.

2023. Although there were 55 days-recorded for the year (a recording rate of 31.1%, the 2004-23 median being 28.3%), most of these (43) were contributed by one observer! There were no significant counts (≥ 80 birds) and the largest count of the year was of 60 birds on the 9th September (*Table 71*).

Pre-2004. There are just 25 days-recorded in the Tyttenhanger GPs dB with the majority of these (13) from 2003. Of these days-recorded only 15 of them provided counts and the only three figure counts were of 100 birds on the 6th January 1996 and the 9th October 1998.

2004-23. This species is more common on-site than suggested by the recording rates shown in *Table 69*, with its distribution i.e. primarily around Willows Farm/Amaizing Maze and perceived status undoubtedly contributing to under-recording. The latter is demonstrated not by the recording rate in *Table 69*, the high frequency of no-counts (ranging up to 74.5% of all records with a

median of 38.3% between 2004 and 2023) and also by the high frequency of recording by single observers in some years e.g. 84.1% and 74.1% in 2022 and 2023 respectively for one frequent visitor. Notwithstanding the issues of under-recording, this species clearly was at peak numbers between 2006 and 2010 when all counts of 500 birds or more were made (14 in total)[77]. The last few years has seen the local population decline with maximum numbers since 2018 failing to reach even 10% of the site-record of 1250 birds on the 19th November 2006 (*Table 71*).

Table 69. *Significant counts (≥80 birds) and recording rate for the period 2004-23 for Feral Pigeon*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Counts ≥80 birds	0	1	15	4	7	4	3	4	3	0	4	2	3	6	4	0	0	0	0	0
Rec. rate (%)	11.7	17.6	41.0	24.3	43.8	34.7	13.9	19.7	13.5	22.0	25.6	33.6	38.6	37.5	25.2	35.9	39.6	23.2	42.2	31.1

Breeding. The only confirmed breeding record is for TL10X and comes from the 1988-92 Hertfordshire Bird Atlas.

Additional Information *Appendix 4* – Year Lists. See also *Table 71*, *Figure 117,* and *Figure 118.*

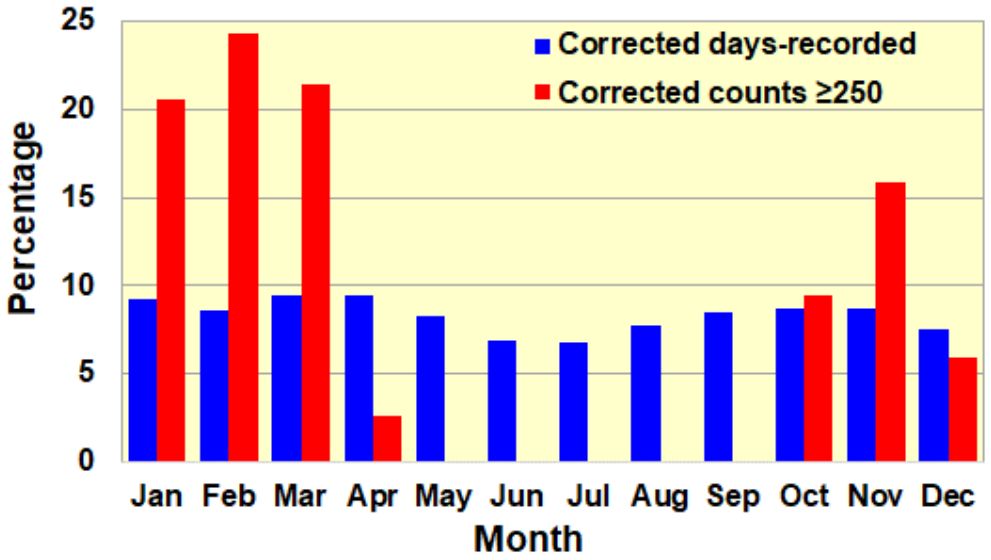


Figure 115*. Percentage by month of days-recorded and significant counts for Woodpigeon; data are from the period 2004-23.*

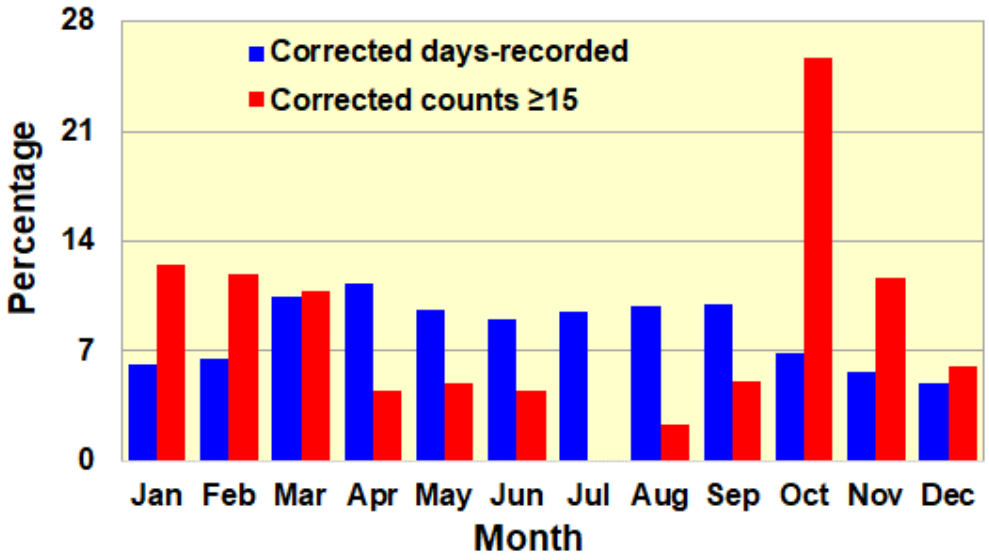


Figure 116. *Percentage of days-recorded and significant counts by month for Stock Dove; data are from the period 2004-23.*

Woodpigeon *Columba palumbus* (5, 20, 4000) [≥250]

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

2023. There were 99 days-recorded for the year which equates to a recording rate of 52.5% - very comparable to the values over the last decade (median for the period 2014-23 is 48.1%). This year also produced a four-figure count – the first since 2019 (*Table 71*) – when 1073 birds were counted passing through on the 11th November; the only other significant count (≥250 birds) for the year was of 419 birds passing through on the 5th November. There were no breeding records this year.

[77] These years produced the following number of counts of 500 or more birds: 2006 (8), 2007 (0), 2008 (5), 2009 (0) and 2010 (1) with most of these records coming from November and December and from the area around the Amaizing Maze/Pumpkin Patch at the Willows Farm end of the site.

Table 70. *Significant counts (≥250 birds) and recording rate for the period 2004-23 for Woodpigeon.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Counts ≥250 birds	1	3	3	14	10	4	5	7	3	0	2	13	9	1	12	4	0	0	1	2
Rec. rate (%)	27.6	54.2	61.9	37.0	49.3	41.3	18.8	27.0	17.5	35.0	44.6	48.1	48.0	44.4	37.1	31.6	66.6	51.2	56.5	52.5

Pre-2004. There are just 62 days-recorded for this species in the Tyttenhanger GPs dB prior to 2004 with 21 of these days coming from 2003 and 51.6% of all records failing to produce a count. Nevertheless, the record count for the site of 4000 was made on the 14th February 1987 and there is a record of 2000 birds on the 24th December 1989.

2004-23. Recording trends for this species have been rather variable in this period with recording rates ranging between 17.5% and 66.6% (see *Table 70*) and no-count rates between 16.9% (2023) and 68.7% (2013) (data not shown)[78]. The distribution of days-recorded through the year is relatively consistent but significant counts (≥250 birds) shows a clear peak in the winter months – especially in the months from January to February (*Figure 115*). The high counts in October and November are mostly due to cold weather movements many of which include counts of 500 or more birds and the maximum count in this period of 3000 birds on the 5th November 2005. It is notable there have been 12 counts of 1000 or more birds in this period scattered over eight separate years but all in the winter months between November and March.

Breeding. Confirmed breeding in TL10X was recorded during the 1967-73, 1988-92 and 2008-12 Hertfordshire Bird Atlases; these results are supplemented by specific records from just six years i.e. 2010, 2012-14, 2017 and 2020.

Additional Information *Appendix 4* – Year Lists. See also *Table 71*, *Table A2-3*, *Figure 117,* and *Figure 118.*

Stock Dove *Columba oenas* (5, 20, 200) [≥15]

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

2023. Although the year produced 54 days-recorded which equates to a recording rate of 30.5% - the 2004-23 median being 26.3% - overall numbers were relatively low with a maximum of just 24 birds on the 16th April (the only significant count i.e., ≥ 15 birds, of the year) and an average count (bird-days/days-recorded) of 3.7 – the 2004-23 median being 3.6. There were no confirmed records of breeding this year.

Pre-2004. In comparison with the previous species, this species is generally less frequently encountered on-site (*Figure 117)* and occurs in lower numbers (e.g., see *Table 71*); however, in the period before 2004 it actually registered more days recorded i.e., 130 compared to just 62 for Woodpigeon. Nevertheless, this is probably a reflection of its perceived notability rather than any real difference in status as the maximum count was just 30 birds (6th December 2003) and the proportion of significant counts (5.4%) was very close to the expected 5.0%.

Table 71*. Maximum counts for years between 2004 and 2023 for the four common species of pigeons.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Feral Pigeon	20	197	1250	188	1200	100	500	100	150	50	103	185	120	250	120	62	45	60	58	60
Woodpigeon	500	3000	400	2000	732	1000	500	800	300	140	500	1000	1500	800	1000	1000	154	150	270	1073
Stock Dove	50	200	65	70	50	6	12	10	5	20	25	20	148	20	15	51	37	66	70	24
Collared Dove	8	6	57	12	23	18	8	13	2	11	2	4	3	11	6	22	15	4	18	6

2004-23. Analysis of the last 20 years data summarised in *Figures 116, 117, 118* and *Table 71*, actually produced a surprise. This is shown in *Figure 116* and indicates while occurrence through the year is similar to that for *Woodpigeon* (see *Figure 115*) there are differences in the distribution of significant counts. Most notable is the obvious peak in October for this species which suggests an autumn passage (previously undetected - with the peak for Woodpigeon passage clearly in November) - driven by the preponderance of significant counts in 2005 in October and November (10 of 17) of that year (see *Figure 118).* Interestingly 2005 also produced the highest count for the site i.e. 200 birds, but in this case recorded on the 13th March; the only other three

[78] There is a weak negative relationship between the recording rate and no-count rate i.e. as recording rate increases, the no-count rate decreases indicative of heterogeneity in recording habits through the period in question. See *Appendix 2* for further discussion of such observations.

figure counts were of 148 birds on the 13th October 2016 and 100 birds on the 18th October 2008.

Breeding. The period prior to 2004 produced just a single specific record of confirmed breeding i.e. recently fledged birds seen on the 26th April 1988, which is consistent with the result for TL10X in the 1988-92 Hertfordshire Bird Atlas; in addition, the Hertfordshire Bird Reports of 1984, 1986 and 1996 all indicated that up to 6 pairs held territories on-site. After 2004, the 2008-12 Bird Atlas produced a confirmed breeding result for TL10X and specific records were noted in 2014 and 2016 along with additional records of probable breeding in 2013 (D) and 2017 (N).

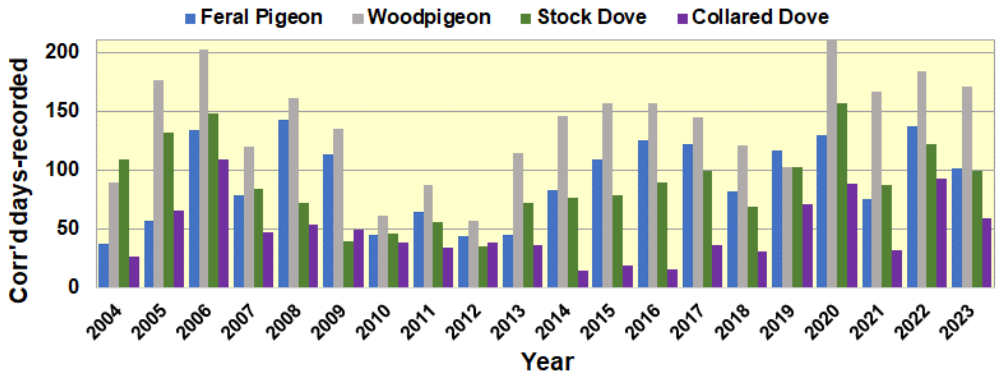


***Figure 117**. Corrected days-recorded in the period 2004-23 for Feral Pigeon, Woodpigeon, Stock Dove and Collared Dove.*

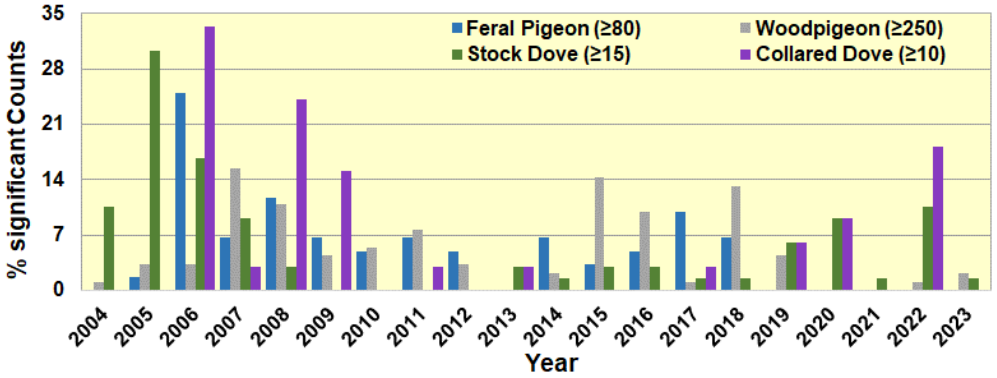


***Figure 118.** Percentage of the total number of significant counts recorded in each year between 2004 and 2023 for Feral Pigeon, Woodpigeon, Stock Dove and Collared Dove.*

Additional Information *Appendix 4* – Year Lists. See also *Table 71*, *Figure 117,* and *Figure 118*.

Collared Dove *Streptopelia decaocto* (5, 20, 150) [≥10]

Patchily distributed resident.

2023. The thirty-two days-recorded this year translates to a recording rate of 11.8% - which compares very favourably with the 2004-23 median of 11.8%. However, it is notable that of the 34 database entries this year over 50% of them were submitted by a single observer. The maximum count for the year was of six birds on the 24th September and although courtship and display was noted on the 14th January there were no other breeding records for the year.

***Table 72.** Monthly data for Collared Dove for the periods 1983-2003 and 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Corrected days-recorded 2004-23	93	89	72	79	90	55	37	60	100	71	75	88
Corrected counts ≥10	8	1	0	0	0	0	0	1	12	6	7	15
Maximum 2004-23	18	10	4	3	4	6	6	57	57	20	23	21
Maximum 1983-2003	1	25	4	5	2	150	9	2	36	45	60	38
Counts ≥ 20 1983-2003	0	1	0	0	0	1	0	0	3	3	3	1

Pre-2004. The Tyttenhanger GPs dB contains only 56 days-recorded in the period 1983 and 2003 – reflecting more on data capture practices than the status of this species on-site. The latter is evidenced by the number of high counts in this period i.e. 150 birds (a site record) in 1983 along with 60 birds on the 29th November 1992 and a further eight counts of 20 or more birds[79]. The month-by-month distribution of these high counts is shown in *Table 72* and are spread across wight years from 1983 to 1999.

[79] The record of 150 birds is from the Hertfordshire Bird Report of 1983 and states "*There was also an unusual mid-summer gathering of ca 150 at Tyttenhanger GPs in June and July*" (no date given) ; also notable in this report were three counts elsewhere in the county of 250 or more birds from the winter months (one each in January, November and December). The period after 2003 produced just seven counts of 20 or more birds at Tyttenhanger GPs – four of which were from Autumn/early Winter 2006; the eight counts of 20-59 birds in the period 1983-2003 came from 1983, 1993, 1994, 1997, 1998 and 1999 with seven of the records coming from the months between October and February (inclusive).

2004-23. The last 20 years has seen the on-site occurrence and abundance of this species appear to wax and wane - as indicated in *Figures 117* and *118*. Peak years in terms of numbers seem to have been 2006, 2008, 2009 and 2022 (*Figure 118*) which show a poor match to years of high occurrence (*Figure 117*). The occurrence and abundance through the year are indicated in *Table 72* with June and July providing a slight trough in occurrence and abundance showing a clear peak in the winter months (October to January) with another obvious peak (post-breeding movements/aggregations?) in September. The maximum count in this period is of 57 birds on the 23rd of August and 23rd September 2006, with September 2006 also producing the third highest count of 31 birds on the 24th.

Breeding. This is actually an unusual breeding species at Tyttenhanger GPs with just a single confirmed record in the last 20 years (2020) and a couple of possible/probable records from 2019 and 2023 and probable status shown for TL10X in the 2008-12 Hertfordshire Bird Atlas. The only confirmed breeding prior to 2020 is from TL10X as summarises in the 1988-92 Hertfordshire Bird Atlas; the 1967-73 Atlas shows no evidence of breeding.

Additional Information *Appendix 4* – Year Lists. See also *Table 71*, *Figure 117,* and *Figure 118*.

Turtle Dove *Streptopelia turtur* (1, 2, 19) [All]

Previously common summer visitor on-site its decline through the latter part of the last century saw it disappear as a regular visitor by the start of this century. Occasional records in the last 20 years appear to have been birds on passage.

2023. Not recorded.

Summary. The decline of this species both in the UK and Hertfordshire is well documented elsewhere and so won't be repeated here (e.g. see *The Breeding Birds of Tyttenhanger* 1967-2023 and Smith *et al*., 2015). The decline on-site is illustrated in *Figure 119* and despite the issues surrounding data capture (as it was still considered a common bird through much of the latter part of the last century) the trajectory of the plot is also representative of what happened nationally over the period 1983-2004. The following, along with *Figures 119* and *120* provides a summary of this species on-site between 1983 and 2020:

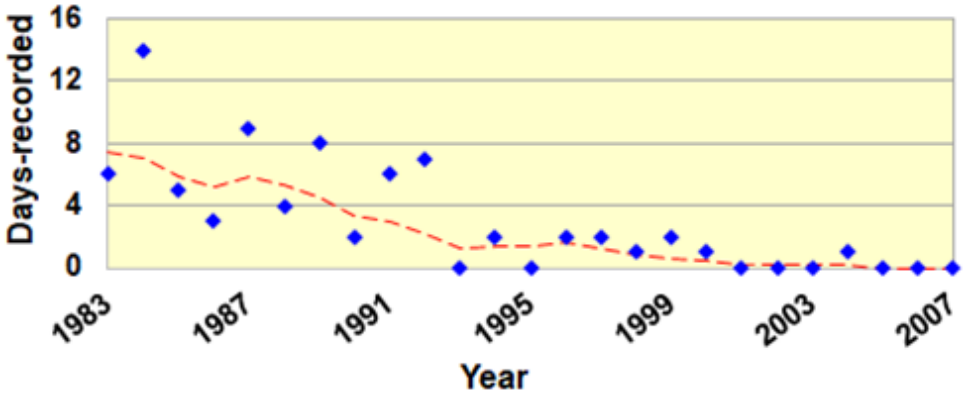


Figure 119 *(above). Days-recorded for Turtle Dove from 1983 to 2007. The dashed red-line shows the mean value for the correct year and the following four.*

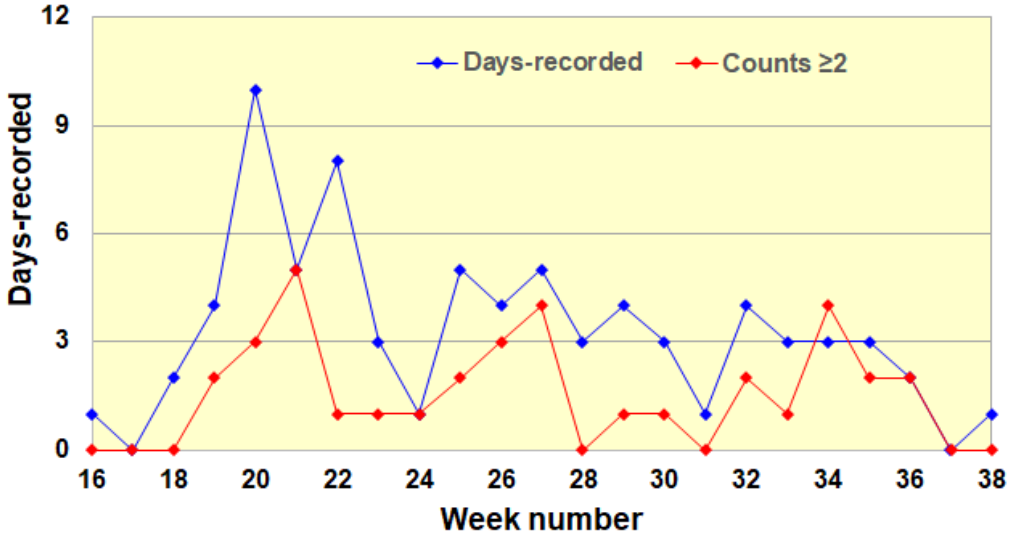


Figure 120 *(right). Days-recorded and counts of 2 or more birds plotted against standard week number for Turtle Dove. All data from 1983 onwards are included.*

- The first record in the Tyttenhanger GPs dB is from the 27th May 1983 and the last from the 28th May 2020.
- The maximum on-site count was of 19 birds on the 5th July 1986; there have been three other counts of ten or more birds - 12 on the 16th June 1984, 12 on the 7th July 1984 and ten on the 27th June 1985 – the latter referring to "10+ pairs".

- Although there are no specific records of confirmed breeding in the Tyttenhanger GPs dB there are a number of further records that indicate probable breeding including the 1967-73 and 1988-92 Hertfordshire Bird Atlases and the Hertfordshire Bird Reports from 1987 (2 pairs), 1988 (a pair), 1989 (a pair), 1996 and 1997 (birds present in the breeding season).
- The earliest arrival date was the 11th April 2004 (one of just two April records – the other being the 29th April 1997) while the latest autumn dates are the 19th September 1998 along with dates in early September from 1984 (2nd), 1989 (2nd) and 1988 (3rd).
- There was a total of 89 days-recorded for a total of 199 bird-days between 1983 and 2020, 42.2% of all counts involved more than a single bird and the average count (bird-days/days-recorded) was 2.4 birds.
- Records after the year 2000 are all of single birds recorded on the 11th and 16th May 2002, 11th April and 11th July 2004 and the 28th May 2020; the last count of multiple birds was five birds on the 8th May 2000 (one of four records that year).

Additional Information *Appendix 4* – Year Lists.

Cuckoo *Cuculus canorus* (5, 20, 5) [≥2]

Summer visitor in small numbers and occasional breeder. Median spring arrival date (2004-23) 19th April; median autumn departure date (2004-23) 9th August. The earliest arrival date is the 25th March and the latest departure the 25th September. The majority of days-recorded (87.1%) in the last 20 years have involved just a single bird.

2023. There were right days-recorded between the 28th April and the 3rd June – all single birds – at a reasonably good recording rate of 13.3% (see *Table 73)*. However, the late date still means it is three years since the last genuine autumn record (18th August 2020 –a juvenile bird) and is probably more of a reflection of the on-going decline of this species in the east of England rather than of the site itself[80].

Pre-2004. The first record for the site was of an immature bird on the 25th September 1983 – which also happens to be the 3rd latest date recorded in Hertfordshire in the period 1983-2023[81]! While subsequent occurrences through until the end of 2003 are relatively few (97 days-recorded) it is interesting that most years produced an arrival date (median date of April 24th, n = 18) and there are a number of late season records of juvenile birds i.e., 1986, 1989, 1992, 1996, 1997, 1998 and 2002. Also notable, is that while departure dates (July 7th onwards) are less common in this period at least three of them (see *Figure 121*) were the latest dates for Hertfordshire i.e. 1983, 1993 and 2002. The earliest arrival date in this period was the 25th March 2003 and the latest departure date the 25th September 1983 – both site records. The highest count prior to 2004 was of 5 birds on the 6th May 2000 (a site-record); the next highest counts were of three birds from dates in May 1997 (2) and May 1985 (1); most counts however, involve just single birds (81.4%).

***Table 73**. Recording rate and average count for Cuckoo in the period 2004-23. Those years highlighted in yellow are those where counts of 2 or more birds comprised 20.0% or more of all counts that year.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Recording rate (%)	22.5	21.2	21.8	8.3	12.8	12.9	8.5	13.8	16.8	9.5	19.3	15.7	7.5	3.5	3.3	14.2	20.5	18.6	25.9	13.3
Average count	1.00	1.32	1.29	1.00	1.08	1.08	1.33	1.20	1.12	1.10	1.19	1.00	1.00	1.00	1.00	1.06	1.32	1.06	1.05	1.00

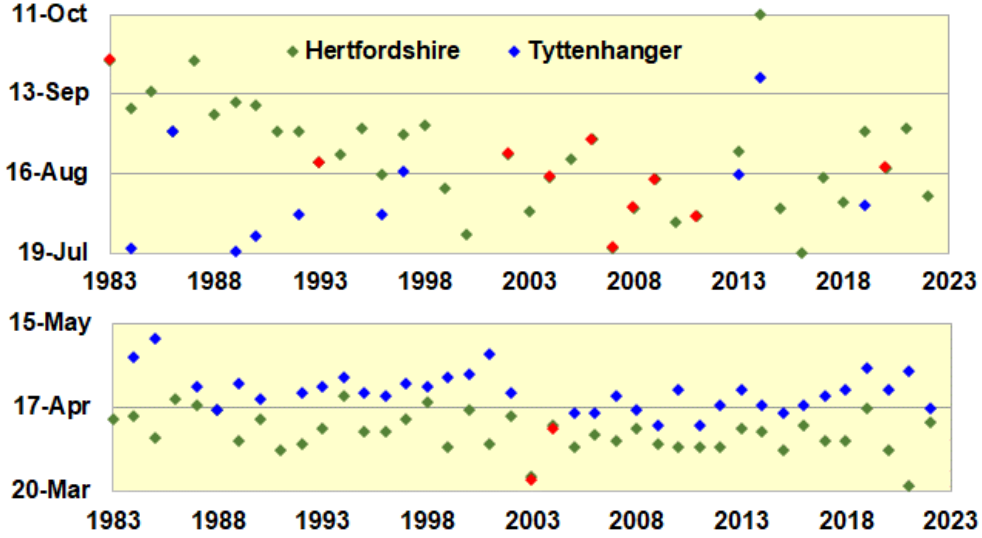
2004.23. As this species continues to decline in the UK it is unsurprising there were only 296 days recorded in the 20 years up to 2023. Maybe a little surprising is the recording rate for this species which shows such variation i.e. ranging between 3.3% (2019) and 25.9% (2022) of the days covered between the 18th April and 28th August. While it is also tricky to get a handle on abundance, the average count also shows that several years have produced more counts of multiple birds i.e. in *Table 73* those years when more than 20% of the counts were of multiple birds have been highlighted. Despite the above, the spring arrival dates for this species have been remarkably consistent ranging from the 11th April (2004) through until the 1st May (2019) with a median of the 19th April – maybe a little earlier than in the previous 20 years. Autumn departure dates are much more variable however, and in many years it can be difficult to determine if the

[80] The BTO's Bird Trends Explorer shows a continuing decline in England in 2023 – although the UK trend has been slightly better in the last decade with both Scotland and Wales showing increase in population; the BBS trend for the east of England pretty much matches the trend for the UK. In addition, the Hertfordshire Bird Reports for the last several years show a marked decline in records.

[81] The latest was on the 11th October 2014 at Rye Mead and the next latest on the 10th October 1987 at Tring.

last record of the year is a wandering adult or a bird on its return trip. Nevertheless, using dates from 7th July[82] onwards produces a median departure date of the 16th August (range = 21st July to 19th September, n = 11). Interestingly as shown in *Figure 112*, while many years failed to produce autumn departure dates (10 of 20 years), there were seven years that produced the latest dates for Hertfordshire i.e. 2004, 2006, 2007, 2008, 2009, 2011 and 2020. Birds specifically identified as juveniles are generally seen in the later part of the season and in this period have been reported from the 17th July through until 31st August (*Figure 122*). The maximum count in this period was just three birds on the 18th and 29th May 2020.

Breeding. The only records of young birds being fed by foster parents (in both cases Dunnocks) are from 25th July 1990 and the 14th-28th July 2004. The Hertfordshire Bird Atlases produced a probable result for TL10X in 1967-73, with confirmed records from this tetrad in 1988-92 and 2008-12. Other interesting breeding records are of a bird seen leaving a Reed Bunting nest on the 22nd May 1997 and of a "juvenile" bird on the 1st June 2002. The latter is very early for a juvenile bird and given the use of the term may well actually refer to a dependent youngster rather than a juvenile bird *per se* (see *Figure 122*) – but still an early date for this late arriver.



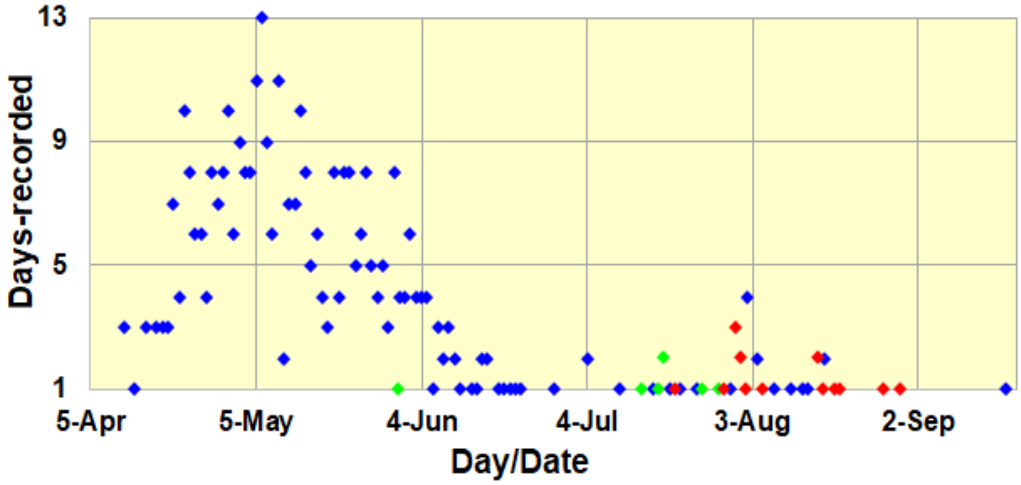


Figure 121. *Spring (left, lower) arrival and autumn departure (left, upper) dates for Cuckoo in Hertfordshire (♦) and Tyttenhanger GPs (♦) for the years 1983-2023. Years in which the Tyttenhanger GPs date was the earliest/latest are shown by the red symbol (♦). See also Figure 112.*

Figure 122. *(right) days-recorded by standard day for Cuckoo at Tyttenhanger GPs in the period 1983-2023. Those days that include records of dependent young being fed are shown by the green symbol (♦); and those dates on which juvenile birds were noted are shown by the red symbol (♦)*

Additional Information. *Appendix 1* – Migrant Arrival and Departure *(Figure 112); Appendix 4* – Year Lists.

[82] *The earliest date the last bird of the year was recorded in Hertfordshire (2001) in the period 1983-2023.*

Ring-necked Parakeet *Psittacula krameri* (5, 17, 792) [≥71]

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

2023. Good numbers during the September to January window continue to be a feature of the species on-site, with this year producing counts of 190 (highest for the year and also a January record) on the 14th January, 101 on 23rd April (an April record) and a further significant count (≥71 birds) i.e., 91 birds on the 9th April (*Table 74*). However, despite the good numbers in April there was no evidence of breeding this year. Numbers in the last quarter of the year were lower than in 2022 – although it is possible this is just a reflection of low coverage– nevertheless they were still considerably better than the trough of 2021.

Table 74. *Maximum counts for 2023, 2004-23 and corrected days-recorded by month for Ring-necked Parakeet in the period 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum count 2023	190	8	7	101	28	0	9	53	65	63	37	11
Maximum Count 2004-23	190	46	38	101	50	82	77	78	116	509	792	165
Corrected days-rec.	91	79	94	90	94	74	64	60	85	107	87	90

Table 75*. Summary data for Ring-necked Parakeet for the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Days-rec'd	0	1	2	0	5	0	1	3	3	1	5	4	10	62	105	156	208	114	108	73
Rec rate (%)	0.0	0.4	0.7	0.0	1.8	0.0	0.3	1.0	1.1	0.4	1.7	1.4	3.3	19.4	32.2	47.9	64.4	46.3	46.6	41.2
Maximum count	0	1	1	0	4	0	8	11	2	2	4	2	4	25	22	63	792	50	428	190
Counts ≥71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0	9	3

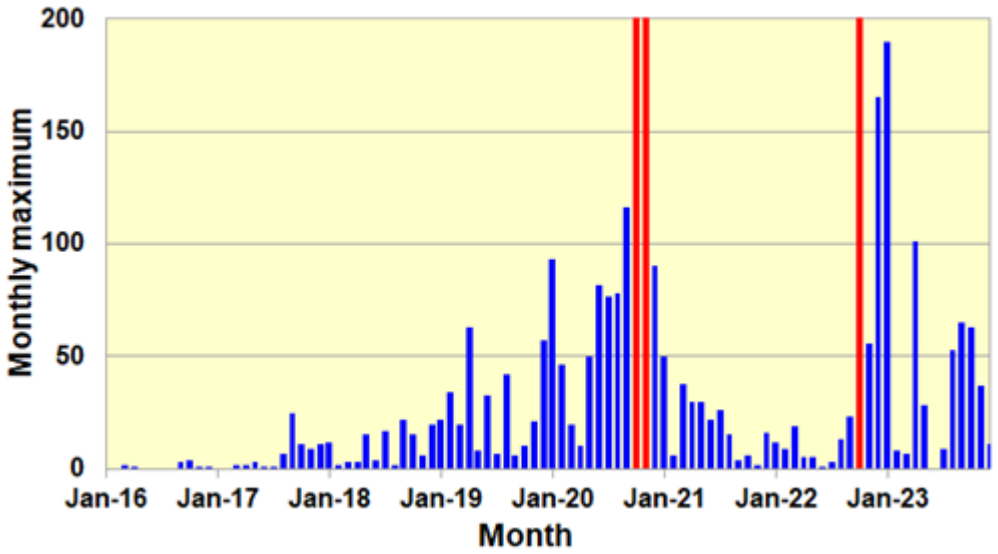


Figure 123*. Monthly maxima for Ring-necked Parakeet in the period 2016-24. The red bars show those months with maxima above 200 birds i.e. October 2020 (509), November 2020 (792) and October 2022 (428).*

Pre-2004. Although the first record for this species dates back to the 30th September 1993 (this record even making it into the Hertfordshire and London Bird Reports for that year), its spread from the stronghold in SE and SW London took a number of years and even in 2005 when the 2002 Hertfordshire Bird report was published it was still considered a description species. The 1993 record is the only one in this period.

2004-23 While there were only 29 records in the county in 2004 by 2008 this had increased to 150 records with multiple counts in double-figures and with 2009 seeing the first count of 100 birds in the county. At Tyttenhanger GPs the first record in this period was in 2005, with days-recorded still sparsely scattered through until 2015. The following year, 2016 saw 10 days-recorded but the following year was the breakout year at Tyttenhanger GPs (see *Table 75*) when the recording rate first went above 4.0% (19.3%), there were multiple double figure counts (4) and the maximum count rose to 25 birds. Notably, this was also the first year in which a substantial roost (>500 birds) formed at Stanborough Lakes in the first half of the winter. The next few years at Tyttenhanger GPs saw a pattern of increasing occurrence with maximum counts increasing slightly until the bumper winter of 2020/21 (see *Table 75* and *Figure 123*). This coincided with the Stanborough Lakes winter roost being at its peak (up to 1200 birds) and many of the records at Tyttenhanger GPs were in the morning and appeared to relate to birds leaving a large roost - possibly that at Stanborough Lakes (which is only 5 miles to the north-east as the parakeet flies). The year's maximum on-site count was made at this time with 792 birds on the morning of the 10th November 2020, and the early part of this

winter producing several counts of over 500 birds. The last few years has not seen numbers at Tyttenhanger GPs like those of the 2020/21 winter and the Stanborough Lakes roost has also shrunk to 500-600 birds. As can be seen in *Table 74*, good numbers of this species can occur at any time of the year, although the better counts tend to be in the September-January window. Despite good numbers and a reasonably even distribution of days-recorded through the year – the site is yet to produce its first confirmed breeding records – the closest being a pair seen prospecting a potential nest-hole in 2018.

Additional Information *Appendix 4* – Year Lists. See also *Table A2-4*

Barn Owl *Tyto alba* (4, 12, 7) [All]

Irregular visitor.

2023. Not recorded

Pre-2004. While the Tyttenhanger GPs dB shows the first record for this species at Tyttenhanger GPs to be the 19th December 1997 (with presumably the same bird reported on the 28th, 29th and 30th of that month) there are a couple of early records from the Hertfordshire Bird Reports that refer to "Tyttenhanger". While there is a possibility these records refer to Tyttenhanger Green[83] this is considered unlikely and they are therefore included here.

1945. "One flying and calling in the sunshine at Tyttenhanger on the 5th August".

1947. "otherwise the only recent records are of single birds …Colney Heath, and Tyttenhanger". [A List of the Vertebrates of Hertfordshire].

1961. "7 young hatched at Tyttenhanger"

While looking further into the above records (without any further information actually forthcoming) we did find the following quote – which it is impossible not to include!

> *"It is only to be expected that the Barn Owl will become scarce in places such as Stevenage and Hemel Hempstead, for it is hardly likely that it will find a congenial habitat in the vicinity of the satellite towns, new towns, or whatever other names you care to give to these hideous blots on the face of the county "*(Sage, 1959, p139).

After the 1997 records there are four further records prior to 2004 the first being a bird mentioned in the 1998 Hertfordshire Bird Report (no date given) and then a similar record in the 2002 report. There are then two specific records in the Tyttenhanger GPs dB i.e., a bird hunting at the Colney Heath end of the site on the 1st January 2003, and then a bird found dead near St Mark's cemetery (off Church Lane - Colney Heath) on the 2nd February 2003 – presumably the same bird.

2004-23. Ostensibly an infrequent visitor to the site the last 20 years may have seen as few as 12-14 birds visit the site. However, the presence of what appears to have been a returning over-wintering bird(s) means there have actually been a total of 69 days recorded. The following is a summary of the days-recorded in this period.

2006. Records of a single bird on the 11th and 19th March probably relate to the same bird.

2008. A single bird seen on the 23rd and then again on the 27th March.

2012. A gap of nearly four years until two birds were seen "flying over" on the 19th February; this is the only record on-site of multiple birds in this period.

2013. Three records for the year, probably all relating to the same bird coming from the 9th February and the 24th and 26th March.

2015. A bird first seen on the 9th February was reported on a further 5 dates through until the 1st March. A bird seen on the 7th May could well have been a different bird.

2016. Just a single record of a bird on the 13th March.

[83] The ordnance survey maps from the period around which these records were generated have been checked e.g. https://maps.nls.uk/view/189253832, https://maps.nls.uk/view/101579649 and https://maps.nls.uk/view/101579643, we find no use of the simple term Tyttenhanger i.e. all names we could find are compound names: Tyttenhanger Farm, Tyttenhanger Green (Tyttenhangergreen Little Farm) and Tyttenhanger Park. A search of the HNHS Journals Archive using the term "Tyttenhanger Green" failed to find any records at all around the time of interest (1945-61) as did searches using "Highfield Farm" and "Highfield Hall" – the latter two being terms that might be alternatives to Tyttenhanger Green. The only records using the location of "Tyttenhanger" are those for this species and the 1958 record of *Lesser Spotted Woodpecker f*rom Tyttenhanger Park. Notably, prior to this, up until 1941, the HNHS proceedings had included rainfall records that included a monitoring station at "Colney Heath-Tyttenhanger Pumping Station" i.e. what is now known as the Water Works. For the above reasons we feel that these early records almost certainly refer to Tyttenhanger Park and the immediate surrounds.

2017. A bird reported from the 30th June through until the 12th July (a total of 8 dates) was frequently seen to be roosting in a hole in an Oak tree near Willows Farm. We believe this could well be the first record of the bird frequently reported at the same roost site over the winter of 2018-19[84].

2018-19. First seen on the 29th September 2018 was frequently seen over 36 dates between the 28th September 2018 and the 12th April 2019. Many of the dB entries refer to the "usual" roosting location and several of the records also refer to the bird hunting locally. There is then a record from the following autumn of a bird "back in the usual hole" on the 15th October and finally a bird seen hunting along the A414 around midnight on Christmas eve.

2020. Reports of birds hunting around Tyttenhanger House on the 2nd and 3rd March were the only records early in the year and then a bird was reported on the 9th, 11th and 16th October – the middle date also noting "*in tree hole between Willows Farm & Garden Wood"* … the roosting bird of 2018-19 returning?

2021. Just a single record of a bird seen on the evening of the 21st February hunting near The Scrape.

Table 76. *Monthly distribution of days-recorded for Barn Owl in the period 2004-23. The top row shows the distribution for all days recorded and the bottom excluding the over-wintering bird of 2018-19.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
All days-recorded	4	16	14	4	1	1	7	0	1	8	6	7	**69**
2018-19 excluded	2	7	10	0	1	1	7	0	0	4	0	1	**33**

2022. A bird seen on the 8th and 9th January was reported to be in the "hole in the Little Owl tree" – this would seem to be a different location from the 2017-20 bird … but we can't be sure this is the case as the two locations are close to each other and both roosts have probably been used by both species.

Of the 69 days-recorded in this period, the over-wintering bird of 2018-19 accounts for 36 of those days and possibly several dates in 2017 and the winter of 2019-20 – bearing in mind the average life-expectancy for this species is around four years[85]. The distribution of days-recorded through the period 2004-23 both including ("*All days-recorded*") and excluding the over-wintering bird of 2018-19 ("*2018-19 excluded*") are shown in *Table 76*; the latter shows a clear peak in February/March with a smaller peak in July – the latter due to another roosting bird in 2017.

Breeding. Apart from the 1961 record above the 1967-73 Hertfordshire Bird Atlas shows this species as a possible breeder , but the 1988-92 Atlas shows it as absent as does 2008-12.

Additional Information *The First Gravel Pits*; *Appendix 4* – Year Lists.

Little Owl *Athene noctua* (4, 19, 7) [≥2] [All]

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

2023. Not recorded. This is the first year since 2000 this species has not been recorded on-site[86] however given its rapid decline in Hertfordshire over the last several years, this was maybe not unexpected.

Pre-2004. The first record for the site is from the 31st January 1988 with the period until the end of 2003 producing just another 54 days-recorded at an overall recording rate of 1.9%. The lack of records in the database does seem to be at odds with a couple of observations. First, there are occasional breeding records in this period (see below) but these don't correlate with dB entries i.e. 1997 produced a total of 22 days-recorded (7.3% recording rate), but 1998 has no dB entries at all, and 2003 managed just five days-recorded and a recording rate of 2.1% - all three years having produced confirmed breeding records. The 1996 Tyttenhanger Bird Report records "*One seen infrequently around Bowman's Farm/Coursers Road area*" - but the dB contain only three records for the year from 278 days of coverage. However, the status summary from the 1996 Tyttenhanger report states "*Probable resident. Few records*". Notably the Hertfordshire Bird Reports at the end of the last century were focussed on breeding records but the Guidelines for Observers suggested all records be submitted – suggesting there weas a data-capture issue for this

[84] From what we have been able to ascertain, all the roosting records in the period June 2017 to 2020 refer to the group of trees to the west of the Tyttenhanger House drive-way. There is another regular site for Little Owl close by that may also have been used during this period and/or after i.e. see the 2022 record.

[85] The BTOBirdfacts page (Survival and Longevity) indicate the typical life-span for this species is four years with birds usually breeding in the first year. For a species so prone to road-casualties it is unlikely that birds in the highly populated peri-urban areas in southern Hertfordshire live to the greater ages reported for this species i.e. up to just over 15 years, and so we expect life-expectancy locally to be closer to the four years indicated above.

[86] It is highly likely this negative result for 2000 is due to the "gap" in the Herts Bird Club dB (see *Appendix 2*) and failure to capture records rather than an actual absence -especially given how widespread the species was at the time i.e., see the 2000 Hertfordshire Bird Report.

species around this time. However, leaving aside the vagaries of the database, the maximum count in this period was of four birds on the 24th June 1997, with three birds recorded on the 24th September 1997 and four records of two birds (three in 1997 and the breeding record from 2003).

Photo courtesy of Steve Blake

2004-23. The overall reporting-rate (12.9%) through this period (2004-22) was much better than in the period up to 2004 – although it is worth noting that the early part of this period (2004-06) produced relatively few records and had a much lower recording rate i.e. 3.5%. After 2006, this species appears to have consolidated its position on-site and after a trough in 2013 reached its zenith between 2018 and 2021; the decline from here was very rapid - as it seems to have been in the rest of the county (*Figure 125)*. Peaks in occurrence and numbers through the year are in the late summer months (June to August - *Figure 124)* – probably representing post-nuptial birds and family parties that become more visible and vocal at these times. The largest on-site count was of seven birds on the 21st June 2020 which comprised two of families - an adult feeding three young near Willows Farm entrance road and another adult bringing food to two young by the Tyttenhanger House entrance track. The next highest count is of four birds from two dates in each of 2011, 2019 and 2020.

Breeding. Both the 1967-73 and 1988-92 Hertfordshire Bird Atlases only show this species as a probable breeding species in TL10X with the first confirmed record in 1997 (FL – adult + 3 young). There is another database record in 2003 and the Hertfordshire Bird Report of 1998 also confirms breeding with two young seen (no date given). Post 2003 overall numbers do appear to have increased and as a consequence it would appear that breeding become more frequent. Confirmed records in the latter period come from 2007, 2010-11, 2014 and 2019-21, with juveniles reported quite late in the season from a further two years (with no supporting breeding evidence from on-site) and a probable record (N) from another year. All-in-all there was good evidence of breeding on-site (or close by) in ten of the 20 years after 2003.

Postscript. Prior to early 2024 the last bird on-site was on the 3rd September 2022. However, 2024 (4 days-recorded) and early 2025 (at least 3 days recorded) have produced a smattering of records that does provide a little hope for the future.

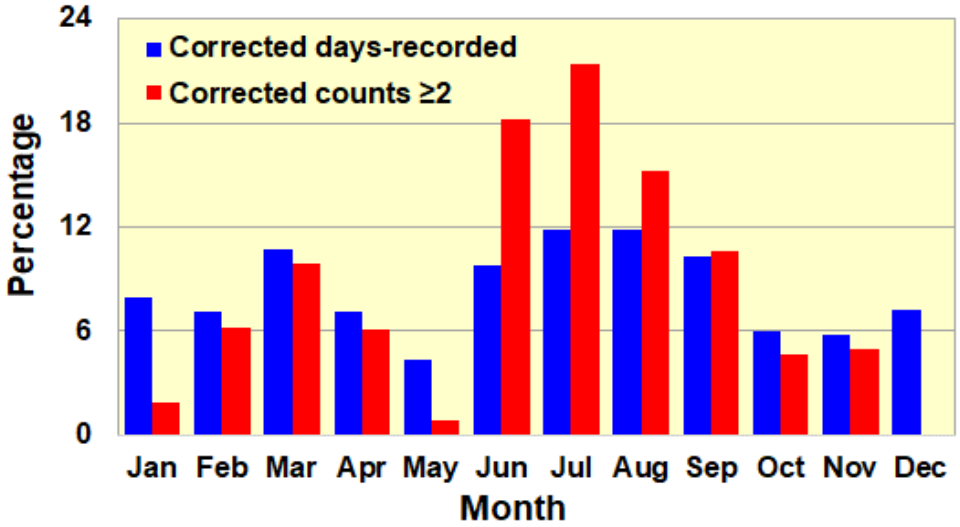


Figure 124 *(above). Monthly distribution of percentage of corrected days-recorded and corrected signifcant counts (≥ 2 birds) for Little Owl from the period 2004-23.*

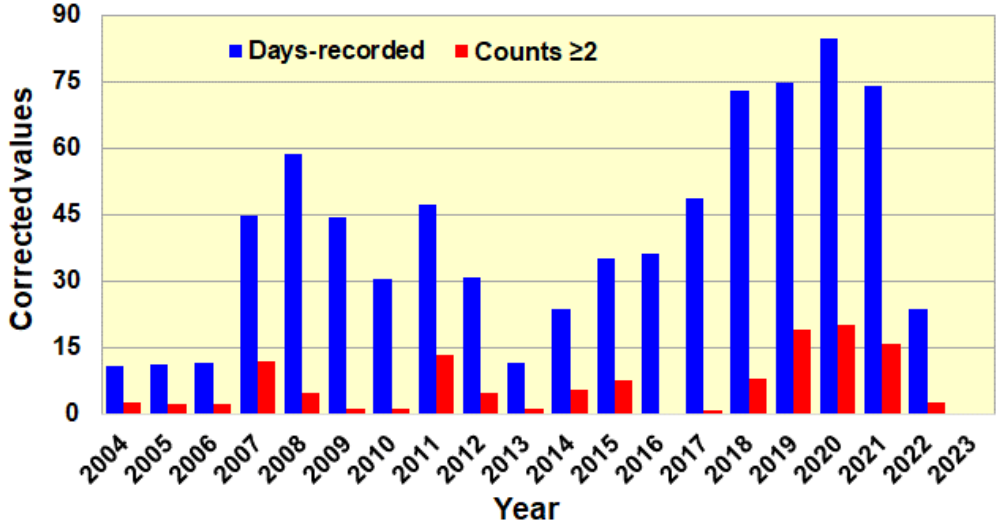


Figure 125*. Distribution by year of corrected days-recorded and corrected signifcant counts (≥ 2 birds) for Little Owl in the period 2004-23.*

Additional Information *Appendix 4* – Year Lists. See also *Table A2-2.*

Tawny Owl *Strix aluco* (5, 20, 5) [All]

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

2023. Just a single record for the year of a bird heard early in the morning of the 29th April near the Model Railway enclosure.

Pre-2004. Surprisingly there are few records from this period despite confirmed breeding in three years, suggesting other records were not considered notable and/or were not captured in the Herts Bird Club dB. The first record in the Tyttenhanger GPs dB is from the 17th January 1987 with subsequent records in 1988, 1992, 1996 (two dates including three birds on the 13th August) and 1997.

2004-23. Since 2003 there have been a total of 99 days-recorded for this species, with 87 (87.9%) of these days producing counts of just a single bird. Breeding in 2020 produced a maximum count for the site of five birds on the 21st June while a breeding event in 2017 produced a count of four birds also on the 21st June. Three birds were heard in separate locations on the 23rd July 2019, otherwise there have been eight other counts of two birds (coming from 2007, 2009, 2017, 2019 and 2021). *Table 77* shows the monthly distribution of days-recorded and significant counts (≥2 birds). The majority of database entries (79.8%) have included a location, with birds most frequently noted from Garden Wood and the Model Railway/Water-works. However, there are also records from Coppice Wood (including breeding in 2007), Colney Heath, Willows Farm, the New Plantation and even one from the Tree Sparrow Hedge (Tyttenhanger Farm).

Table 77. *Monthly distribution of days-recorded for Tawny Owl in the period 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Days-recorded	8	10	13	9	2	7	3	6	12	14	11	4	**99**
Counts ≥2 birds	1	1	0	0	0	5	1	0	1	2	0	0	**11**

Breeding. While the Tyttenhanger GPs dB does not contain any specific records prior to 1988, the Hertfordshire Bird Report of 1985 cites confirmed breeding that year. Following a probable breeding record in TL10X in the 1967-73 Hertfordshire Bird Atlas, the 1988-92 atlas has this species as a confirmed breeder – the database showing records for both an occupied nest and recently fledged young in 1988. Since 2003 breeding has been confirmed in 2007, 2017 and 2020, with the 2008-12 Hertfordshire bird Atlas showing a probable result for TL10X.

Additional Information *Appendix 4* – Year Lists.

Long-eared Owl *Asio otus* (0, 0, 1) [All]

Rare visitor with just two days-recorded both involving single birds.

2023. Not recorded.

Summary. The two records for the site are of a bird caught and ringed on the 23rd August 1993 and then a second bird found in the hedge between the Rainbow Field and the A414 entry road on the 8th May 1997.

Additional Information *Appendix 4* – Year Lists.

Short-eared Owl *Asio flammeus* (1, 3, 1) [All]

Infrequent visitor with just five days-recorded, all involving single birds.

2023. Not recorded.

Summary. The first record for the site is from the 2nd October 1998 with possibly the same bird seen over London Colney on the 5th October (the only records in the county that year). There are a further four records which are summarised below:

2004. A single bird near Tyttenhanger Farm on the 28th February and another bird flushed from the edge of the Main Pit on the 7th November.

2011. A single bird on the evening of the 4th December over the field to the east of the Main Pit.

2020. A single bird near the Main Pit in the early afternoon of the 17th October.

Additional Information *Appendix 4* – Year Lists.

Kingfisher *Alcedo atthis* (5, 20; 7) [≥2]

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

2023. Although up to two birds were regularly present in the last quarter of 2022, the last record that year - on the 9th December – was not followed until the 18th March this year. Although subsequent records were relatively scarce (just 22 days-recorded for the year), there was a record from the 8th May of a bird carrying food/faecal sac indicating birds were breeding on-site or close by. A maximum count of two birds was reported on four dates scattered across August, September (2) and December.

Pre-2004. The first record in the Tyttenhanger GPs dB is from the 1st April 1983 after which there are a further 462 days-recorded – placing it well in the top 20 for days-recorded during this period. As in the later period, over 80% of counts were of single birds (83.8%) and the rate of no-counts was low (3.5% of all records). The largest count in the period was of seven birds on the 24th August 1997 (two family parties of an adult plus 3 young and an adult plus 2 young) – which is a site record. There are also two counts of five birds one on the 14th September 1995 and the other one the 25th August 1997 (an adult and 4 young).

2004-23. Occurring in small numbers throughout the last 20 years, the variation between years seems to have followed a distinct trend (*Figure 126*). Counts of single birds comprise 83.1% of all counts, so it is probably unremarkable the distribution of significant counts (≥2 birds) tends to follow that of days-recorded i.e. when multiple birds are around the probability of seeing any bird increases. The distribution of occurrences and significant counts through the year (*Figure 127*) is a little more perplexing as occurrence and abundance show the expected post-nuptial late summer/early autumn peaks but the trough in significant counts in October is difficult to explain (or is this a peak in November of birds on the move?). Maximum counts in this period are of just four birds from the 6th March 2004, 31st October 2004 and 26th September 2007.

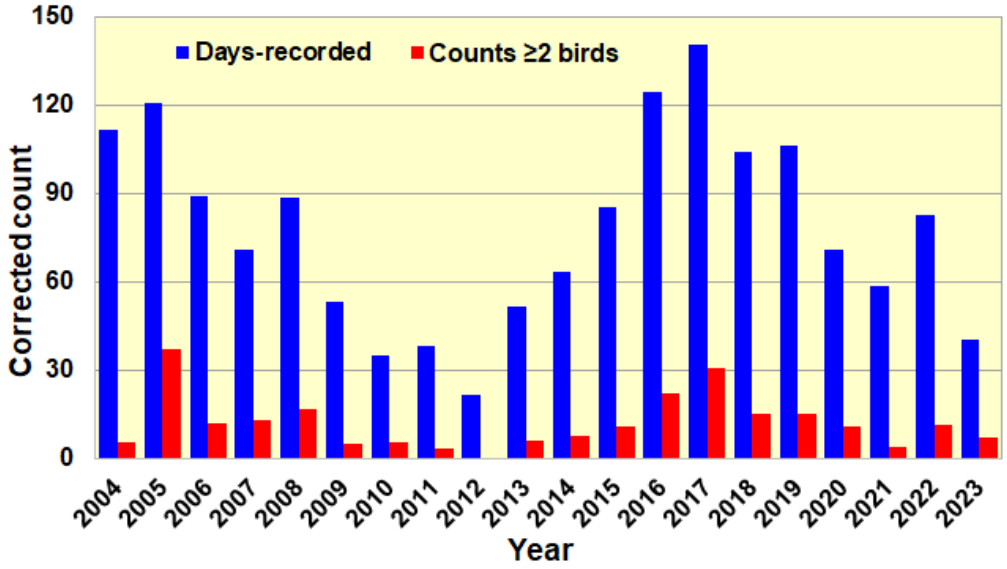


***Figure 126**. Corrected days-recorded and corrected days producing counts of 2 or more birds for Kingfisher in the period 2004-23*

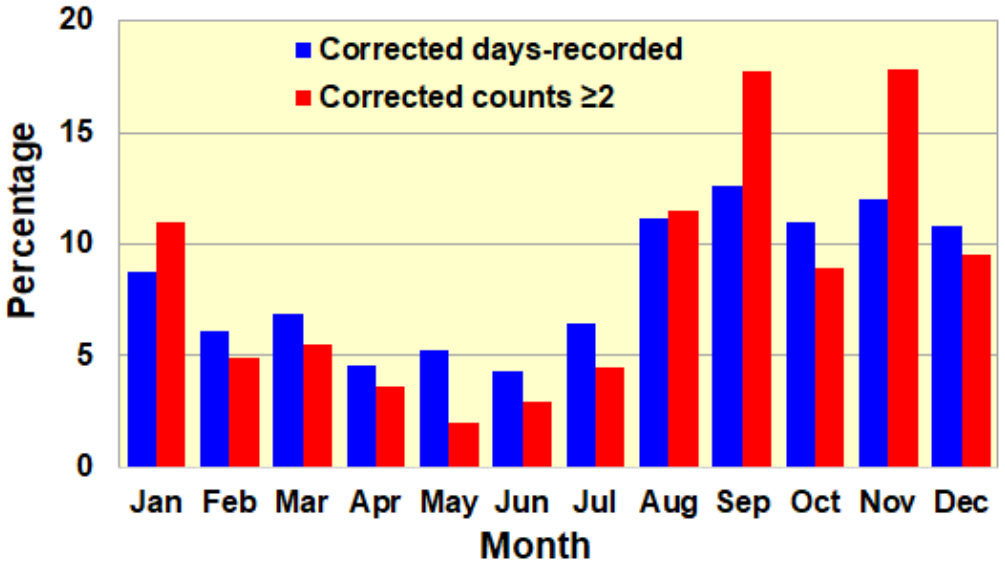


***Figure 127**. Monthly distribution of the percentage of corrected days-recorded and corrected signifcant counts (≥ 2 birds) for Kingfisher from the period 2004-23.*

Breeding. Confirmed breeding records for this species come from ten of the twenty years from 1984 to 2003, along with another year with a probable result – several of these records supporting the confirmed breeding result for this species in TL10X in the Hertfordshire Bird Atlas of 1988-92. The period from 2004 onwards produced confirmed records from 11 years with an additional year providing a probable result and a confirmed result for TL10X in the 2008-12 Atlas. In total, in the 40 years since 1984 this species has been recorded as a confirmed/probable breeder in

23 years with 1997 seeing two pairs breed on-site or close-by.

Additional Information *Appendix 4* – Year Lists

Swift *Apus apus* (5, 20, 300) [≥60]

Previously a common summer visitor with feeding birds present throughout the summer months. Median spring arrival date (2004-23) 27th April; median autumn departure date (2004-23)13th August. The earliest bird recorded was on the 18th April and the latest on the 20th September.

2023. Although the first bird of the year was seen on the fairly typical date of the 28th April, 16 days-recorded and a maximum of just 14 birds made for a very ordinary year. Low coverage in the months from May to August accounts for much of the reduction in days-recorded (see *Table 78*), i.e., the 2004-23 median value for days-recorded is 30 days) and may also be responsible for the low maximum count and overall small numbers. Nevertheless, the continuing national decline clearly suggests the heyday of this species at Tyttenhanger GPs (and the possibility of an Alpine Swift?) have passed. The last bird of the year was seen on the early date of the 23rd July.

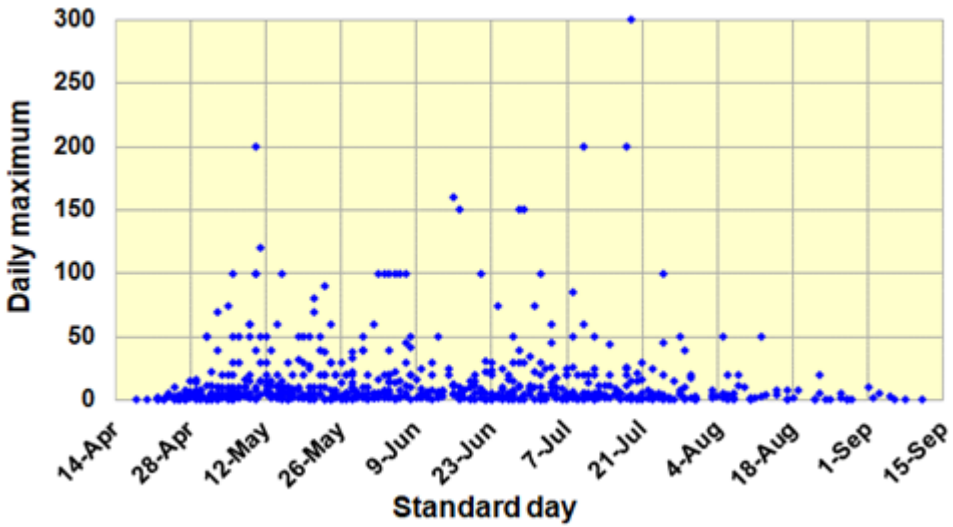


***Figure 128**. Plot of daily maximum counts (2004-23) against standard day for Swift.*

Pre-2004. The first record in the Tyttenhanger GPs dB is from the 27th May 1983 with only 105 days-recorded in the period to the end of 2003. Strangely, this period has a no-count rate of 33.6% of all records, no obvious bias towards higher counts i.e. just four significant counts of ≥60 birds (5.5% of all counts) and a maximum count of just 100 birds on the 26th July 1983, 8th June 1985 and 26th July 1997. The earliest spring arrival before 2004 was on the 20th April 1998 and the latest birds (2) on the 20th September 1996. The latter is the latest ever for the site with a bird on the 17th September 1997 being the next latest.

2004-23. The short season for this species means days-recorded can appear to be quite low and can be affected by the distance from local birds that use the site for feeding during the breeding period. Given these limitations, the overall reporting rate is still quite high for the May-August period i.e., 29.3% (from a total of 676 days-recorded during coverage from 18th April to 11th September) and compares favourably with other species in their respective windows of occurrence e.g. Sand Martin (34.7% - 10th March – 6th October), Swallow (40.5% - 29th March – 11th October) and House Martin (18.0% - 29th March -11th October). Spring arrival dates for this species range between the 18th April (2016) and the 6th May (2015) with a median date of the 27th April (n = 20). Autumn departure dates are more variable and range between the 21st July (2012) and the 12th September (2019) with a median date of the 13th August (n = 20). *Figure 128* shows the distribution of daily maximum counts across the occurrence window for this species. The maximum count of 300 birds was on the 11th July 2011 with 200 birds counted the day prior to this; the other counts of 200 birds are from the 11th July 2021 and the 11th May 2007. Counts of 50 or more birds are distributed right through much of the normal season raging between 1st May and 13th August, while significant counts (≥60 birds), although appearing to be rather randomly distributed between years do show a reasonable correlation with corrected days-recorded (r^2= 0.335) – unsurprisingly suggesting the more days covered the greater the chance of making a significant count!

***Table 78.** Summary data for Swift in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Days-rec'd	24	42	41	29	34	19	23	27	19	29	29	26	41	41	38	56	70	40	32	16
Rec. rate (%)	25.3	43.8	40.6	28.4	39.1	22.4	23.5	26.2	20.7	30.2	29.0	26.0	41.4	38.3	33.3	50.0	60.9	41.8	41.1	30.8
Counts ≥60	2	6	0	3	0	0	1	3	0	0	0	1	2	3	2	1	6	4	3	0
Maximum	150	150	50	200	50	30	100	300	30	40	30	60	80	100	160	100	100	200	100	14

Additional Information: *Appendix 1* – Migrant Arrival and Departure *(Figure 141); Appendix 4* – Year Lists..

Hoopoe *Upupa epops* (0, 1, 1) [All]
Rare visitor with just a single bird recorded in 2013.

2023. Not recorded.

Summary: The only record for the site was a single bird present on 15th April 2013. Found near The Mound by a single observer, it was later relocated on the slopes of the Main Pit and stayed for long enough for several regulars to see it before it disappeared in the direction of Tyttenhanger Farm - never to be re-located. There were 14 records in the county between 1983 and 2003 (*Smith et al.*, 2015) with the period from 2004-22 producing 11 of those records.

The only Hoopoe to occur at Tyttenhanger GPs was found on the 15th April 2013 – unfortunately staying for just a couple of hours. Photo courtesy Simon West.

Additional Information: *Appendix 4* – Year Lists.

Wryneck *Jynx torquilla* (0, 1, 1) [All]
Rare visitor recorded on just single occasion in 2010.

2013: Not recorded.

Summary: A bird found on 12th September 2010 near Tyttenhanger Farm is the only record for the site. Found at 9:35 am after giving brief, but good views. it disappeared and was never re-found. There were 21 records in the county between 1983 and 2004 (Smith *et al.,* 2015) and 26 in the period from 2004-22; like the Tyttenhanger record most birds are seen in the autumn.

Additional Information: *Appendix 4* – Year Lists.

Green Woodpecker *Picus viridis* (5, 20, 10) [≥4]
Common breeding resident.

2023. A total of 57 days-recorded for the year was equivalent to a recording rate of 32.2% -a bit below the 2004-23 median of 40.9%. Days recorded were scattered throughout the months of the year – with the exception of December – April contributing 13 days i.e. nearly 60% of the 22 days covered in the month. The only evidence of breeding this year was from the 1st July when young birds were noted in a count of three birds; the maximum count for the year was of 4 birds on the 1st January and 16th April.

Table 80. *Summary data for Green Woodpecker at Tyttenhanger GPs in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Days-recorded	82	128	132	117	146	147	96	90	75	84	112	116	130	141	115	128	201	110	103	57
Rec. rate (%)	34.3	48.9	47.5	42.4	53.7	54.2	33.4	31.1	27.3	30.3	38.8	39.3	42.5	44.1	35.3	39.3	62.2	44.7	44.4	32.2
Maximum count	3	10	6	4	6	5	4	5	6	4	5	5	6	7	7	7	9	9	4	4
Average count	1.5	1.7	1.5	1.7	1.7	1.9	2.0	2.0	1.8	1.6	1.9	2.0	1.9	2.1	2.0	2.2	2.4	1.8	1.6	1.7

Pre-2004. The first record in the Tyttenhanger GPs dB is from the 17th March 1983, after which, there are a surprising 281 additional days-recorded. Also surprising was the relatively low rate of no-counts (12.7% of all records) and the high proportion of single birds reported (67.5% of all counts) - suggesting both observers and recorders liked to capture records of this species. The

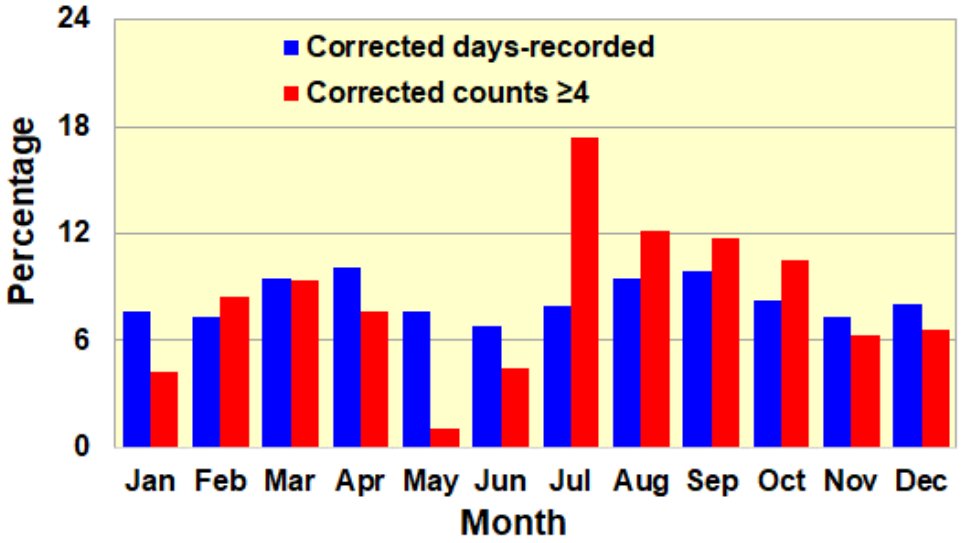


Figure 129. *Month-by-month plot of percentage corrected days-recorded and corrected significant counts (≥4 birds) for Green Woodpecker in the period 2004-23.*

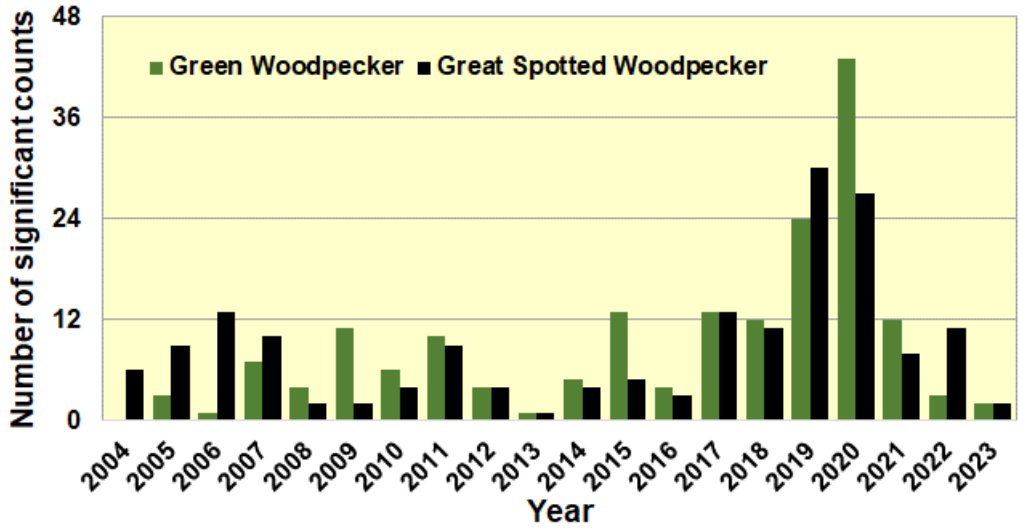


Figure 130. *Number of significant counts for Green Woodpecker (≥4 birds) and Great Spotted Woodpecker (≥3 birds) in the period 2004-23.*

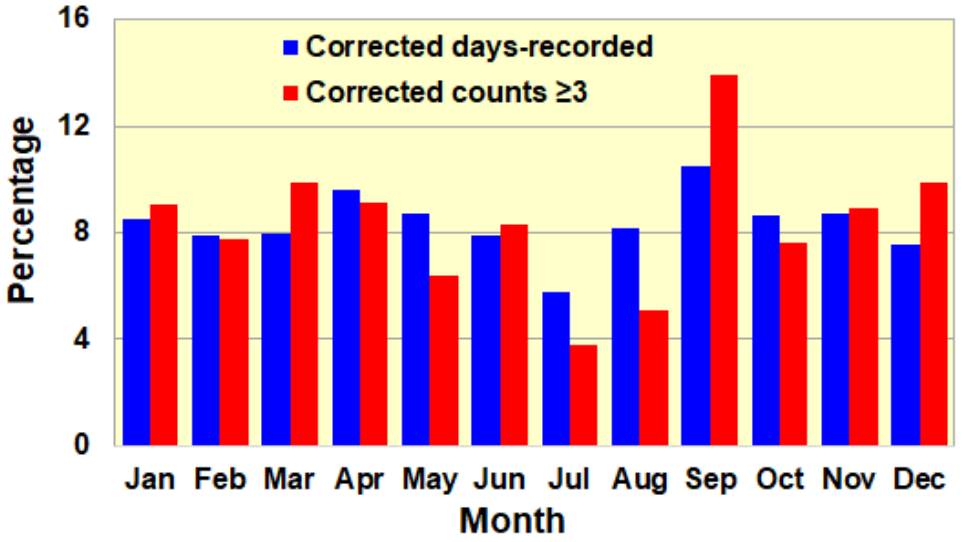


Figure 131 *Month-by-month plot of percentage corrected days-recorded and corrected significant counts (≥4 birds) for Great Spotted Woodpecker in the period 2004-23*

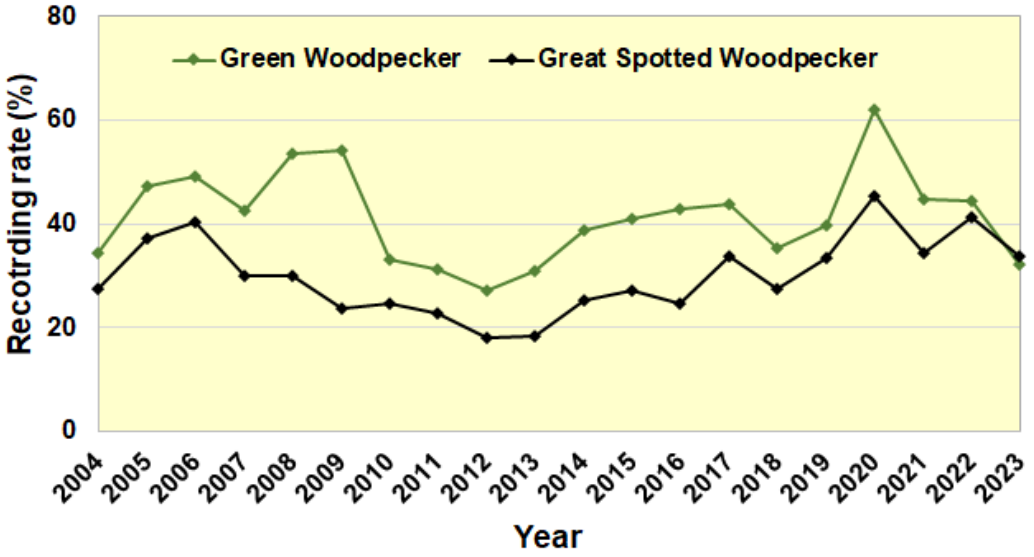


Figure 132. *Recording Rate for Green Woodpecker and Great Spotted Woodpecker in the period 2004-23.*

largest count however was of just 4 birds coming on nine occasions scattered across several years (1985, 1988, 1996, and 1997) - all these counts were made between March and September.

2004-23. This species has shown a sharp decline in Hertfordshire over the last 10 years and has been declining nationally for the last twenty. The data from Tyttenhanger GPs appears to be contrary to this decline however, showing a relatively stable population (*Figure 132*) and even a suggestion that numbers may have increased – at least until the last couple of years (see *Figure 130* and *Table 80*). Occurrence through the year shows the typical pattern of many resident species, with a peak in significant counts (≥4 birds) in July coinciding with the fledging of young birds and the presence of family parties (*Figure 129*). The largest count of ten birds was on the 16th August 2005 with counts of nine birds on the 10th October 2020 and the 30th March 2021; counts of single birds comprise 42.2% of all daily maxima (down from 67.5% in the period before 2004).

Breeding. Recorded as a confirmed breeding species in TL10X in the 1988-92 Hertfordshire Bird Atlas, there are successful breeding reports cited in the Hertfordshire Bird Reports of 1985, 1986, 1988, 1990, 1991, 1993, 1995, 1996 and 2001. Specific records in the Tyttenhanger GPs dB – mostly involving young birds/family parties - can be found for 1988, 1990, 1991, 1993, 1994, 1995 (occupied nest) 1996 and 1997, making a total of 12 years in the period 1983-2003 in which breeding was confirmed. From 2004 onwards, breeding was even more consistent with confirmed breeding in 15 of the 20 years to 2023 with only 2008, 2010-12 and 2015 failing to produce a positive result.

Photo courtesy of Andrew Steele

Additional Information: *Appendix 4* – Year Lists. *See also Figure 130 and Figure 132.*

Photo courtesy of Andrew Steele

Great Spotted Woodpecker *Dendrocopos major* (5, 20, 6) [≥3]

Common breeding resident.

2023. The total of 60 days-recorded for the year was equivalent to a recording rate of 33.9% - a little bit above the 2004-23 median of 28.8% (*Figure 132*); there was a maximum count of six birds on the 1st January, an equal on-site record with seven other dates between 2015 and 2021. There were no confirmed records of breeding this year but drumming birds were reported on three dates from the 5th February to the 12th March.

Pre-2004. Much less commonly recorded in this period than Green Woodpecker, the first record in the Tyttenhanger GPs dB is from the 17th March 1983 with a subsequent 147 days-recorded through until the end of 2003. The maximum count was of six birds on the 25th June 1996 (equal to the on-site record – see above) with 81.5% of all counts involving just a single bird.

2004-23. Unlike Green Woodpecker the abundance of this species has been steadily increasing in the UK since the beginning of the century – the increase only showing signs of slowing in the last few years. There is little evidence of a similar trend on-site, with occurrence showing little change in the last 20 years (*Figure 132*) and abundance appearing to fluctuate between years with no discernible pattern (*Figure 130*). The pattern of occurrence through the year is similar to most other resident species i.e. fairly constant across the year (*Figure 131*), significant counts (≥3 birds) peak in September during the post-nuptial dispersal period (a common observation for other resident species). The largest on-site count is of six birds (see 2023) with counts of single birds comprising 61.7% of all counts; the no-count rate is just 3.0% of all daily-maxima.

Breeding. The first confirmed breeding record(s) are from TL10X in the 1988-92 Hertfordshire Bird Atlas with records in the 1990 and 1991 Hertfordshire Bird Reports confirming that result. There are specific records in the Tyttenhanger GPs dB for 1992, 1993, 1996 and 1997 with an additional record in the Hertfordshire Bird Report of 1994. After 2004 breeding has been recorded more frequently with confirmed breeding in 11 of the 20 years to 2023 and probable breeding in a further two years. Drumming has also been heard in most years in this period leaving just 2008, 2013 and 2018 without any evidence of breeding.

Additional Information: *Appendix 4* – Year Lists. See also *Figure 130* and *Figure 132.*

Lesser Spotted Woodpecker *Dryobates minor* (2, 11, 3) [All]

Previous resident that possibly bred in Garden Wood. Now an irregular visitor.

2023. Not recorded.

Pre-2004. One of the earliest records we have for the site is from the 1958 Hertfordshire Bird Report and has an individual of this species "in Tyttenhanger Park on the 2nd February…". After this, the 1967-73 Hertfordshire Bird Atlas showed this as a possible breeding species in TL10X with the species subsequently reported regularly in the years from 1983 to 2003 i.e., recorded in 15 of the 21 years in this period (see *Figure 133*). During this time birds were often reported drumming and there is a record of a pair mating near Park Corner on the 20th April 1984 - a record count in this period along with two birds reported on the 21st April 1998. The gap in records between 1999 and 2001 coincides with the gap in the Herts Bird Club dB (see Appendix 2) and it is possible records at this time were lost, however this also coincides with the time paintballing was being carried out in Garden Wood - which both restricted access and may have also caused disturbance to this species[87]. There were single days recorded in both 2002 and 2003 to end the period.

Table 81. *Monthly distribution of days-recorded for Lesser Spotted Woodpecker in the periods 1983-2003 and 2004-23*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Days-rec'd 1983-2003	0	2	3	7	4	1	2	4	4	3	2	1	**33**
Days-rec'd 2004-23	4	1	5	7	0	1	1	0	1	3	3	2	**28**
Total	**4**	**3**	**8**	**14**	**4**	**2**	**3**	**4**	**5**	**6**	**5**	**3**	**61**

2004-23. Records from 2004-13 were almost annual with 2009 being the only year to draw a blank. Since then however, there have been records from just two years i.e. 2020 (4 days-recorded and 2021 (3 days-recorded) (see Figure 128); the last record for the site was on the 27th February 2021 from Coppice Wood. In summary, there have been a total of 61 days-recorded, with March and April providing 22 of those days (*Table 81*). Records of more than one bird are unusual with the only records of multiple birds as follows: two on the 20th April 1984, 21st April 1985 and 21st April 1998, three on the 17th April 2006, and then records of two birds again on the 7th April 2012 and 26th March 2013.

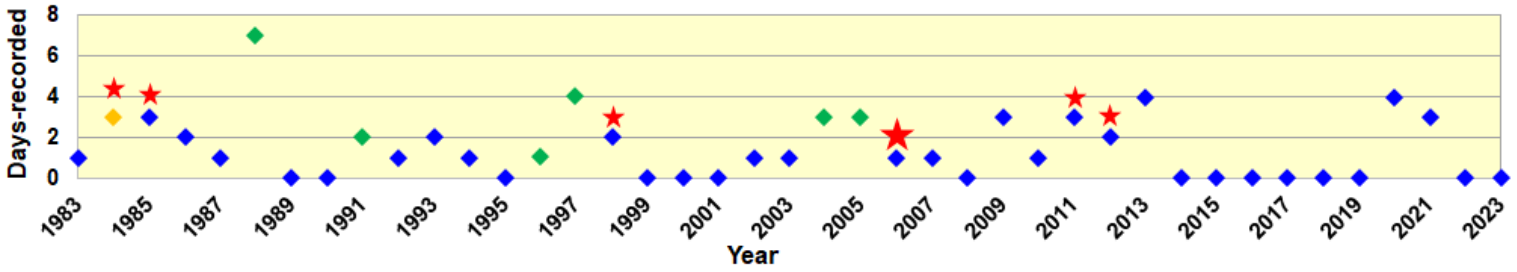


Figure 133. *Annual distribution of days-recorded (♦) for Lesser Spotted Woodpecker for the period 1983-2023. Years in which drumming was recorded are shown (♦) as is the year in which copulation was observed (♦). Years in which multiple birds were recorded are shown (★) the record count of three birds is shown by the larger symbol.*

Photo courtesy of Steve Blake

Breeding. There are no specific records of confirmed breeding in the Tyttenhanger GPs dB, however, two birds reported copulating on the 20th April 1984 (see *Figure 133*) comes pretty close. Interestingly the 1967-73 Hertfordshire Bird Atlas shows this as a possible breeding species in TL10X but the 1988-92 Atlas shows it as a confirmed breeding species.

Additional Information: *The First Gravel Pits*; *Appendix 4* – Year Lists.

[87] Garden Wood was used for a commercial paintballing operation in the late 1990s and on into the early part of this century. The only references in the Tyttenhanger GPs dB of these activities is from April 1997 with a Nuthatch record that includes the comment "*not heard since paintball*", the second is from a Lesser Spotted Woodpecker record from February 1997 – "*calling paintball wood*". This seems to place the start of paintballing around the end of 1996. We are still trying to work out when the paint-balling activities finished in Garden Wood with current estimates suggesting some time in 2005.

Short-toed Lark *Calandrella brachydactyla* (0; 0, 1) [All]
Vagrant with just a single record of a bird on four days in May 1991.

2023: Not recorded.

Summary: A single bird from the 7th until 10th May 1991 was the first county record accepted by the British Birds Rarities Committee (1993) - at the time of writing it is still the only accepted record for the county[88].

Additional Information: *Appendix 4* – Year Lists.

Skylark *Alauda arvensis* (5, 20, 200) [≥25]
Breeding resident; also recorded as passage migrant often forming large winter flocks.

2023. Fifty-four days-recorded for the year equates to a recording rate of 30.5% for the year – a little below the 2004-23 median of 33.1% (range of 17.5% -2012 to 47.7% - 2020). A winter flock in the fields near Willows farm at the beginning of the year produced the best count – 90 birds on the 22nd January, along with a couple of other significant counts (≥25 birds). There were no confirmed breeding records for the year and the latter part of the year managed just three days-recorded after the end of July with August, November and December all failing to produce a day-recorded.

Table 82. *Monthly maxima data for Skylark in the period 2004-23 and 1983-2003.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum 2004-23	90	200	100	17	11	20	12	15	30	80	100	93
Maximum 1983-2003	140	20	8	6	1	2	1	3	9	60	50	80

Pre- 2004. Under-represented in the Tyttenhanger GPs dB in this period with just 106 days recorded and 39.8% of all records producing no-count. Otherwise there is a strong bias towards high counts with 30.8% of all counts being of 25 birds or more (the significance value from the 2004-23 data) and the highest count in this period being of 140 birds on the 28th January 1994 – a January record for the site (*Table 82*).

2004-23. With significant counts (≥25 birds) occurring mostly between October and February (*Figure 134*) it is unsurprising the highest count for the site, 200 birds on the 1st February 2019, was at this time of the year. The other two counts of 100 or more birds in this period are from the 26th November 2005 and the slightly unusual date of the 2nd March 2018. The peak in occurrence in April (*Figure 134*) is probably due to the regularity with which birds are heard singing at this time of the year and the dip in August and September due to birds being less obvious (and audible) prior to forming winter-flocks[89]. The peak in occurrence and numbers in October (*Figure 134*) suggests an autumn passage and the arrival of wintering birds with flocks of 25 or more birds regularly recorded from this month onwards. As shown in *Figure 135* there is considerable variation in occurrence and significant counts (≥25 birds) across winter periods but only a weak relationship between the two i.e. those winters with most significant counts aren't necessarily those with the most days-recorded.

Breeding. The only confirmed breeding records prior to 2003 are the summary results from TL10X in the Hertfordshire Bird Atlases of 1967-73 and 1988-92. Even after 2003, confirmed breeding records are rather thin-on-the-ground with positive results from just 2010, 2013, 2015 and 2019 (all involving birds carrying food/faecal sac).

Additional Information: *Appendix 4* – Year Lists.

[88] Intriguingly, there is record in the Transactions of the Hertfordshire Natural History Society from December 1988 cited by John Littleboy of a bird shot on the 9th March 1886 at Tring Reservoirs by Walter Rothschild. The bird was "*identified by Mr Bowdler Sharp, of the British Museum and has been kindly entrusted to me for exhibition here*". The record was subsequently dismissed by Sage (1959) on the basis "*This bird is not mentioned by Hartert and Jourdain* (1920) [Hartert, E. and Jourdain, F.C.R. (1920*) The Birds of Buckinghamshire and the Tring Reservoirs*, Novitates Zoologicae, 27, 171-259] *and this, together with the fact that it is a most unusual date for the species to be encountered in the British Isles, compels me to view this record with scepticism*" Gladwin and Sage (1986) subsequently fail to mention the record as do Smith et al. (2015) – who also do not include it in their records "found to be unproven since Gladwin and Sage" (p272). Crossman (p25) in his 1899 "List of the Birds of Hertfordshire" mentions the record (p90) as does Bickerton in his "A Review of Hertfordshire Ornithology" (1904) (p28). So, there never appears to have been a formal review of the record despite the apparent existence of a museum specimen i.e. see the comments of John Littleboy in 1888 – "*kindly entrusted to me for exhibition here*" – "*here*" presumably referring the meeting on the 20th March 1888 in Watford at which the paper was read [*Birds Observed in Hertfordshire in 1887, and Birds Frequenting the Tring Reservoirs"*]. While not wishing to "lose" one of Tyttenhanger GPs first-for-Hertfordshire records, it would be interesting to know if the museum specimen still exists and if it is indeed, a Short-toed Lark.

[89] Interestingly, this post-nuptial fall in recording-rate is also very obvious around Canberra, Australia where this introduced species occurs quite commonly; in this case it is the late summer months of March and April. Unlike the UK however, it is very unusual to find winter flocks of this species.

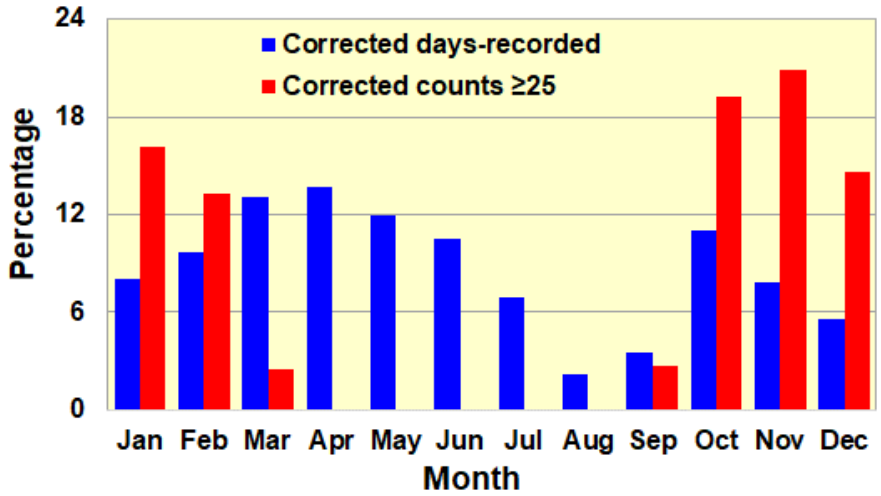


Figure 134. *(above). Percentage of days-recorded and significant counts (≥25 birds) in each month for Skylark in the period 2004-23.*

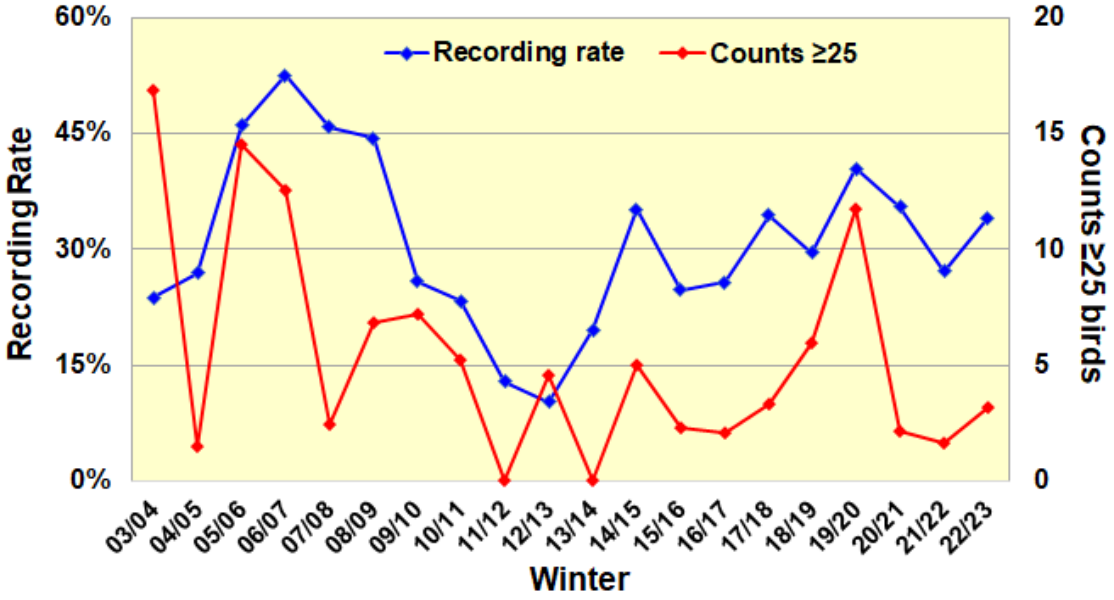


Figure 135. *(right). Recording rate and maximum count for Skylark in the winter periods (October to February) from 2003/04 to 2022/23.*

Sand Martin *Riparia riparia* (5, 20; 250) [≥50]

Summer visitor that previously bred on-site and has more recently bred locally on Coursers Road. Median arrival date (2004-23) 18th March; median departure date (2004-23) 15th September. The earliest arrival date is the 8th March and the latest departure the 7th October.

2023. Just 22 days-recorded for the year, which even after correction for the low coverage (41 days) was well below the long-term median (68 days) and the lowest in the period 2004-23 (see *Figure 136*). The first bird of the year appeared on the 18th March – spot-on the 2004-23 median date – while the last bird was seen on the 20th September – just a little later than the 2004-23 median date of the 15th September. Numbers were generally low throughout the season – probably reflecting the decline of this as a breeding species locally; the maximum count for the year was of 30 birds on the 6th May. **Coursers Road**. Occupied nests (16) were reported from Coursers Road on the 16th May; numbers there seem to have been modest otherwise.

Pre 2004. A well-recorded species in this period with a total of 316 days-recorded (overall recording rate of 14.1 % in the March-September window) - albeit many of the records (30.4%) involved no count. Part of the reason for the lack of counts may be due to the species being a frequent and abundant breeding species - the continual presence of good numbers probably mitigating against counting. The latter could also possibly affect larger counts of this species and so despite the number of days-recorded it is difficult to get a clear picture of what was happening on-site. *Table 83* is an attempt to summarise overall numbers and breeding pairs through this period, but as can be seen the maximum numbers are in many years the numbers of nest sites. The highest count prior to 2004 was 250 birds on the 27th April 1997, the earliest arrival the 8th March (1995) (a site-record) and the latest autumn departure the 26th September (1996).

Table 83. *Maximum counts and estimated number of holes excavated/pairs at Tyttenhanger GPs in the period 1984-2003.*

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Maximum Count	23	32	3	10	50	12	110	50	160	140	170	100	150	250	50	100	150	30	50	30
Number of pairs	15	26	NC	16	65	0	110	90	160	140	170	120	192	199	175	70	70	11	10	0

2004-23. The UK monitoring data from 1994 onwards shows a modest increase in abundance, however, the experience in Hertfordshire has been slightly different and it is clear this species has been declining in the recent past, due primarily to loss of nesting locations. By the beginning of this period the species had virtually disappeared as a breeding species from Tyttenhanger

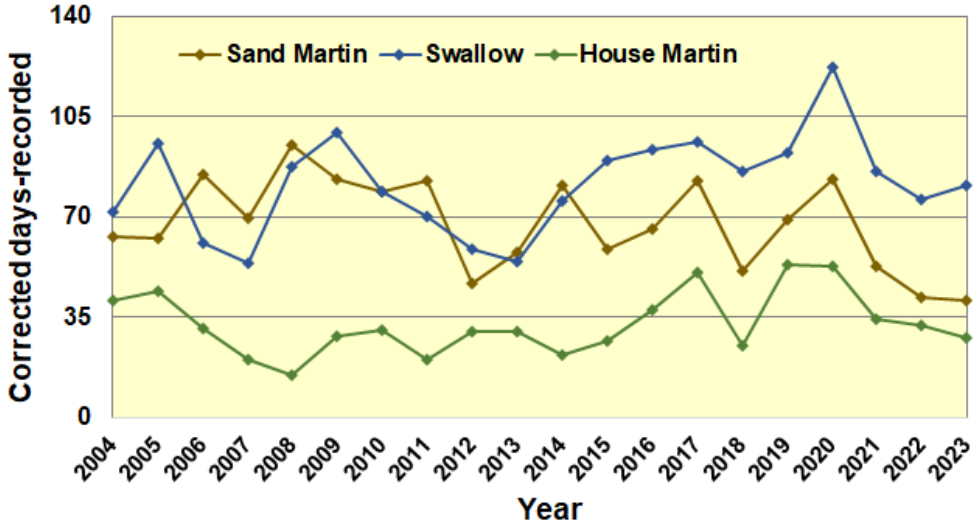


***Figure 136**. Corrected days-recorded for the three common species of hirundine (Sand Martin, Swallow and House Martin) for the period 2004-23.*

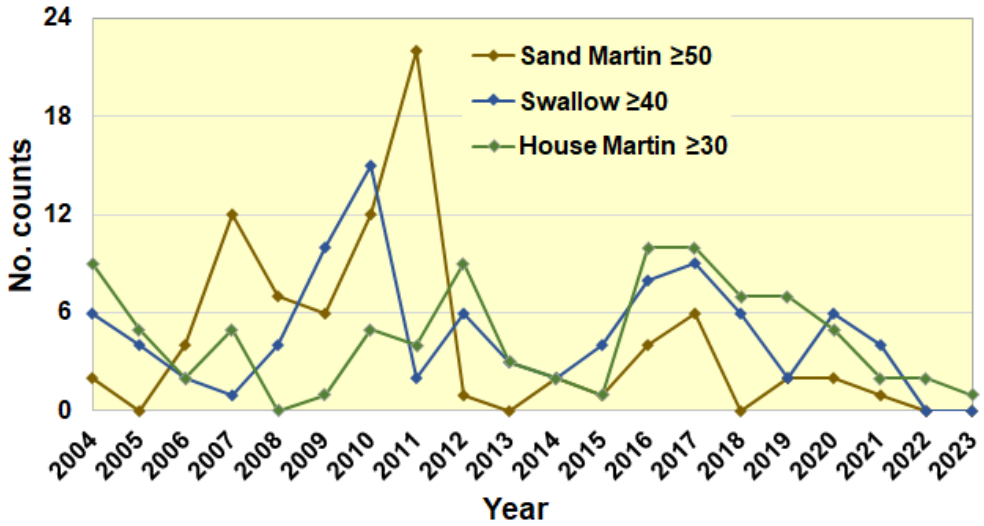


***Figure 137**. Higher counts for the three common species of hirundines (Sand Martin, Swallow and House Martin) for the period 2004-23[90].*

GPs and so numbers are more reflective of the spring/autumn passage and the availability of local breeding sites e.g. Coursers Road (see "*Breeding*" below). A summary of corrected days-recorded and counts of 50 or more birds are shown in *Figure 136* and *137* and indicate a slow steady decline in occurrence since the mid-2000s and a rapid decline in numbers since 2011 - despite breeding on-site in 2014 and 2015 (40 and 10 pairs respectively) (see also *Table 84)*. Birds begin to arrive in spring around week 11 (11th to 17th March), arrivals peaking a few weeks later between weeks 15 and 18 (8th April to 5th May) (*Figure 138*). Numbers peak around week 18 (29th April to 5th May) after which there is an effect on both occurrence and numbers driven by whether there is on-site/local breeding. There is no clear autumn passage and occurrence declines gradually from about week 32 (5th-11th August) through until the end of the season at the end of September; larger counts are unusual in autumn (*Figure 138*). Spring arrival dates have been unaffected by the decline in numbers and there is some evidence that arrival dates have become earlier over the last 20 years; the earliest arrival date in this period was the 10th March (2017), the latest the 12th April (2013), with a median date of the 18th March (n = 20). Autumn departure dates appear to show no change over this period with an earliest date of the 31st August (2012) and latest of the 7th October (2005) (site-record), with a median date of 15th September (n = 20) (See *Figure 141* for a summary of arrival/departure dates). The highest counts for the period were of 200 birds on three dates in May 2011 (1st, 2nd and 28th) and the 28th June 2011 – interestingly a year when breeding was not reported on-site or close by.

***Table 84.** Maximum counts for the period 2004-23 for the three common hirundine*s**.**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Sand Martin	75	10	50	100	100	60	130	200	50	40	80	50	60	100	40	100	50	50	20	30
Swallow	120	150	105	50	50	50	130	300	100	100	100	150	200	100	100	100	100	100	25	28
House Martin	220	150	80	80	20	50	130	150	170	50	80	50	100	100	100	70	70	50	60	70

Breeding. Sand and gravel extraction has been a big boost for the breeding of this species in the UK, but the life of any location is limited. Tyttenhanger GPs fits right into this model; the peak years for breeding on-site were through the 1990s when 100-200 pairs were regularly reported (*Table 83*), but then a rapid decline as site suitability fell dramatically. **Coursers Road** recorded

[90] The cut-off for the counts were set so that between 90 and 100 days were included for each of the three species – significant counts (set at the 95th percentile) may be different (see the header for each species).

breeding in 2006 (172 pairs) but since then numbers have been small and breeding sporadic, the highlights being 80 pairs in 2010 and 70 in 2017.

Additional Information: *Appendix 1* – Migrant Arrival and Departure (*Figure 141*); *Appendix 4* – Year Lists. See also *Table 84, Figure 136* and *Figure 137.*

House Martin *Delichon urbicum* (5, 20, 300) [≥60]

Passage migrant with small breeding population previously present on the Colney Heath margins of the site. Median arrival date (2004-23) 9th April; median departure date (2004-23) 5th October. The earliest arrival date is the 31st March and the latest departure date the 5th November.

2023. Just 15 days-recorded for the year although the first bird was seen on the relatively early date of the 1st April (equal second earliest date in the database). The last bird was on the slightly early date of the 29th September but there was just a single record between the 29th May and the 20th September (10 birds on the 2nd July) and overall numbers were generally low with a maximum count of 70 birds on the 24th September – the only other double-figure count being that in July.

Pre 2004. With a total of 123 days-recorded from the first record on the 27th May 1983 through until 5th October 2003, there is a relatively high proportion of no-counts (32.3%) but also a slight over representation of significant counts (≥60 birds) i.e. 9.0% compared to an expected 5.0%. The earliest spring arrival in this period was on the 6th April 2000 while the latest date recorded was the 16th October 1993. The highest count in this period was 300 birds on the 9th May 1988 (a site-record), with counts of 290 on the 17th September 1997 and 200 on the 19th September 1990; the distribution of higher counts (≥20 birds) is similar to the period 2004-23 *(Figure 139*) with peaks in both spring and autumn.

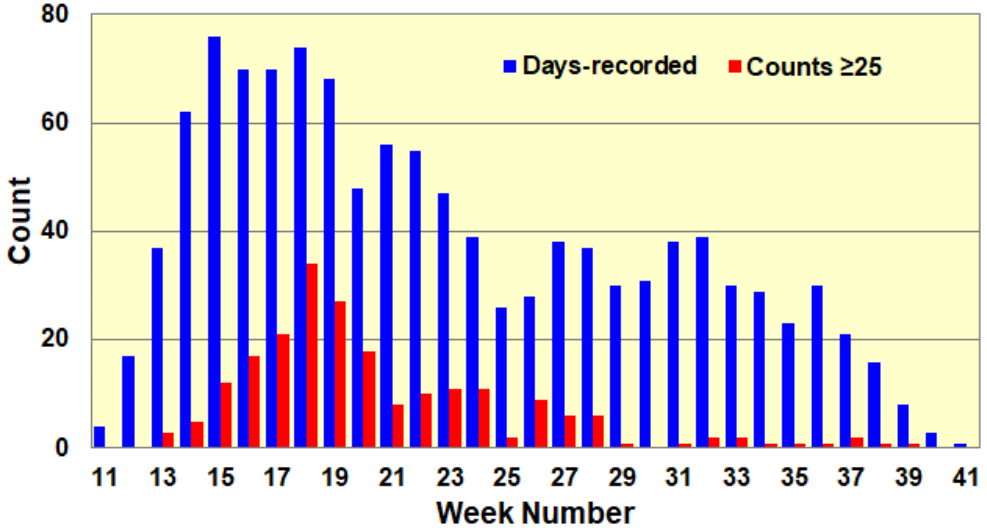


Figure 138 *Days-recorded for Sand Martin plotted by standard week number for the period 2004-23.*

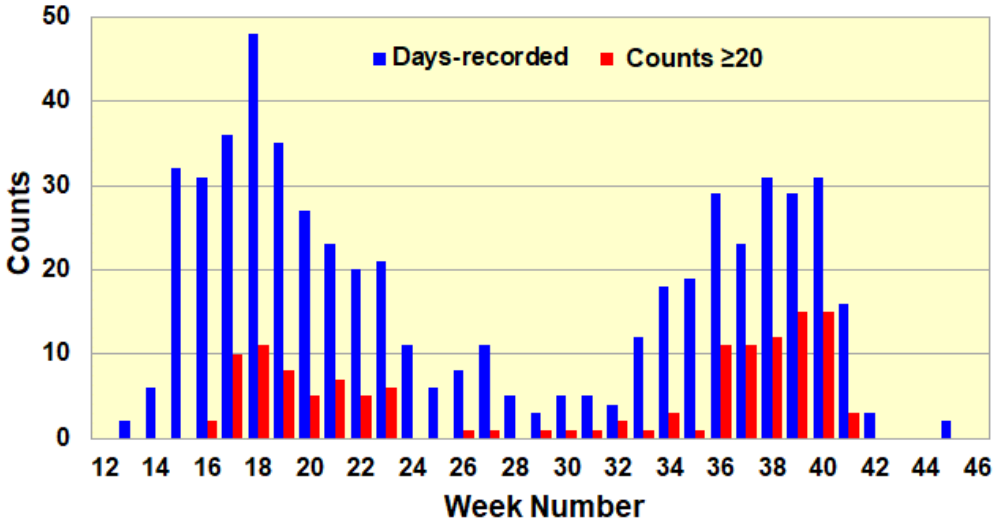


Figure 139*. Days-recorded for House Martin plotted by standard week number for the period 2004-23.*

2004-23. The least frequently encountered of the hirundines on-site with a total of 565 days-recorded (1173 for Sand Martin and 1461 for Swallow), its occurrence has probably been the most stable of the three species in this period (see *Figure 136*). Generally arriving in the early part of April (median = 9th April; n = 20; range = 31st March to 24th April) there is a peak in both occurrence and numbers around Week 18 (29th April to 5th May) with a notable drop into the summer months - not unexpected given the lack of breeding birds either on-site or close-by[91] (see *Figure 139*). The return passage starts around week 34 (19th August) peaking in occurrence from week 38 to 40 (16th September to 6th October) with numbers peaking in the latter part of this

[91] The abundance map from the 2008-12 Hertfordshire Bird Atlas shows that Tyttenhanger is at the middle of a low density group of tetrads The 2020 Herts Bird Club survey (Trans. Herts. Nat. Hist. Soc, 53 (2) 151-52) shows further the lack of this species in the broader Tyttenhanger area.

period (23rd September to 6th October). Last birds of the year are generally seen around early October (2004-23 median = 5th October; n = 20) but has ranged from the 21st September to the 5th November (2005) – the latter being the latest for the site and also one of the latest ever Hertfordshire dates. The maximum count in this period was 220 birds on the 25th September 2004 with no other counts above 170.

Additional Information: *Appendix 1* – Migrant Arrival and Departure (*Figure 141); Appendix 4* – Year Lists. See also *Table 84, Figure 136* and *Figure 137.*

Swallow *Hirundo rustica* (5, 20, 500) [≥50]

Summer visitor with a small breeding population centred on Willows Farm. Median arrival date (2004-23) 30th March; median departure date (2004-23) 10th October. The earliest spring arrival is the 22nd March and the latest autumn departure the 26th October.

2023. Forty-four days recorded for the year, which after correction for coverage equates to 81 days-recorded -only slightly lower than the 2004-23 median of 84 corrected days-recorded (see *Figure 136*). The first bird of the year appeared on the 1st April – reasonably close to the 2004-23 median (30th March) – and the last bird of the year was seen on the slightly early date of the 3rd October. There were no confirmed breeding records for the year and numbers were generally on the low side (see *Table 84*) with a maximum of just 28 birds on the 2nd September.

Pre-2004. Probably considered the least notable of the hirundines on-site, after the first record on the 21st April 1983 there are just 214 further days-recorded. There is a relatively high (but expected) no-count rate of 25.8% but there is no skewing towards higher counts i.e. counts of 25 birds or more represent 12.5% of all counts compared to 13.1% after 2003. The earliest bird recorded in this period was on the 28th March 1983 and the latest on the 22nd October 1989. Interestingly although recording rates are generally low (April-October median = 8.8%; range = 2.2% to 40.8%) first arrival dates are well represented in the database and have a median of the 7th April (n = 21). Likewise for autumn departure where the median is the 9th October (n = 19). The largest count prior to 2004 is of 500 birds *("Movement – Flying over")* on the 24th August 1988 (a site record) the only other count of over 100 birds being 200 birds seen on the 2nd September 1997; the highest spring count was 80 birds on the 29th April 1988.

Photo courtesy of Andrew Steele

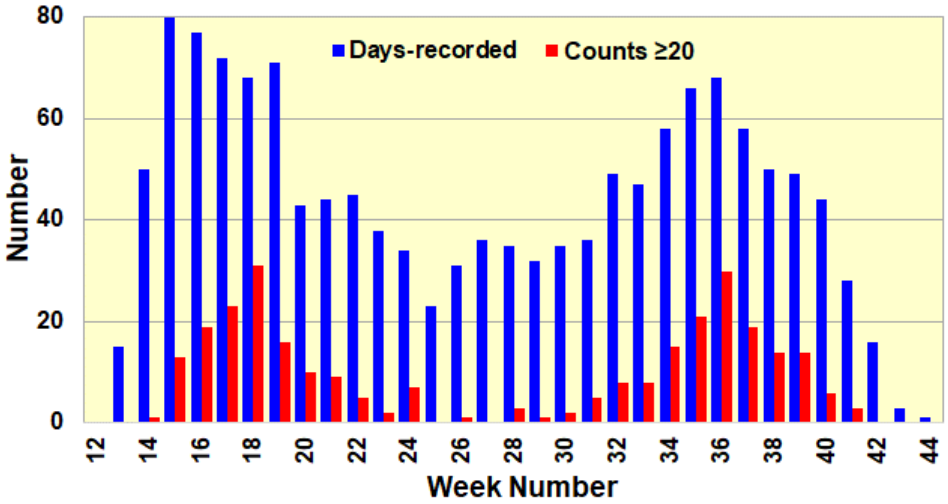


***Figure 140**. Days-recorded and counts of 20 or more birds for Swallow plotted by standard week number for the period 2004-23.*

2004-23. Data from this period show birds begin to arrive around week 13 (25th March and peak quite soon after from week 15 (8th April) through until week 19 (12th May) (*Figure 140*). The median arrival date for this period is 30th March (n = 20, range 22nd March to 12th April) (*Figure 141*). Compared to the other two hirundines, Swallows tend to occur frequently throughout the summer months with the first signs of autumn movement around week 32 (5th August). Occurrence and numbers peak in week 36 (2nd to 8th September) with a subsequent decline through to the end of week 42 (14th to the 20th October). The last birds of the year are seen around a median date of the 10th October (n= 20, range = 1st to 26th October). The maximum count in this period was 300 birds on the 3rd September 2011 with a count of 200 birds on the 24th September 2016.

Breeding. Surprisingly, although the Hertfordshire Bird Atlases of 1967-73 and 1988-92 both show this as a confirmed breeding species in TL10X the only specific records in the Tyttenhanger GPs dB prior to 2004 are from 2002 and 2003. After 2003 records are much more regular with 11 of the next 20 years providing confirmed breeding records with probable records (N - visits to probable nests) coming from a further 2 years.

Additional Information: *Appendix 1* – Migrant Arrival and Departure (*Figure 141); Appendix 4* – Year Lists. See also *Table 84, Figure 136* and *Figure 137.*

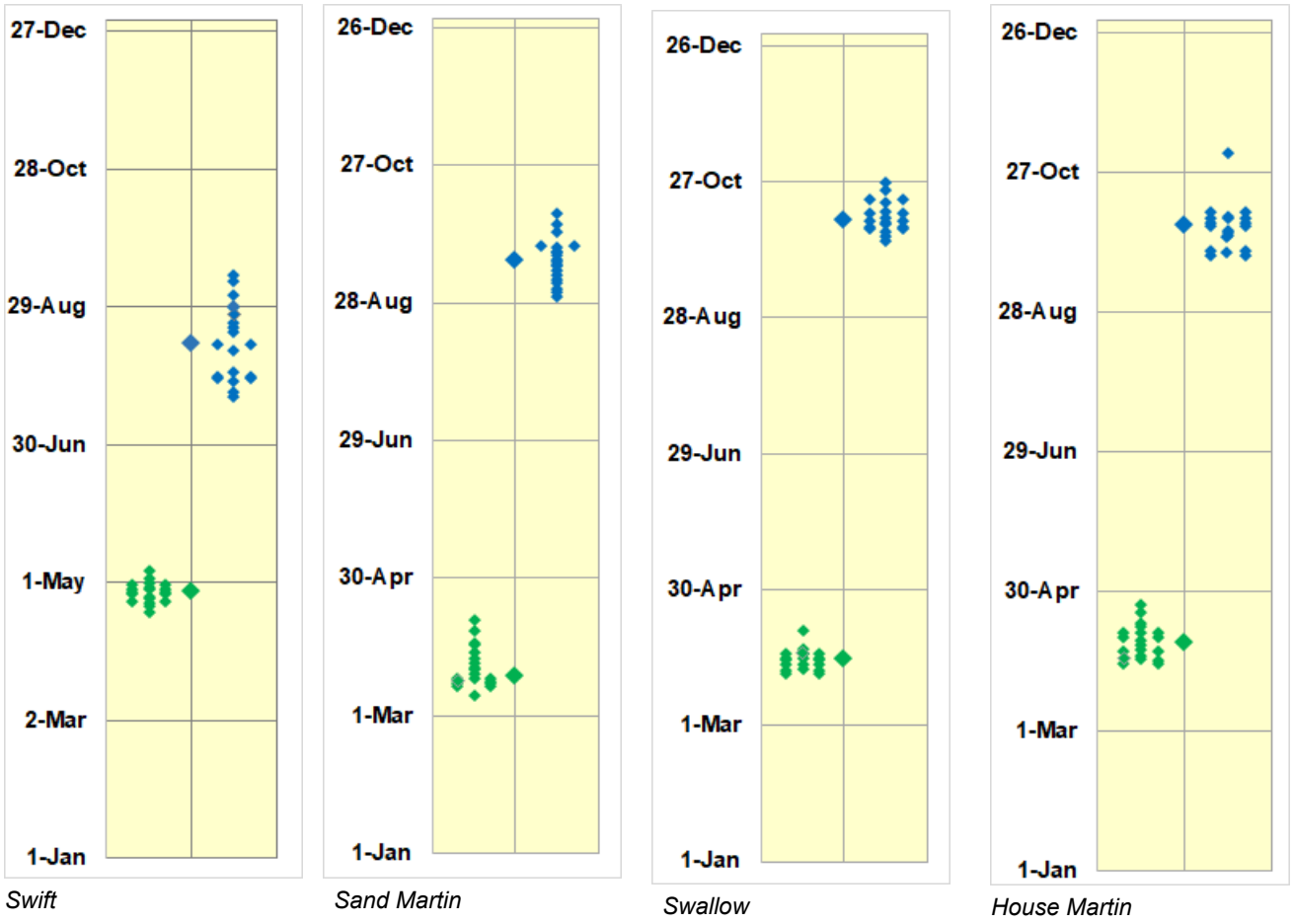
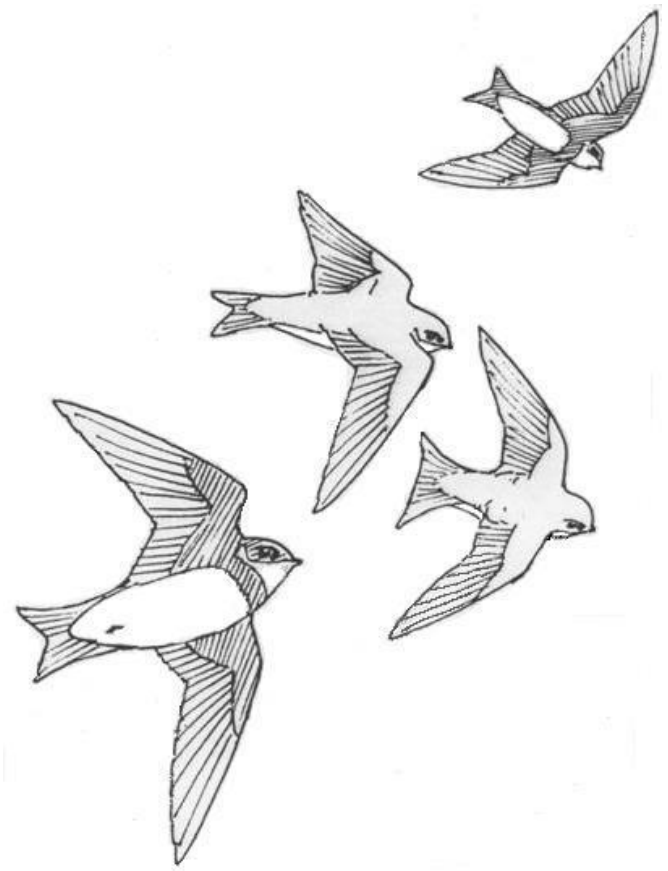


***Figure 141**. Plots of spring arrival (♦)and autumn departure (♦) dates for Swift and the three common species of hirundine. Data are from 2004-2023 – see Appendix 1 for the raw data.*



Sand Martins by Marcus Brew – used on the cover of the first Tyttenhanger Bird Report of 1996 and reflective of the importance of the site to this species at that time.

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

A species that previously bred in Hertfordshire but has since become an irregular passage migrant and an infrequent visitor at Tyttenhanger GPs. A total of 27 days-recorded six of which involved two birds.

2023. Not recorded.

Summary. While Sage (1959) had described Tree Pipits as a "*common summer visitor, widely distributed*" by the time of the 1967-73 Hertfordshire Bird Atlas it could best be described as "*a localised breeder"* After further decline in the national population from the mid-1980s it had disappeared as a breeding species from the county around the turn of the last century. Against this framework it is interesting to see the first record from Tyttenhanger GPs is from the 1987 Hertfordshire Bird Report and notes "*Singing males were recorded at…Tyttenhanger …"* (one of 14 sites and a total of 32 singing males scattered across the county).The next record is then from the 8th May 1988 after which the following have been recorded.

1991. Two birds on the 28th August followed by a further two on the 22nd September ("*the last of the year*").

1992. A bird singing from the 29th to the 31st May could explain the "possible" result in the second (1988-92) Hertfordshire Bird Atlas; a further bird (the same?) was recorded on the 6th June.

1996. The Hertfordshire year challenge produced a bumper crop of records for this species with a bird flying over on the 24th April which preceded autumn records from the 7th August, 23rd August (2 birds), 26th August, 8th and 9th September, then two birds on the 17th September followed by a bird on the 19th and 20th September. Altogether a total of nine days-recorded and 11 bird-days – several of which were not captured in the 1996 Hertfordshire Bird Report.

1997. Single birds on the 9th and 24th April, followed by another bird on the 28th June and a final bird for the year on the 5th September.

1998. Birds on the 23rd and 30th March are the only March records of this species on-site.

2017. A gap of nearly 19 years between records with a bird seen on the 17th April, which was then followed by a bird on the 14th August.

Table 85. *Monthly distribution of records for Tree Pipit.*

	Mar	Apr	May	Jun	Jul	Aug	Sep
Days- recorded	2	5	4	2	0	6	8

2019. Two birds on the 18th August were the sixth site record for two birds.

2021. A bird over calling on the 23rd April was complemented by and autumn record of a single bird on the 5th September.

All-in-all there have been a total of 27 days-recorded (monthly distribution as shown in *Table 85*, 33 bird-days i.e. six records involved counts of 2 birds, with the occurrences spread across ten years from 1987 and 2021. Although there are no confirmed breeding records for Tyttenhanger GPs, as mentioned above, the 1988-92 Hertfordshire Bird Atlas showed this as a possible breeding species in TL10X.

Additional Information: *Appendix 4* – Year Lists.

Meadow Pipit *Anthus pratensis* (5, 20; 200) [≥40]

Winter visitor and passage migrant, generally absent between May and August; median spring departure date (2004-23) 18th April; median autumn arrival date (2004-21) 14th September. All records in the summer-period between 2nd May and 7th September (inclusive) are considered especially notable.

2023. Fifteen days-recorded for the year that were distributed eight in the first winter period and seven in the second. The maximum count in the first winter period was four birds on the 1st April with the second winter period producing a maximum for the year of 30 birds on the 17th September. Six of the seven days-recorded in the second winter period were from September but records were lacking in the months from May to August with October and December also drawing blanks. Analysis of data from the last 21 years on the basis of winter period rather than calendar years is presented in *Table 87* and shows the winter of 2022/23 was quite poor and produced just 24 days recorded which equates to a recording rate of 16.2% (2004-23 median = 22.5%, n = 20).

Table 86. *Summary month-by-month data for Meadow Pipit from the periods 1983-2003 and 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days- rec. - 1983-2003	30	22	62	50	3	5	0	4	28	41	20	20
Counts ≥25- 1983-2003 (1)	5	9	27	13	0	0	0	0	13	11	5	11
Maximum - 1983-2003	80	85	120	100	11	2	0	2	100	80	80	70
Days-rec. - 2004-23	97	77	114	74	7	5	2	4	117	136	111	92
Counts ≥25 - 2004-23(1)	7	12	14	4	0	0	0	0	36	8	5	1
Maximum - 2004-23	60	60	100	80	2	1	1	4	200	80	48	30

(1) Counts of 25 or more are ≥90% percentile.

Prior to 2004. The first record for the site is from the 1st April 1983, with a subsequent 282 days-recorded through until the end of 2003, a recording rate for September to April of 14.1%. There is a bias in the Tyttenhanger GPs dB towards higher counts with 35.6% of all counts reporting 25 birds or more (see *Table 86* for the significance of a count ≥25 birds), but there is also a relatively high no-count rate i.e. 11.7% of all records. The pattern of occurrence through the year is very similar to that in the following period (2004-23) with a peak in days-recorded and counts of ≥25 birds in March and a smaller peak in September (*Table 86*). The maximum count prior to 2004 is of 120 birds on the 20th March 1988 (a March record) with four further counts of 100 birds on the 29th March 1989, 25th September 1993, 7th April 1997 (an April record) and the 7th March 1997. Also notable in this period were the record counts produced for January, February, May (11 birds on the 30th May 1985), June[92], October, November and December.

Table 87. *Summary statistics for Meadow Pipit in the winters (September to April) from 2003/04 through to 2022/23.*

	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23
Maximum	80	60	78	24	52	30	12	64	25	37	30	30	47	100	80	100	108	200	11	10
Days-recorded	32	60	46	46	57	31	33	23	23	18	28	34	52	53	55	65	51	79	28	24
Rec rate (%)[(1)]	21.1	39.2	26.3	27.2	30.2	17.9	16.7	12.6	11.7	11.2	14.4	18.2	26.4	24.5	26.7	29.1	25.2	39.1	19.2	16.2
Counts ≥25	8	9	4	0	2	2	0	5	1	1	2	2	7	3	5	11	10	18	0	0

[(1)] in the period September to April inclusive..

2004-23. There are considerably more days-recorded (836) in this period than in the earlier period, and the overall recording rate for the September-April window is also substantially higher at 29.2%. Counts of ≥25 birds represent only 10.4% of all counts (35.6% in the earlier period) and maximum counts in most months are lower than in the period up to 2004. All of these data suggest this species was probably less abundant in this period than in the past and also under-recorded in the period 1983-2003. Data from the last 20 years (*Table 86*) shows a pattern of winter visitor/spring and autumn passage migrant, with a spring peak in occurrence and numbers in March and an autumn occurrence-peak in October with numbers seeming to peak slightly earlier in September. The maximum count since the end of 2003 was 200 birds on the 13th September 2020, with three further counts of 100+ birds in the same month, five in September 2019 and single three-figure counts in March 2017 and 2019.

Breeding. As a relatively scarce breeding species in Hertfordshire the absence of this species in the period from May to August is expected - although it is worth noting the Hertfordshire Bird Atlases of 1988-92 and 2008-12 shows this as a possible breeding species in TL10X.[92]

Additional Information: *Appendix 4* – Year Lists.

Rock Pipit *Anthus petrosus* (0, 4, 2) [All]

Irregular visitor.

2023. Not recorded.

Summary. A total of ten occurrences from seven separate years, all of which are summarised below.

1992. A single on the 7th September.

1996. Two birds on the 22nd March and singles on the 6th and 10th April[93].

1998. A single on the 7th and 9th October.

2008. Two birds on the 18th October.

2018. One on the 2nd March.

2019. A single on the 31st October

2020. A single on the 26th September.

Additional Information: *Appendix 4* – Year List.

[92] The only other breeding-related record for this species is from the Tyttenhanger GPs dB when birds were noted to be collecting nesting material alongside singing males on the 16th June 1998. The count of two birds on this day is also a site-record for *June* in the period 1983-2003.

[93] The Hertfordshire Bird Report of 1996 has the following – "*Birds showing the characteristics of the Scandinavian subspecies* A. p. littoralis *were at Tyttenhanger GP on the 22nd March (2), 6th and 10th April*"; suggesting all birds were of the race *littoralis*. However, the 1996 Tyttenhanger Bird Report has the following "*Two birds showing the characteristics of the race littoralis were seen on the evening of the 22nd March. Two further records were singles on the 6th and 10th April*". This indicates the later birds were not assigned a race and were possibly different bird(s) from the earlier ones and so are counted as three occurrences in total – especially given the gap between the occurences.

Water Pipit *Anthus spinoletta* (0,3, 1) [All]

Infrequent spring visitor.

2023. Not recorded.

Summary. There are just five occurrences of this species at Tyttenhanger GPs – all of which are summarised below.

1992. A single on the 17th March[94]. **1993**. One on the 7th March. **2004**. One on the 26th October – the only autumn record.

2006. One on the 8th April (Not in the Hertfordshire Bird Report). **2012**. A single on the 29th March.

Additional Information: *Appendix 4* – Year Lists.

Yellow Wagtail *Motacilla flava flavissima* (5, 20,53) [≥8]

Passage migrant with 1-2 pairs staying to breed in some years. Median arrival date (1984-2023) 11th April; median departure date (1984-2023) 22nd September. The earliest spring arrival is the 29th March and the latest autumn departure the 16th October.

2023. Just 15 days-recorded for the year with the first bird appearing on the 21st April – a little later than the 1984-23 median date of 11th April. Birds were seen and heard on several dates in May from the field behind the High Viewpoint and a bird was seen visiting a possible nest site on the 27th June, unfortunately there was no further evidence of breeding. There were several records from the beginning of August through until the last bird on the 29th September with counts of 17 birds on the 1st September (the highest count since September 2009) and 14 on the 3rd - both from the Willows Farm end of the site.

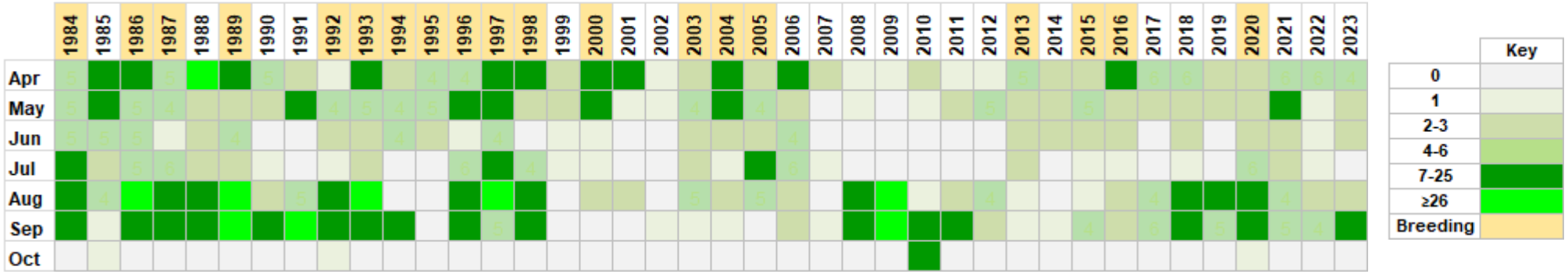


***Figure 142**. Summary of monthly maxima between April and October for Yellow Wagails in the years from 1984 to 2023. Years in which breeding were confirmed are shown by the yellow shading.*

Pre-2004. This is the most highly-recorded passerine in the Tyttenhanger GPs dB with 498[95] records, a total of 450 days-recorded and an overall reporting rate of 23.1% (April-September). The first record for the site was of ten birds on the 27th May 1971 (one of just 27 species recorded before 1983 – see *Appendix 4*), with most subsequent years from 1983 to 2003 producing multiple records and April-September reporting rates of up to 31.9% (1993)[96]. Despite the high number of database entries, there is still a slight bias towards higher counts i.e. counts of ten or

[94] There is a record of a bird on the 30th April 1992 in the Tyttenhanger GPs dB that is not shown in the Hertfordshire Bird Report of that year - the report for this year has Water Pipit as a description species "away from regular haunts" – which suggests the April record at Tyttenhanger did not have a description submitted/accepted?

[95] There are currently around 540 database entries under Yellow Wagtail which were assessed for duplication and redundancy to produce 498 records. There were still a number of secondary records from some days which, after removal, left a total of 450 days-recorded.

[96] Only years with more than 100 days of coverage in the period April-September were considered, for some years with much lower coverage much higher rates were obtained e.g. 1983 with 31 days coverage in this period produced a rate of 58.1%.

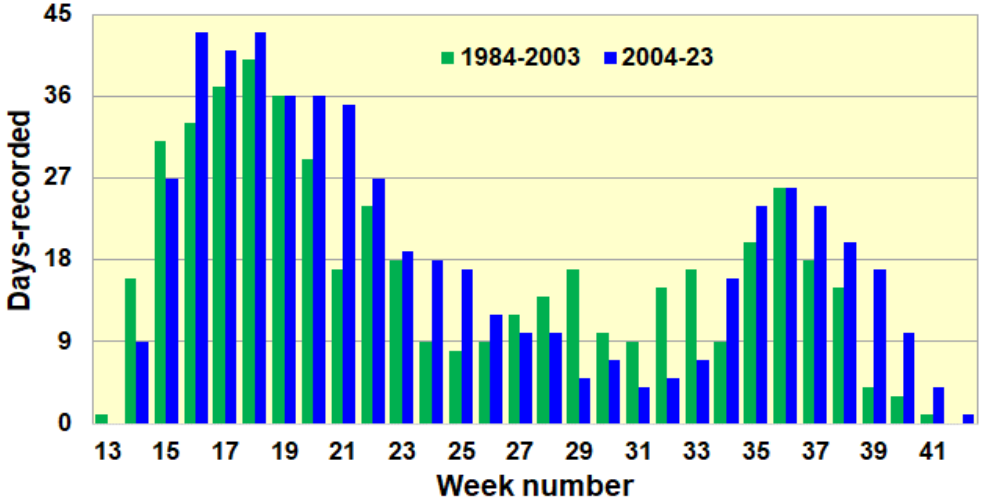


***Figure 143**. Days-recorded for Yellow Wagtail plotted by standard week. Data are from the pweriod 2004-23.*

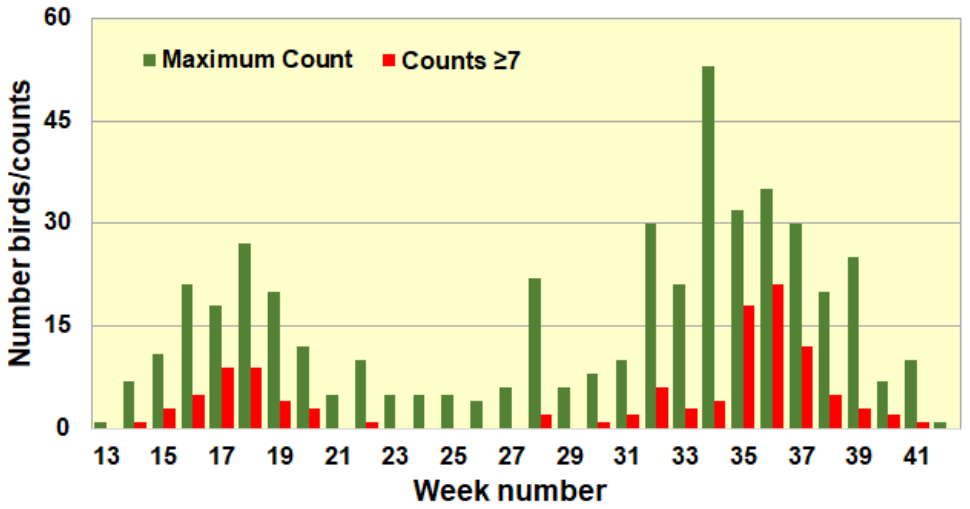


***Figure 144.** Maximum count and counts ≥7 birds plotted aganst standard week for Yellow Wagtail. Data are from 1983-2023; counts of ≥7 are the 95th percentile from these data*

more bird comprise 10.6% of all counts (compared to just 4.3% in the period 2004-23), with the highest count being 53 birds on the 20th August 1993 (a site-record) and counts of 30 or more birds from the 6th August 1989 (30), 4th September 1989 (35), 12th September 1991 (30) and 26th August 1997 (32)[97]. The pattern of occurrence through the period April to September is very similar to that in the later period (*Figure 143*), With spring arrival dates between the 29th March (1993) and 26th April (1986 and 2003 respectively) the median for this period is 9th April (n = 20) with peak occurrence around week 18 (29th April to 5th May). Before 2004, the highest counts in spring were 27 on the 5th April 1988 and 25 on the 30th April 1985. Last birds of the year in this period were recorded between the 13th September and 5th October[98] with a median date of the 20th September; the peak in autumn occurrence is around Week 36 (2nd to 8th September) as is the distribution of counts ≥7 birds (*Figure 144*).

2004-23. The total days-recorded in this period (574) are not substantially more than the period before 2004 (450), and despite better coverage in this period the overall April-September recording rate was 19.2% - compared to 22.9% for the earlier period. The distribution of days-recorded through the season (April-September) is shown in *Figure 143* and indicates a pattern very similar to that of the years prior to 2004. Spring arrival dates range between the 30th March (2010) and 24th April (2008) with a median date of the 11th April (n = 20). Dates for last bird in autumn range between the 1st September (2014) and the 16th October (2020) with a median of the 22nd September (n = 19). The maximum count after 2003 was 30 birds on the 31st August and 2nd September 2009 with the largest spring counts being 25 on the 1st May 2004 and 18 on the 27th April 2006.

Breeding. The first confirmed breeding from the site was from 1984, with confirmed breeding at Tyttenhanger GPs in 19 of the 40 years between 1984 and 2023. (see *Figure 142*). Further details can be found in *The Breeding Birds of Tyttenhanger Gravel Pits* - 1967-2023.

Additional Information: *The First Gravel Pits; Appendix 1* – Migrant Arrival and Departure (*Figure A1-1*); *Appendix 4* – Year Lists. See also *Table A2-2.*

[97] While there may be a bias to higher counts it also looks as if this species was definitely more abundant in this earlier period an observation clearly supported by the national trend data.

[98] 1995, 1999, 2000 and 2001 failed to produce any records after the end of August but it isn't clear if this is due to a lack of birds or to gaps in the database. These years have therefore not been included in the calculation of a median value.

Blue-headed Wagtail *Motacilla flava flava* [All]

Summary. An irregular spring visitor to Tyttenhanger, records have dried-up in the last 20 years as shown below:

1986. A single on the 26th and 27th April.

1987. A single on the 24th May.

1991. A single bird on the 6th along with a second on the 7th May.

1993. A male on the 14th April and a female on the 29th.

1995. A single on the 4th April.

1998. One on the 21st April.

2004. A bird on the 20th April and another on the 1st May.

2008. A single on the 24th April.

Ashy-headed Wagtail *Motacilla flava cinereocapilla* [All]

Summary. An individual resembling Ashy-headed Wagtail (*M.F. cinereocapilla*) was seen at Tyttenhanger GP on the 28th" May 1991. Further details (with a field-sketch) can be found in the 1991 Hertfordshire Bird Report; the Tyttenhanger GPs dB also shows the bird was present on the 29th May.

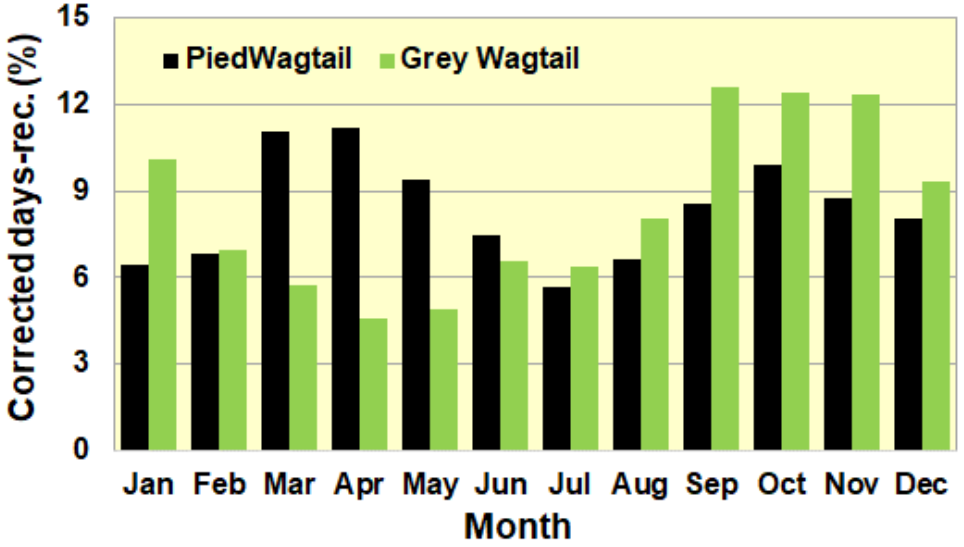


Figure 145. *Percentage of days-recorded in each month for Pied and Grey Wagtail in the period 2004-23*

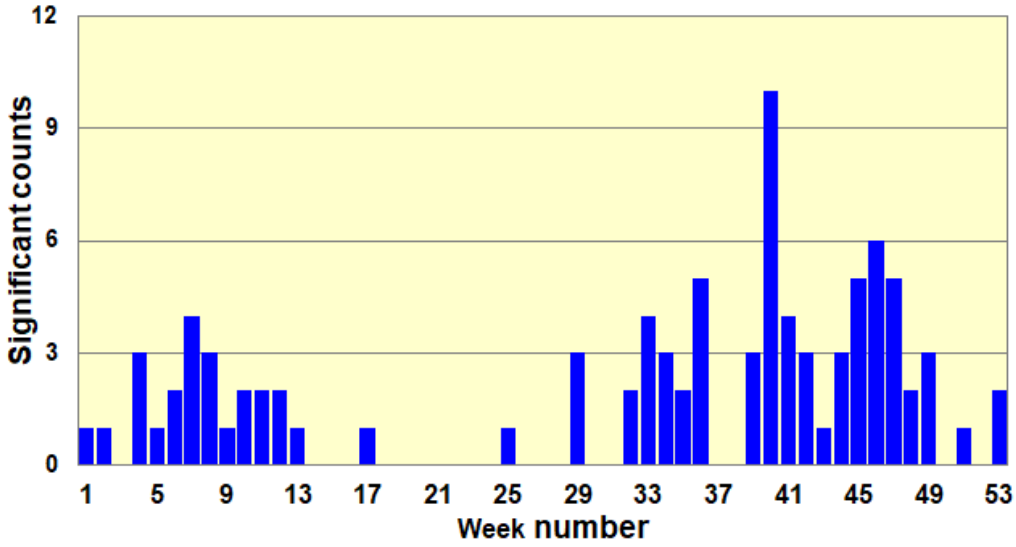


Figure 146*. Distribution of signifcant counts Pied Wagtail (≥11 birds) by standard week in the period 2004-23.*

Grey Wagtail *Motacilla cinerea* (5, 20; 5) [≥3]

Local resident, breeding species with locals supplemented by winter visitors.

2023. Just 17 days recorded this year which equates to a recording rate of 9.6% -well below the 2004-23 median of 12.7% (*Table 88*). The maximum count for the year was of four birds on the 2nd June and was the only significant count (≥3 birds) of the year - the latter was a family party in the horse paddocks indicating breeding either on-site or close-by.

Table 88. *Days-recorded, recording rate, and significant counts (Counts ≥3 birds) for Grey Wagtail in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Days-recorded	59	79	80	37	27	25	7	2	24	18	14	38	61	49	41	82	76	24	43	17
Recording rate (%)	24.7	30.2	28.8	13.4	9.9	9.2	2.4	0.7	8.7	6.6	4.8	12.8	20.1	15.3	12.7	25.5	23.5	9.8	18.5	9.6
Counts ≥3 birds	2	10	2	1	0	2	1	0	2	0	0	2	5	2	0	9	3	3	5	1

Pre-2004. The first entry in the Tyttenhanger GPs dB is from the 29th October 1983 after which there are a further 280 days-recorded through until the end of 2003, and with a no-count rate of just 4.8% this is clearly a species observers like to report. There are records from every year in this period and reporting rates range between 2.0% and 31.2% - although the median (6.0%) suggests it is still under-represented in the database. The monthly distribution of records is very similar to that shown in *Figure 145* for the period from 2004-23 and shows a peak in days-recorded between October and January. The majority of counts in this period are of single birds (80.7%) and the maximum count was of just 4 birds on the 8th November 1993 and the 25th September 1997.

2004-23. A somewhat checkered history over the last 20 years with some obvious peaks (2005, 2019) and troughs (2010, 2011) but the presence of the River Colne being a consistent attraction for this species. Summary data for this period is shown in *Table 88* and the distribution of days-recorded (corrected) is shown in *Figure 145*. In addition, it is worth noting the overall recording rate is 14.5% (median from *Table 88* = 12.7%), most daily maxima were of single birds (71.7%) and the no-count rate is just 0.4%. The maximum count was of five birds on the 7th and 16th October 2005 and the 14th June and 15th September 2019 (both peak years for this species). Counts of multiple birds appear to be more common in September/October and although distributed throughout the year, show an obvious deficit in February (see *Appendix 2);* occurrence peaks between September and January *(Figure 145).*

Breeding. The Hertfordshire Bird Reports of 1994 and 1996 report this as a confirmed breeding species while the Tyttehanger GPs dB has specific records of recently fledged birds from 29th July 1994 and 6th July 2003. The Hertfordshire Bird Atlas 1988-92 shows this as a confirmed breeder after the species was reported as absent as a breeding species in the 1967-73 survey. Since 2003 this species has been confirmed breeding in 13 of the 20 years up to 2023.

Additional Information: *Appendix 4* – Year Lists.

Pied Wagtail *Motacilla alba yarrelli* (5, 20; 90) [≥11]

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

2023. Just 46 days-recorded for the year which is equivalent to a recording rate of just 26.0% - quite a bit below the 2004-23 median of 33.0% - with August and December both failing to produce days-recorded. It was encouraging to see confirmed breeding again with a family party recorded on the 29th May. However, other than this there was little of note with the highest count of the year of just 6 birds on the 24th September and 23rd October – the lowest ever maximum for a year in the period 2004-23 (*Table 89*).

Pre-2004. The first record in the Tyttenhanger GPs dB is from 17th March 1983, after which there are a further 173 days-recorded up to the end of 2003. Significant counts (≥11 birds) comprise 30.9% of all daily maxima in this period and the maximum count of 50 birds from the period 2004-23 is bettered four times in this period i.e. 90 birds on the 3rd September 1998, 70 birds on the 3rd December 1994, 65 on the 19th August 1998 and 60 no the 9th September 1998. Notably over 50% of the total number of significant counts in this period (42) were from March (11) and September (11).

Table 89. *Maximum counts in the years 2004-23 for Pied Wagtail along with days-recorded for Pied and White Wagtails in the same period.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Pied - Maximum	24	26	50	21	8	18	40	37	7	20	11	19	14	15	30	50	16	20	14	6
Pied - Days-rec.	99	94	137	104	113	118	93	59	46	59	79	90	102	138	78	104	130	70	89	46
White - Days-rec.	11	2	9	0	1	1	5	2	0	2	3	1	11	15	9	2	0	4	0	1

2004-23. This period produced a total of 1848 days-recorded with an overall recording rate of 33.3%. Counts of single birds comprised 32.1% of all counts and the no-count rate was 10.9% of all records. The distribution of corrected days-recorded by month is presented in *Figure 145* and shows a peak in April/May and a smaller autumn peak in October. The distribution of significant counts (≥11 birds) is shown in *Figure 146* and shows a small peak in Week 8 (19th to 25th February), virtually none between Week 14 and 29 (1st April to 21st July) and then a rather patchy distribution between Week 36 and 47 (2nd September and 24th November)[99]. The maximum count in this period was of 50 birds made on the 8th October 2006 and 6th October 2019 (both in Week 41).

Breeding. The 1988-92 Hertfordshire Bird Atlas shows this as a confirmed breeder in TL10X. Specific records from the period before 2004 show confirmed breeding in 1985, 1986, 1997 and

[99] The peak in Week 40 (30th September to 6th October) contains records from 6 separate years and is not the result of a single series of records from a single year/flock – albeit three of the counts came from 2010.

2002. After 2003 there are confirmed records from 13 of the 20 years with 2010, 2017 and 2020 all recording multiple broods.

Additional Information: *Appendix 4* – Year Lists.

White Wagtail. *Motacilla alba alba* (3, 15, 7) [All]

Passage migrant most frequently encountered in spring and recorded between 11th March and 26th May with a peak between the 8th and 21st April. Autumn records range between 28th August and 9th October.

2023. The only record for the year was of a single bird near Willows Farm on the 21st March - the first record since 2021 (see *Figure 147*).

Prior to 2004. The 61 days-recorded prior to 2004 showed the normal spring bias (*Figure 147*) i.e. 55 days (March-May) to 6 days (September) with the majority of spring days in April (i.e., 41 vs 3 in March and 11 in May). As shown in *Figure 147*, there were a few particularly good years in this period i.e., 1996 and 1998, and although the poor years of 1999 and 2000 coincide with the gap in the database (see *Appendix 2*), the Hertfordshire Bird Reports of these years (and 2002) also suggest they were poor years. The earliest spring record was on the 17th March 1990 and the latest on the 20th May 2001; all autumn records are from September and range between the 1st September (1998) and the 19th September (1990) (5 of the 6 days-recorded were in September 1998). The highest count before 2004 was of seven birds on the 25th April 1993 with the majority of days-recorded producing just single birds i.e. 49 days equivalent to 80.3% of all counts.

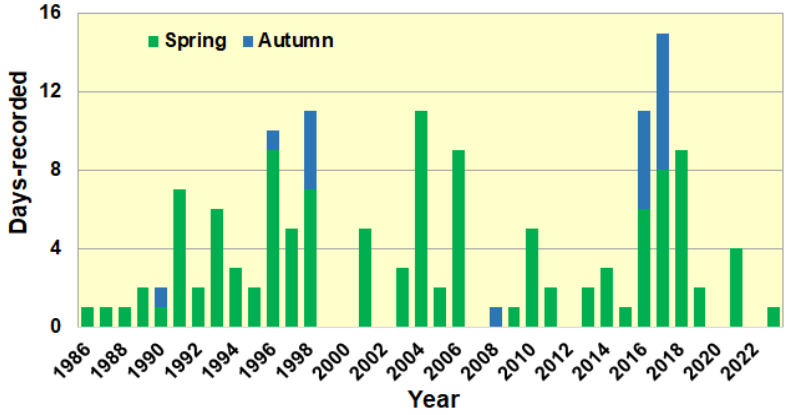


Figure 147. *Days-recorded for White Wagtail in spring and autumn in the period 1986 to 2023.*

2004-23. The last 20 years has seen a total of 79 days-recorded and shows the irregularity expected of a non-breeding passage migrant (*Table 89* and *Figure 147*). The better years in this period, although more frequent than in the period prior to 2004, may reflect the overall better coverage. The maximum count in this period was seven birds on the 14th and 22nd September 2017, while the earliest spring date was the 11th March 2021 and the latest the 26th May. There are three days-recorded from August (all in 2016) and nine days-recorded from September - seven of which are from dates between the 12th September and 22nd September 2017; the latest autumn date was the 8th October 2008.

Waxwing *Bombycilla garrulus* (0, 3, 57) [All]

Winter visitor and irruptive species in the south of England that has occurred sporadically at Tyttenhanger GPs

2023. Not recorded.

Summary. Winter irruptions of this species in the south of England, and Hertfordshire in particular, are relatively uncommon and with none between 1970/71 and 1995/96 the absence of this species on the Tyttenhanger list was no surprise as the turn of the century approached. The irruption in 1995/96 produced a number of local records in March 1996 … but none from Tyttenhanger GPs and surrounds[100].The next irruption in 2004/05, although appearing to involve more birds than the previous one (see Smith *et al.,* 2015) once again managed to avoid Tyttenhanger GPs. Eventually, the next invasion in 2010/11 yielded the first record for the site when 20 birds were see flying over Tyttenhanger Farm on the 26th December 2010. For many regulars the next several weeks would have been a difficult wait, as flocks of up to 200 birds roamed the south of Hertfordshire…without visiting Tyttenhanger GPs. However, on the 5th March the flood gates opened and a flock of 24 birds was seen on-site. The following day (6th March) produced a count of 57 birds - flocks of 36 and 21 birds- with several other records through the day, involving what appeared to be both flocks. Smaller numbers were reported on the 7th and 8th March and then the 11th saw a count of 35 birds in two separate

Waxwings at Tyttenhanger GPs in early 2011; photo courtesy of Simon West.

[100] The Hertfordshire Bird Report of 1996 mentions several counts in March and April of birds in St Albans and in Hatfield, but nothing any closer than that.

flocks. When it seemed that everything had moved on there was a report of birds on the morning of the 18th March, which subsequently proved to be the last record for the year. Since 2010/11 there have been good winters for this species in Hertfordshire in 2012/13 and 2023/24, when once again it was recorded in good numbers in several locations quite close to Tyttenhanger GPs without actually reaching the site. The only subsequent record was of a single bird flying over Willows Farm on the 27th December 2016.

Additional Information: *Appendix 4* – Year Lists.

Wren *Troglodytes troglodytes* (5, 20, 40) [≥8]
Common breeding resident.

2023. Although 58 days-recorded seems low, the long-term history of this species at Tyttenhanger GPs has been one of under-recording and with the recording rate for this year (33.3%) only just below the 2004-23 median of 37.0% it was very much in keeping with the last several years (*Table 90*). The maximum count for the year was of 10 birds on the 1st January – which was also the only significant count (≥8 birds) of the year. Although overall numbers were acceptable, slightly worrying was the absence of any breeding-related records (even singing males) and the complete absence of records in December.

Prior to 2004. The first record for the site is from the 13th August 1983 and with a further 56 days-recorded until the end of 2003 (22 of these in 2003) it is hardly surprising most records (54.2%) failed to produce a count. The maximum count in this period was of just six birds on the 20th October 2003.

Table 90. *Recording rate and no count rate for Wren in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Median
Recording rate (%)	36.0	51.1	53.6	34.8	45.6	39.5	22.8	22.5	15.6	26.2	34.9	32.8	38.0	38.9	33.0	39.3	57.6	40.2	43.5	33.3	**37.0**
No-counts (%)	2.0	25.8	25.4	0.0	54.1	50.9	18.8	27.8	53.2	60.3	50.9	35.0	39.4	40.1	7.8	14.7	32.8	19.6	27.0	14.5	**27.4**

2004-23. Under-recording is a continuing theme throughout this period as demonstrated by the data in *Table 88* (see also *Appendix 2*). Days-recorded are distributed fairly evenly throughout

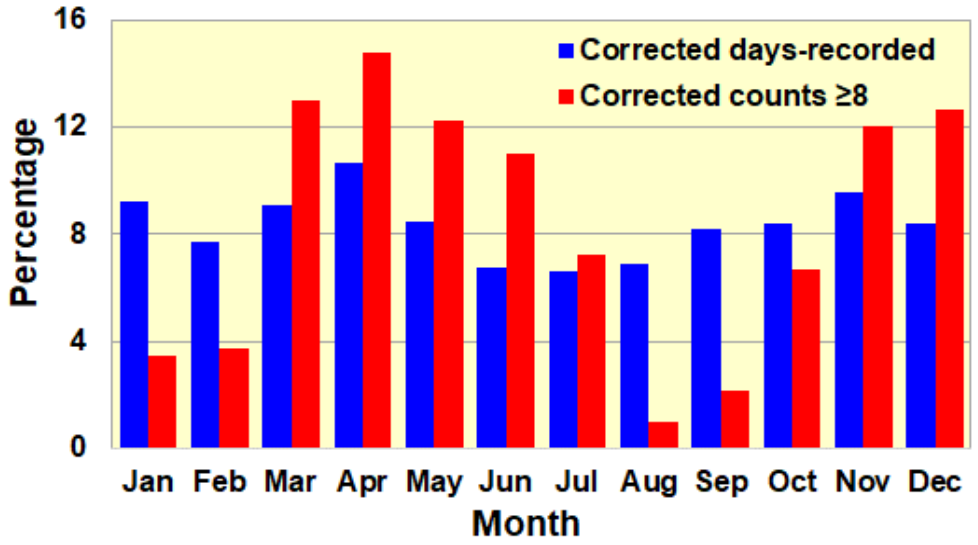


Figure 148 . *Percentage of days-recorded and significant counts (≥8) in each month for Wren in the period 2004-23.*

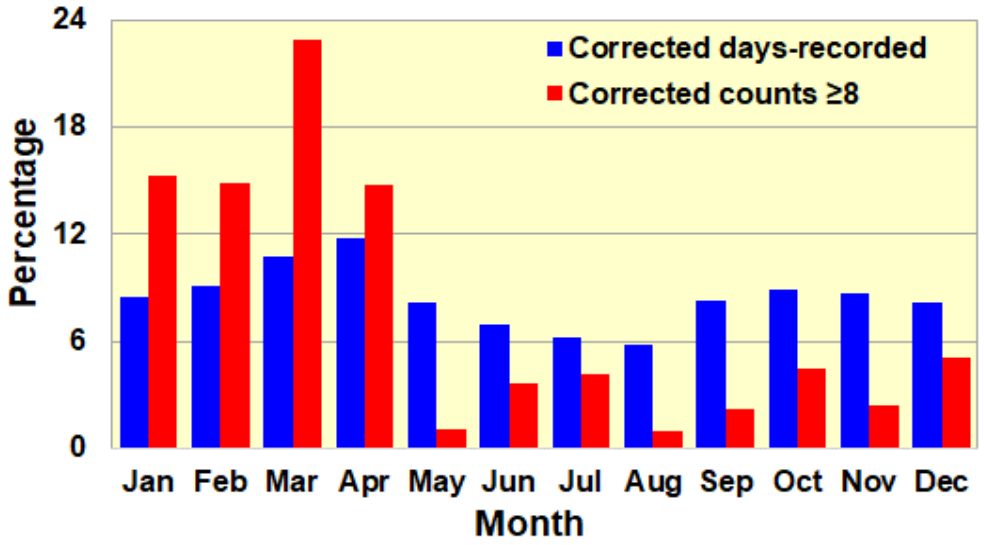


Figure 149. *Percentage of days-recorded and significant counts (≥8) in each month for Dunnock in the period 2004-23.*

the year but significant counts (≥ 8 birds) show a peak in spring/early summer (March-June) – when birds are likely to be more vocal - and in November-December when birds are likely to be more visible (*Figure 148).* The trough in numbers in January and February has a less obvious explanation, although does suggest heavy winter mortality. The record count for the site was of 40 birds was made on the 14th June 2020 with the next highest count being 20 birds on three dates in 2020 and 2021 (March, April and June).

Breeding. The only confirmed breeding records prior to 2004 are from the 1967-73 and 1988-92 Hertfordshire Bird Atlases. After 2003 there are confirmed breeding records from 2005, 2011, 2013, 2015-2018 and 2020.

Additional Information: *Appendix 4* – Year Lists. See also *Table 91*, *Table 93* and *Figure A2-3.*

Dunnock *Prunella modularis* (5, 20, 23) [≥8]

Common breeding resident.

2023. The 68 days-recorded this year equated to a recording rate of 38.4% - which was just above the 2004-23 median value of 38.0% (*Table 92*). The maximum count for the year was of 14 birds made across the site on the 15th February, with a count of 10 birds on the 5th February. There were no confirmed breeding records for the year.

Table 91. *Maximum counts for each month for four common residents; Wren, Dunnock, Robin and Blackbird*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Wren	15	10	20	20	12	40	15	8	13	10	14	15
Dunnock	18	14	23	20	8	16	15	11	11	14	15	8
Robin	22	14	25	30	12	15	6	12	25	22	17	14
Blackbird	20	25	17	15	20	18	30	15	10	20	25	25

Pre 2004. While the first record for this species is from the 27th August 1983, like many other resident species there are relatively few days-recorded in the years through until 2004 (just 49 in this case) - and most of the records filed to include a count (55.1% in this case). This species did produce a count of 15 on the 12th January 2003 (surprisingly the highest on-site until equalled in 2014) and a count of 9 birds on the 30th March 2003.

2004-23. With an overall recording rate of 37.3% and a relatively high no-count rate (28.6%) (*Table 92*) this species shows many of the hallmarks of an under-recorded species (see *Appendix 2*). Nevertheless, there are a number of interesting observations to be made from the available data including those summarised in *Figure 149*. As for many primarily resident species, there is little variation in occurrence through the year which in this case shows a slight peak in March/April. The distribution of significant counts (≥8 birds) is however very different and shows substantial skewing to the months from January to April – with a very significant trough in May (see also *Table 91*). The largest count in this period was of 23 birds on the 25th March 2017 – the only other count of 20 or more birds was on the 11th April 2016 (20 birds).

Breeding. The only confirmed breeding records before 2004 are summarised in the results for TL10X in the Hertfordshire Bird Atlases of 1967-73 and 1988-92. In the last 20 years confirmed breeding has not been much more frequent with records from just five years i.e. 2004-05, 2016 and 2019-20.

Table 92. *Recording rate and percentage of significant counts for Dunnock in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Median
Recording rate (%)	34.3	46.9	51.4	26.4	46.0	38.7	19.0	25.6	18.5	26.2	35.6	36.1	37.6	43.3	33.3	41.7	56.3	42.7	47.0	38.4	**38.0**
Counts ≥8 (%) *	1.2	3.1	3.5	0.0	1.7	0.0	0.0	0.0	5.9	0.0	6.3	5.5	9.0	8.8	5.8	12.7	7.5	8.8	9.6	3.6	**4.5**

Additional Information: *Appendix 4* – Year Lists. *See also Table 91* and *Table 93*.

Robin *Erithacus rubecula* (5, 20, 30) [≥10]

Common breeding resident.

2023. This species was unusual amongst the more common residents this year in producing records of confirmed breeding i.e. a bird carrying food/faecal sac in April and recently fledged young seen on the 10th June. Apart from the breeding records it showed a very similar profile to most other residents - a recording rate of 44.6% (79 days-recorded), two significant counts

Photo courtesy of Andrew Steele.

(≥ 10 birds) of 20 birds on the 1st January and 13 birds on the 5th February, and a lack of records in the last quarter of the year (although birds were recorded in every month of the year).

***Table 93**. Some summary recording-statistics (2004-23) for five common resident species.*

	Robin	*Wren*	*Dunnock*	*Blackbird*	*Song Thrush*
Recording rate (%)	41.8%	37.0%	37.3%	41.1%	28.2%
No-count (%)	29.7%	29.5%	28.6%	28.0%	8.7%
Counts of single birds	19.6%	32.2%	27.4%	16.8%	44.1%
Average count	4.00	3.10	3.09	4.34	2.11
Days-recorded 1983-2003	55	57	49	54	87
Breeding years 2004-23	15	8	5	3	8

Prior to 2004. The first record in the Tyttenhanger GPs dB is from the 21st August 1983 but like most other common residents it shows the clear signs of under-recording in this period i.e. just 59 days-recorded, a no-count rate of 52.7% and a bias towards higher counts (15.4% of counts were significant i.e. 4 of 26 counts). There was a maximum count of 20 birds on the 12th January 2003.

2004-23. The overall recording rate for this species is the highest (41.8%) of the common resident species shown in *Table 93* (and the fourth highest of all resident passerines – see *Table A2-3)* and there are suggestions this species may be slightly more abundant than the two previous species i.e. average counts are slightly higher, record monthly-maxima (*Table 91*) are generally higher and the significant count is also slightly higher. Another intriguing observation about this species is the distribution of significant counts by month as shown in *Figure 150.* The peak in September-November and the trough in the summer months (May-August) are features found in other species, but the stand-alone peak in January is unique. We think this may be due to the tendency for observers to produce larger counts in the first few days of the New Year - but inspection of the data shows the relevant counts are distributed throughout January. Nevertheless, the largest counts on-site are not from this month and come from 11th April 2016 (30), 16th September 2017 (25), 4th March 2020 (25) and the 30th March 2021 (25).

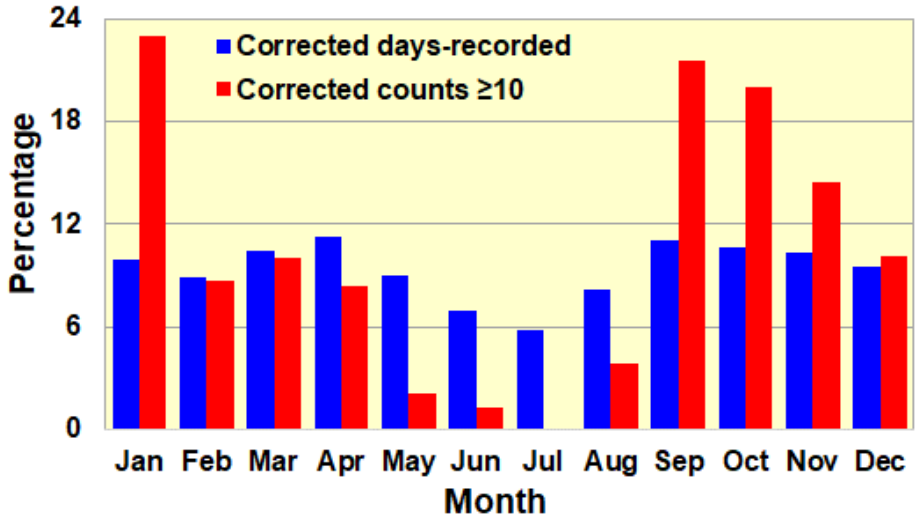


***Figure 150.** Percentage of days-recorded and significant counts (≥10) in each month for Robin in the period 2004-23.*

Breeding. There are specific breeding records in the Tyttenhanger GPs dB of recently fledged young from Coppice Wood on the 24th May and 14th June 2003 and another record of recently fledged young from the 14th April 1997 (a count of 10 birds annotated as *"singing m[ale]s and family party"*). Confirmed breeding is also shown in TL10X in the Hertfordshire Bird Atlases of 1967-73 and 1988-92. After 2003, this is one of the passerines most frequently confirmed as breeding at Tyttenhanger GPs with records from 15 of the 20 years in this period. However, given the very distinctive appearance of juvenile birds it is unclear whether it is more abundant as a breeding species or if breeding is more easily confirmed/reported.

Additional Information: *Appendix 4 – Year Lists. See also Table 91, Table 93 and Table A2-3*

Nightingale (0, 0, 1) *Luscinia megarhychos* [All]

Rare visitor recorded on just one occasion.

2023. Not recorded.

Summary. There is just a single record of a single bird on the 5th April 1998 between Coppice Wood and the Deep Lake. However, there is also an entry in the 1967-73 Hertfordshire Bird Atlas of probable breeding in TL10X, which indicates birds were recorded during the survey period; unfortunately, no further details on this record are available at this time.

Additional Information: *The First Gravel Pits*; *Appendix 4* – Year Lists.

Black Redstart *Phoenicurus ochrurus* (0, 6, 2) [All]
Irregular visitor recorded in just 8 of the last 41 years.

2023. Not recorded.

Summary. First recorded in 1988 this species has produced 10 days recorded spread across eight years; five of the eight birds for which sex was recorded were female-types and most of the days recorded (seven of ten) have been in April. The following is a summary of all records:

1988. A female on the 19th April.

2000. A female on the 21st April.

2004. A pair on the 27th October by the Bailiff's caravan (see photo to the right).

2008. A single bird on the evening of the 16th April.

2010. A male on the 19th April and another on the 19th May.

2011. An unsexed bird on the 24th January.

2016. A female on the 19th and 20th April in the hedge north of the Main Pit.

2017. A female in the horse paddocks on the 29th April.

Photo courtesy of Alan Gardiner.

Additional Information: *Appendix 4* – Year Lists.

Photo courtesy of Simon West.

Redstart *Phoenicurus phoenicurus* (1, 12, 3) [All]
Infrequent visitor usually on spring passage.

2023. Not recorded.

Prior to 2004. Surprisingly the first record for this species was not until the 4th April 1989, with records then coming in a further seven years through until 1999 (see *Figure 151*). Records of multiple birds in this period were two birds (a pair) seen on the 4th September 1989, three birds seen on the 14th April 1991 (the earliest record in Hertfordshire that year and also a record count for the site) and two birds (a pair) on the 19th April 1998. The only bird that stayed for more than a day was an unsexed bird present between the 2nd and 4th October 1993 (the only bird to have ever stayed for more than two days).

2004-23. The last record prior to 2004 was on the 26th May 1999 and there was then a gap of nearly seven years before the next bird was seen on the 15th April 2006. Records after this were a little more regular than in the above period with 27 days-recorded through until the last bird on the 12th April 2021. This period has seen four birds stay for two days i.e. a male on the 1st and 2nd July 2014, a single on the 16th and 17th September, a female on the 24th and 25th August 2018 and a male on the 11th and 12th April 2021. In addition, April 2016 produced a female on the 27th, two females on the 29th and then a male on the 30th, suggesting the females on the 29th may have stayed over from the 27th.

Since the beginning of 1989 there have been a total of 39 days-recorded, comprising 33 occurrences and involving at least 38 birds and with reported male to female ratio of 12:16. Birds have been found mostly in April (16) and September (7) with four other months providing occurrences - May (3), July (1), August (3) and October (3). The earliest spring record for the site was the 7th April 2007 and the latest autumn bird was on the 10th October 2012.

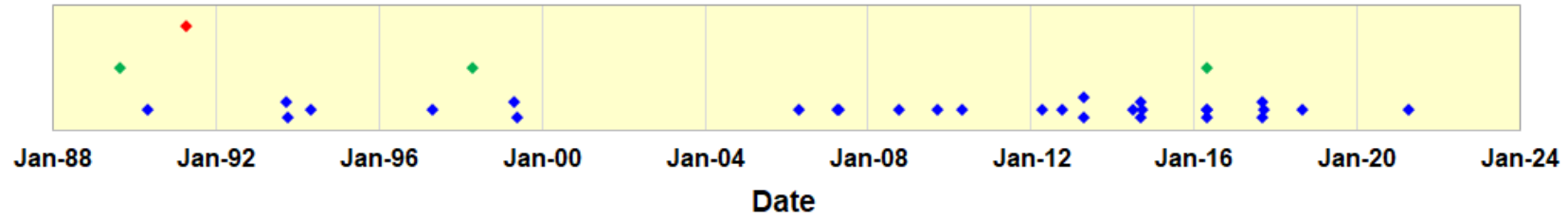


Figure 151. *Distribution of Redstart occurrences from 1988 to 2023. Arrivals of one (♦), two (♦) and three birds (♦) are shown.*

Additional Information: *Appendix 4* – Year Lists.

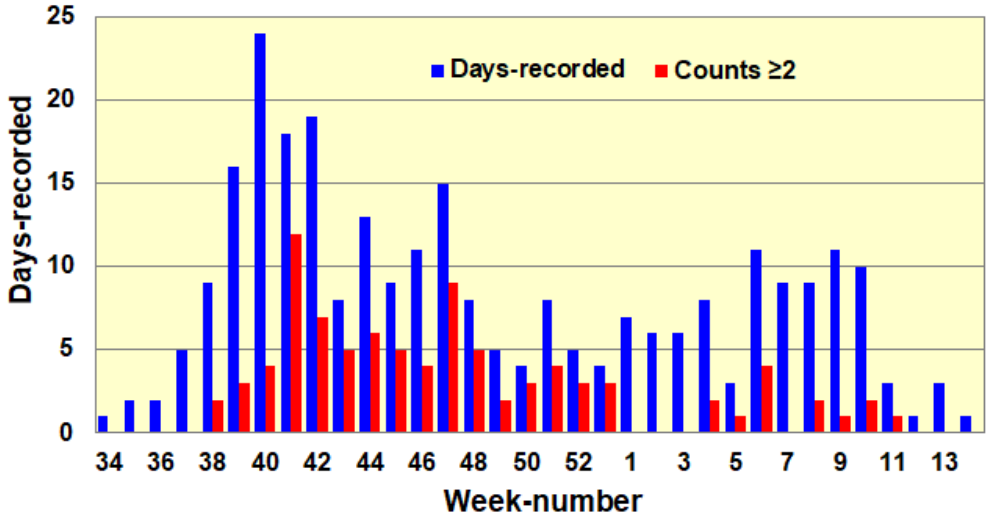


Figure 152. *Days-recorded and counts of two or more birds shown by standard week number for Stonechat in the period 2004-2023.*

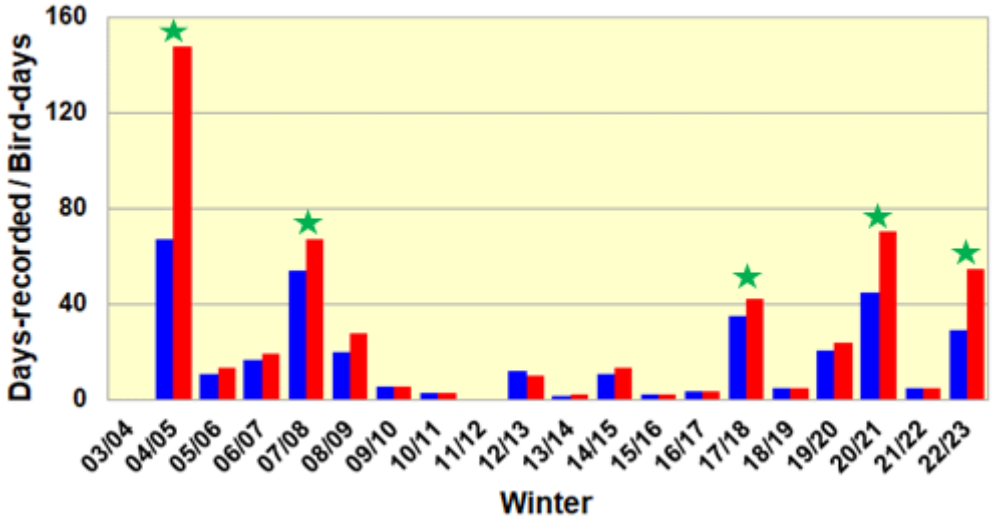


Figure 153. *Days-recorded and bird-days for Stonechat in the winters between 2003/04 and 2022/23.Winters highlighted (★) had recording rates greater than 15%*

Stonechat *Saxicola torquata* (5, 20, 6) [≥3]

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

Table 94. *Days-recorded and counts of 2 or more birds for Stonechat in the period 1984-2003.*

	Jan	Feb	Mar		Jul	Aug	Sep	Oct	Nov	Dec
Days-recorded	6	5	4		1	0	17	18	1	3
Counts ≥2	1	0	0		0	0	9	5	0	0

2003. At least two birds were recorded in the first winter period with a female noted on the 5th February and a male on the 26th – an unsexed bird was also reported on the 27th January. This brought the 2022/23 winter to an end with a total of 19 days-recorded and a very commendable recording rate of 15.1% - the fifth best winter on record (*Figure 153*). The second winter period saw a pair present around Willows Farm on five dates between the 2nd November and the 29th December, and may end up being another reasonable winter (see *Postscript* below).

Prior to 2004. The first record in the Tyttenhanger GPs dB is of a single bird on the very unusual date of the 28th July 1984 after which there are a further 54 days-recorded scattered through the years until the end of 2003. The Hertfordshire and London Bird Reports of the time shows small numbers were generally scattered across the county in both autumn and winter and indicate the overall low recording rate at Tyttenhanger GPs (3.5%) reflected the status at the time. Not all

winters were this low however and 1995/96 produced a recording rate of 17.4%, mostly due to the extended residence in the area of up to two birds from the 2nd October 1995 to the 16th February 1996. As *Table 94* shows the majority of the days-recorded in this period were from the September/October passage when more than a single bird was likely to also be recorded; the maximum count in this period was just two birds with the 15 days-recorded scattered across nine years with five of them in the autumn of 1996. The latest bird recorded in spring prior to 2003 was on the 19th March 1994 and apart from the single July record in 1985, the earliest in the autumn period was on the 19th September 1998.

2004-23. In contrast to the years before 2004, the last 20 years has seen several winters produce recording rates (between September and March) of over 15% i.e. see *Figure 153* (those winters highlighted by the green stars), the highest of which was the winter of 2004/05 (35.2%). This winter started with six birds on the 3rd October 2004 (a record count for the site) with birds then seen frequently (45 days-recorded) through until the 6th March 2005; five birds were also present on the 15th February 2005, four birds on five dates, three birds on three dates, two birds on 24 dates and singletons on just 11 dates. A summary of the data for the last 20 years is also shown in *Figure 15*2 and shows the peak of occurrence is around Weeks 39 to 42 (23rd September to 27th October) with the peak in counts of two or more birds slightly later around week 41 (7th to 13th October) – although much of the latter appears to be driven by the autumn of 2004 (see above). The earliest autumn record in the last 20 years is the 22nd August 2019 and the latest spring date is the 28th April 2008 (both site-records). Special mention should also go to a bird(s) that appeared on the 10th June 2006 and 22nd July 2006; three of the four database entries noted this as a "juvenile" and so it seems likely it was the same bird and also indicates breeding close-by – despite the 2006 Hertfordshire Bird Report stating "*There were no reports of possible breeding this year*".

Postscript. The pair from the end of 2023 lingered through until at least the 10th February 2024 producing a 2023/24 winter with at least 26 bird-days and 14 days-recorded (both above the 2004-24 median values of 10 bird-days and 8 days-recorded). The winter of 2024/25 however appears to have produced just a single record.

Photo courtesy of Steve Blake

Additional Information: *Appendix 1* – Migrant Arrival and Departure *(Figure A1-1); Appendix 4* – Year Lists.

Whinchat *Saxicoa rubetra* (3, 18 7) [All]

Passage migrant that is more commonly encountered in autumn than in spring. Median arrival date (2004-22) 30th April; median departure date (2005-22) 13th September. The earliest spring record is the 14th April and the latest is the 19th October

2023. Not recorded.

Table 95. *Summary data for the periods 1983-2003 and 2004-23 for Whinchat*

	1983-2003	2004-23
Days-recorded	106	98
Recording rate	7.5%	4.6%
Maximum count	7	5
Single-bird daily-maxima	62.3%	80.6%
Average count	1.67	1.29

Prior to 2004. With the first record not until the 5th May 1984 it was surprising to find the overall record for this species is better before 2004 than since. There was a total of 106 days-recorded in this period, with records from virtually every year between 1984 and 2003. As shown in *Figure 154*, this is very much an autumn passage migrant at Tyttenhanger GPs (as it is in Hertfordshire generally) with a peak in occurrence between Weeks 35 and 37 (26th August to 15th September). A year-by-year analysis for the period prior to 2004 is not possible because of the heterogeneity in the data-capture. However, some summary data are provided in *Table 95* and the following points have also been observed. First, the earliest spring record prior to 2003 was the 21st April 2000 and the latest the 23rd May 1999. In autumn the earliest is the 5th August 1993 and the latest 16th October 1996. However, it is notable there were seven days recorded between the 29th September and 16th October in the years before 2004 compared to only one date post-2003 (19th October 2014). Next, while there is only one count of 5 or more birds after 2003 (see below), before 2004 there was a site-record count of seven birds on the 29th August 1992, six birds on the 13th September 1986, 29th August 1989, 4th September 1991 and the 23rd April 1998 (the record spring count). Finally, one of the most intriguing records from this period comes from the 1988-92 Hertfordshire Bird Atlas. In this Atlas this species is shown as a possible breeding species in TL10X; and although there are spring records during the Atlas period it is notable there were none in June or July.

2004-23. Since 2003 there have been a total of 98 days-recorded (19 in spring and 79 in autumn) with all years producing at least one day with the exception of 2021 and 2023. The earliest spring record in the last 20 years was on the 14th April 2007 (a site-record) with the latest date being the 23rd May and "in-between" birds on the 1st July 2007 and 21st July 2006. The median

arrival date is the 30th April (n = 12; range 14th April to 8th May), with a peak in occurrence in Week 19 (6th to 12th May – *Figure 154*); note, the arrival date may be slightly skewed by years with few spring records. Numbers in spring are generally quite low with the highest count being just two birds on the 30th April and 30th May 2005. The earliest autumn bird was on the 6th August 2005 with the peak in occurrence between Weeks 35 and 37 (26th August to 15th September - *Figure 154*). The latest date recorded was the 19th October 2014 (as site-record) with the last birds of autumn (2004-23) seen from as early as the 31st August (2013 and 2020) with a median date of the 13th September (n = 17). Numbers in autumn in the last 20 years have been lower than in the preceding 21 years with a maximum of five birds on the 28th August 2010 and four birds on the 8th September 2009 (1983-2003 produced 8 counts of 4 or more birds).

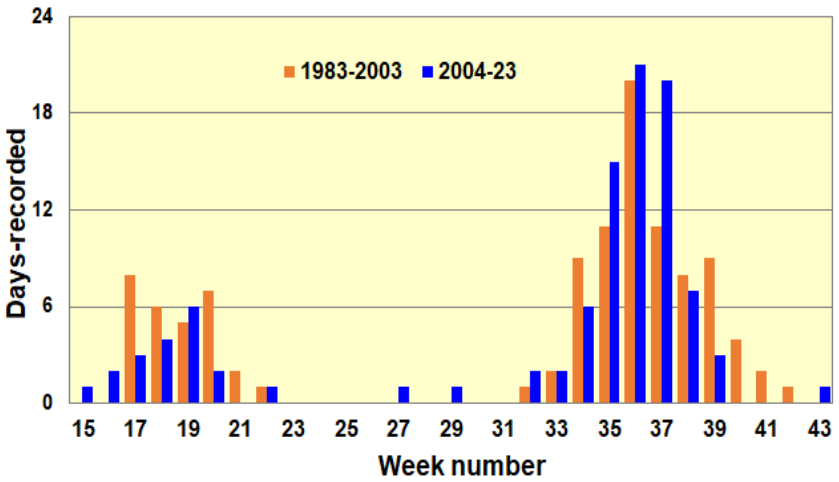


***Figure 154**. Days-recorded shown by standard week for Whinchat in the periods 1983-2003 and 2004-23.*

Additional Information: *Appendix 1* – Migrant Arrival and Departure *(Figure A1-1); Appendix 4* – Year Lists.

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

Regular passage migrant, more frequent in spring. Median arrival date (2004-23) 25th March; median departure date (2006-22) 19th September. The earliest spring arrival is the 12th March and the latest in autumn the 8th October. .

2023. Just four days recorded with singles on the 21st March (a typical arrival date), 9th April, 29th April and two birds seen on the 14th April; the Amaizing Maize field and behind the High Viewpoint were the only sites noted. This is the first time since 2005 the site has failed to log an autumn record for this species.

***Table 96**. Comparative data for Wheatear in the periods before 2004 and after 2003 .*

	1983-2003	2004-23
Days-recorded	204	311
Recording rate	12.3%	12.6%
Maximum count	19	30
Single-bird daily-maxima	63.2%	68.5%

Prior to 2004. With a first record for the site on the 9th April 1982, 204 days-recorded (with records from all years from 1982-2003) and over 270 database entries prior to 2004 this is clearly a species that observers have recorded for some time. The data prior to 2004 is sufficient to allow for a more detailed analysis than is possible for most species in this period and so comparative data with the period after 2003 is shown in *Table 96* and the weekly distribution of days-recorded in *Figure 155*. Aside from these data, notable observations prior to 2003 include the following. First, the earliest spring record is from the 12th March 1995 (the earliest on record for the site) and the latest autumn date from the 4th October 1997. Late spring birds were recorded on the 7th June 1999 and 16th June 2002 while the earliest returning bird in autumn was on the 6th August 1985. The largest count in this period was 19 birds on the 23rd April 1998, with the previous day producing a count of 14. There are also the following records of more than six birds – 12 on the 31st March 1988 and eight on the 26th April 1997 and the 30th April 2003. The only records that mention birds showing characteristic of the more northerly subspecies *Oenanthe o. leucorhoa* are from the 4th April 1999 and the 6th and 8th May 1994.**2004-23.** After 2003, although there are more days-recorded, it was surprising to find the recording rate was very similar to that of the earlier period (*Table 96*) as was the proportion of daily maxima producing counts of single birds (68.5% compared to 63.2% in the earlier period) (*Table 96*). Spring and autumn passage also follows a very similar pattern to that from the earlier period (*Figure 155*) with the earliest date-recorded after 2004 on the 14th March 2009 with spring records through until the 26th May 2009; late spring occurrences were noted from the 10th June 2007 and 27th July 2008. Autumn returnees have been recorded from the 5th August (2014) with the latest on the 8th October 2008 and 2011 (latest date for the site). There is no indication from the 2004-23 data that arrival/departure dates are changing with a median spring arrival date of the 25th March (n = 20) and an autumn departure date of the 19th September (n = 17). The largest

count post- 2003 was on the 15th April 2013 when there was a count of 22 birds and then estimates of 23+ birds and 30+ at various times during the day. The birds were on the eastern slopes of the Main Pit and in the open fields around Tyttenhanger Farm , lingering into the following day when at least ten birds were still present. Higher counts (4 or more birds) are generally in the spring and both before 2004 and after 2003 are mostly between weeks 13 and 19 (25th March to 12th May) but show peaks at weeks 18 (29th April to 5th May) and 16 (15th to 21st April) respectively (data not shown).

Always a popular subject in the spring as these images of Wheatear show. Photos courtesy of Rose Newbon (left) and Simon West (right))

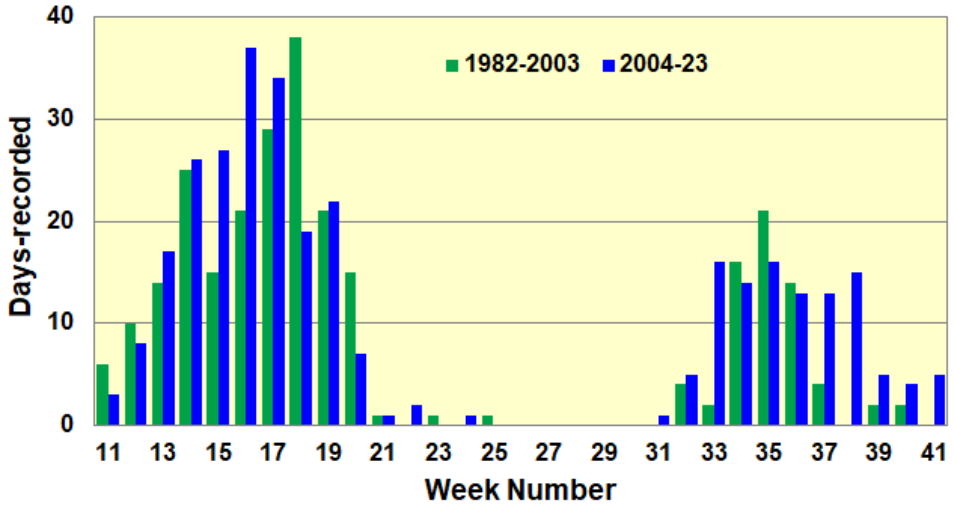


Figure 155. *Days-recorded for Wheatear shown by standard week for the periods 1983-2003 and 2004-23.*

Additional Information: *The First Gravel Pits; Appendix 1* – Migrant Arrival and Departure (*Figure A1-1); Appendix 4* – Year Lists.

Ring Ouzel Turdus torquatus (0, 5, 2) [All]
Infrequent passage migrant

2023. Not recorded.

1987-2023. A surprisingly elusive spring migrant that has only been recorded in nine years including the first record on the 25th April 1987. There have been a total of just 21 days-recorded involving at least 13 birds (possibly 14) with nine of the ten sexed-birds stated to be males. All days-recorded – bar two – have been in April with arrival dates ranging between the 7th and 25th. All records are summarised below:

1987. A male on the 25th April.

1994. Two birds (sex not reported) on the 20th April.

1998. A female at Bowmansgreen (Willows) Farm on 4 dates between the 23rd April and 3rd May.

2000. A single (unsexed) bird on the 8th April.

2007. Two males on the 13th April in the field to the north of the Main Pit were followed by another male in the same area on the 21st and then a third male at Warren Farm on the 25th.

2008. A male was around the Fishing Lakes from the 21st to 23rd April.

2012. A male near The Mound on the 7th April was presumed to be the same bird seen in the area from the 11th to 16th of the month.

2016. A male was around the Fishing Lakes from the 11th to 13th April.

Additional Information: *Appendix 4* – Year Lists.

Blackbird *Turdus merula* (5, 20, 30) [≥11]

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

2023. Noted in every month of the year with a surprising 83 days-recorded – equivalent to a recording rate of 46.9% (*Table 97*) which was just above the 2004-23 median of 41.1%. However, it should be noted that one observer contributed to 54 of the days-recorded – at a recording frequency of 93.1%, which probably also slightly skewed the recording rate for the year. The maximum count was of 15 birds from the 1st January and the 29th Apil; there were no probable or confirmed breeding records this year.

Table 97. *Summary data for Blackbird in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Maximum Count	25	19	12	12	13	20	12	7	12	14	10	15	20	25	20	14	30	17	16	15
Recording rate (%)	30.1	52.3	57.9	35.5	50.7	40.2	13.5	26.3	20.0	37.3	41.9	38.5	43.9	40.8	35.8	47.4	60.7	49.6	54.3	46.9
No-count rate (%)	4.8	22.4	23.9	0.0	43.9	45.9	26.2	33.7	31.9	56.6	51.0	43.0	48.5	28.2	13.0	12.1	24.0	16.6	26.3	13.3

Prior to 2004. The first record in the Tyttenhanger GPs dB is from 26th January 1964[35], the next is on the 10th December 1983 after which there are a further 53 days-recorded up to the end of 2003 - with 24 of these coming from 2003. There are three counts of 20 birds from this period, all of which are from 2003 (see also *Table 98)*.

2004-23. Although the period from 2004-23 has seen better recording of this species the overall recording rate has still only been 41.1% - ranging between 20.0% and 60.7% with an overall no-count rate of 28.0%. Despite being clearly under-recorded there are a couple of features of this species at Tyttenhanger GPs that can be highlighted and are shown in *Figure 156*. First, recording through the year (corrected days-recorded) is evenly spread while significant counts (≥11 birds) show a peak from November through until February. Quite surprising however is the trough in significant counts between August and October when family parties, post juvenile dispersal and autumn passage seem to have a significant impact for other species, this is not the case here. Finally, the record count on-site count was of 30 birds made on the 16th July 2020 – right in the middle of the travel restrictions arising from COVID-19 pandemic – and maybe illustrates as much as any other data just how common this species probably is at Tyttenhanger GPs.

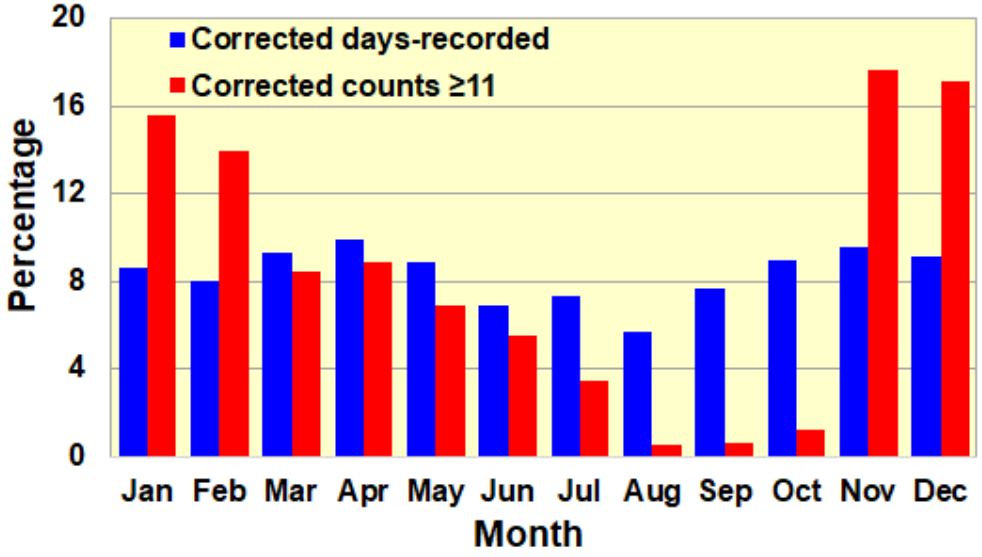


Figure 156*. Percentage of days-recorded and significant counts (≥11) in each month for Blackbird in the period 2004-23.*

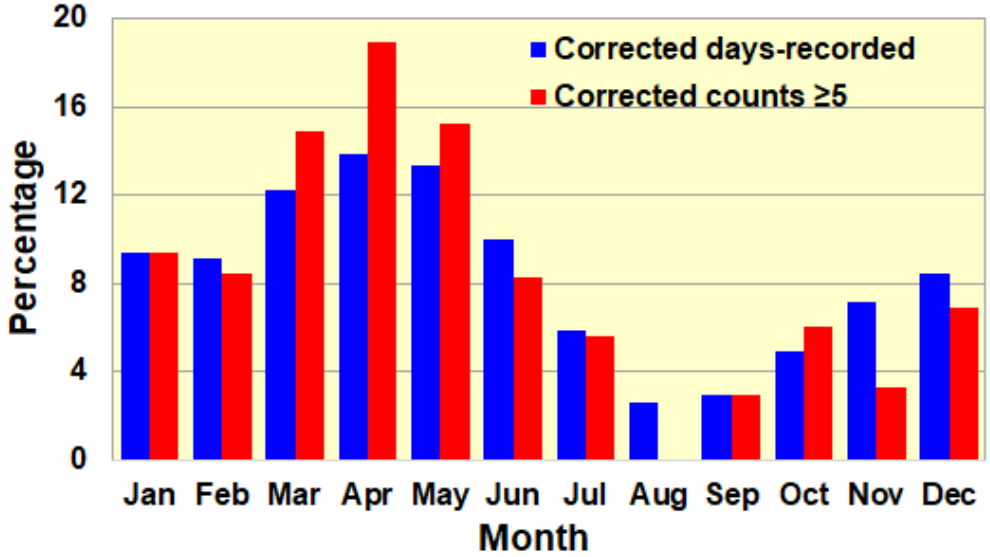


Figure 157*. Percentage of days-recorded and significant counts (≥11) in each month for Song Thrush in the period 2004-23.*

Breeding. The only breeding records prior to 2004 are from the Hertfordshire Bird Atlases of 1967-73 and 1988-92 which both show confirmed breeding in TL10X. Even after 2003 the capture of breeding information is scant with confirmed breeding in just three years (2008, 2019 and 2020), probable records from a further three years (2006, 2011 and 2017) and singing males recorded in just eight of the twenty years.

Table 98. *Monthly maxima data for Blackbird and Song Thrush for the periods 1983-2003 and 2004-23. See also Table 91 for data on Blackbird.*

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Blackbird	2004-23	20	25	17	15	20	18	30	15	10	20	25	25
	1983-2003	20	8	4	8	0	10	10	2	0	10	20	20
Song Thrush	2004-23	8	7	10	10	8	17	13	4	10	10	10	7
	1983-2003	9	5	1	4	2	4	2	1	1	10	4	2

Additional Information: *The First Gravel Pits; Appendix 4* – Year Lists. See also *Table 93, Table 98, Table A2-3* and *Figure A2-3.*

Song Thrush *Turdus philomelos* (5, 20, 17) [≥5]

Breeding resident.

2023. The 53 days-recorded this year equate to a recording rate of 29.9% - just above the 2004-23 median of 28.2% - but notably there were only four days-recorded after the end of July. The year still produced a maximum count of eight birds (29th April) , in keeping with most other years in the period 2004-23, and six significant counts (≥5 birds) were made – also fairly typical of the period (see *Table 99*). The were no probable or confirmed breeding records this year.

Prior to 2004. The first record in the Tyttenhanger GPs dB is from the 25th May 1960[35] followed by the 24th July 1983 but unsurprisingly neither produced a count i.e., 35.5% of the 87 days-recorded prior to 2003 failed to do so. The first count (2 birds) was not captured until February 1984 with the next in April 1997. A count of ten birds on the 7th October 1998 was the highest prior to 2005 but unsurprisingly most of the 60 counts before 2004 were of single birds (40 counts i.e. two thirds of all counts).

2004-23. Since 2003 we have seen a reasonably consistent pattern of reporting for this species with a median recording rate of 26.6% (n = 20, range = 18.2 to 45.2% - see *Table 99*). The monthly distribution of corrected days recorded and corrected significant counts (≥5 birds) is shown in *Figure 157* and shows a peak for both in the months from March-April and a trough in late summer – (July-August). The maximum count for the site is just 17 birds which was made on the 14th June 2020 with counts of 15 and 13 coming from June 2020 and July 2005 – suggesting maybe several family groups being observed across the site?

Breeding. There are no specific breeding records in the Tyttenhanger GPs dB before 2004 but both the 1967-73 and 1988-92 Hertfordshire Bird Atlases show this as a confirmed breeder in TL10X. Confirmed records in the database can subsequently be found for 2004-05, 2014, 2016-17 and 2020-22 with the 2008-12 Hertfordshire Bird Atlas also showing confirmed breeding in TL10X.

Table 99. *Summary statistics for Song Thrush for the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Recording rate (%)	25.5	39.7	37.1	26.4	26.8	29.9	20.1	19.7	18.2	21.0	29.4	26.0	22.4	24.6	22.8	33.3	45.2	34.1	34.1	29.9
Maximum count	4	13	10	6	10	7	10	4	7	6	5	5	10	6	8	10	17	8	8	8
Counts ≥5	0	6	3	3	1	4	2	0	2	1	1	1	1	2	4	18	13	9	7	6

Additional Information: *The First Gravel Pits; Appendix 4* – Year Lists. See also *Table 93* and *Table 98*.

Fieldfare *Turdus pilaris* (5, 20, 600) [≥120]

Common winter visitor and passage migrant. Median spring departure date 6th April (2004-23); median autumn arrival date 21st October (2004-23). The latest spring departure date is the 26th April[102] and the earliest autumn arrival the 18th September. All records between May and September are considered highly notable.

Table 100 *Monthly maxima data for Fieldfare in the period 1983-2003 and 2004-23. Relevant monthly records are highlighted.*

	Jan	Feb	Mar	Apr	May		Sep	Oct	Nov	Dec
Maximum 2023	60	100	40	1	0		0	15	40	8
Median 2004-23	67	100	60	1	0		0	25	55	50
Maximum 2004-23	200	600	300	118	1		5	100	450	100
Maximum 1983-2003	400	400	600	211	1		0	150	200	100

2023. While 26 days-recorded was quite low, after correction for coverage to 50 days this was spot-on the 2004-23 median value. As with other recent winters there was a bias in days-recorded in first to second winter-periods (20 to 6) – although this was compounded slightly by the very poor coverage in the last quarter of the year (correction for coverage would produce a ratio of 2:1 – still substantially different from the corrected long-term ratio of 1.18:1). The first winter period produced monthly maxima almost identical to the 2004-23 median values (*Table 100*) and although numbers were better than those of 2022 it failed to produce a significant count (≥120 birds). The second winter period produced monthly maxima lower than the 2004-23 median values – but this may just reflect the low coverage in the last quarter of the year (just 32 days). The maximum count for the year was of 100 birds on the 18th February; the last bird of winter was on the 1st April and the first returning birds (11) were on the 22nd October.

Prior to 2004. The first record for the site was on the 1st April 1983 - 100 birds at Colney Heath - which was followed by a further 155 days-recorded in this period. As might be expected, entries in the Tyttenhanger GPs dB are skewed towards higher counts, with three-figure counts (48) comprising nearly a third of all counts up to the end of 2003, the highest being 600 on the 2nd March 2003 (a record for March) . Further high counts are of 400 on the 20th January 1991, 211 on the 6th April 2003, 150 on the 28th October 1990 and 100 on the 29th December 1989 and 28th December 1993 all being records for their respective months (see *Table 100*). Even from the records before 2004 we see a tendency for the higher counts (≥40 birds)[101] to be in the first three months of the year compared to the last three months of the year i.e., 52 to 22 in this instance with 6 counts also from April. The latest spring records in the period before 2004 are of a bird present on the 8th and 9th May 1991 while the earliest returning birds were a group of five seen on the 1st October 1988.

Photo courtesy of Rupert Evershed

2004-23. Good coverage in the period from 2003 to 2023 means analysis of data on the basis of winter-period is possible for both Fieldfare and *Redwing*, and a summary of corrected days recorded is presented in *Figure 158*. The latter shows the two species have congruent patterns of occurrence over most of the winters from 2003/04 through until 2020/21 – with only the last two winters (for which full data are available) showing much of a difference i.e. when corrected days-recorded were substantially lower for Fieldfare than for Redwing. Numbers through the winter periods show a slightly different pattern for the two species with the peaks for Fieldfare generally occurring in the latter part of the winter i.e. between Weeks 5 and 10 (29th January to 10th March) (*Figure 159*). The latter can also be seen in *Figure 160* which plots monthly maxima across years and shows the winter of 2020/21 was also a stand-out in terms of numbers as well as days-recorded. Spring departure dates in this period have a median of the 6th April (n = 20; range 7th March to 22nd April); also notable is a record from the 12th May 2013 -the only May record after those in 1991[102].The first returning birds in autumn were recorded with a median date of 21st October (n = 20; range 18th September to 7th November) *(Figure 161).* Finally, the maximum count for this species in the period since 2003 was of 600 birds on the 21st February 2021 – which equalled the record set in March 2003.

Additional Information: *Appendix 1* – Migrant Arrival and Departure (*Figure 161*); *Appendix 4* – Year Lists. *See also Figure 158, Figure 159 and Figure 160 .*

[101] A cut-off of ≥40 birds is used for this and for Redwing as the 2004-23 data for both species shows that these represent around 20% of all counts and so provides a better picture than significant counts, which comprise just 5% of all counts.

[102] This record was not included when calculating the median date as it was considerably later than the next latest date of the 13th April and so not considered part of the spring-passage. Likewise for the May records in 1991 – the latest spring departure date in the period before 2004 is therefore the 26th April 1997 when there were separate records of 7 and 13 birds. Similarly, the record of *Redwing* in May 1994 was not treated as a passage bird.

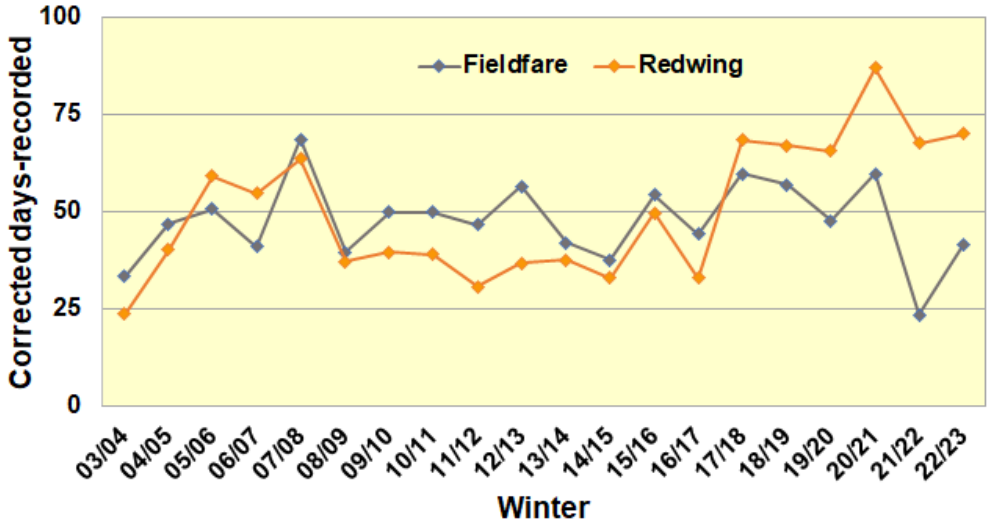


Figure 158. *Corrected days recorded for Fieldfare and Redwing in the winters from 2003/04 to 2022/23.*

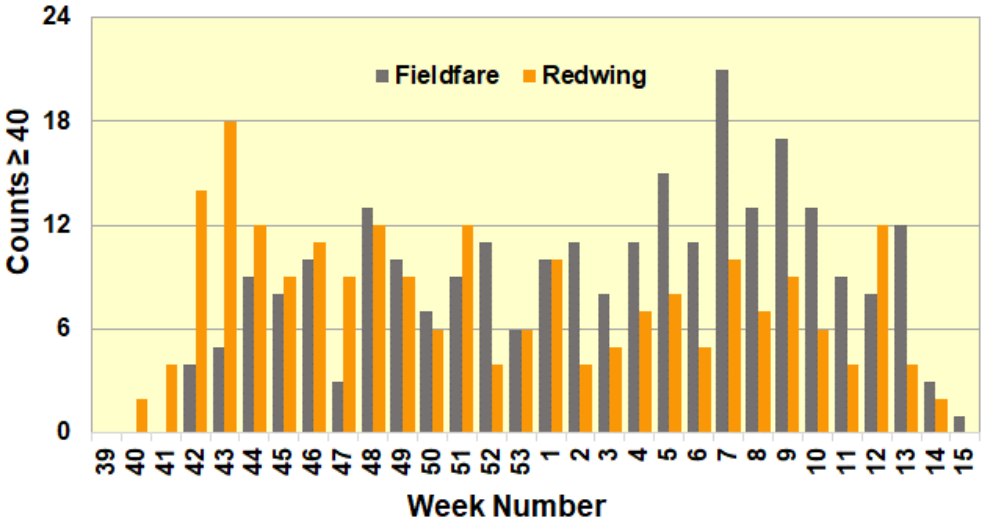
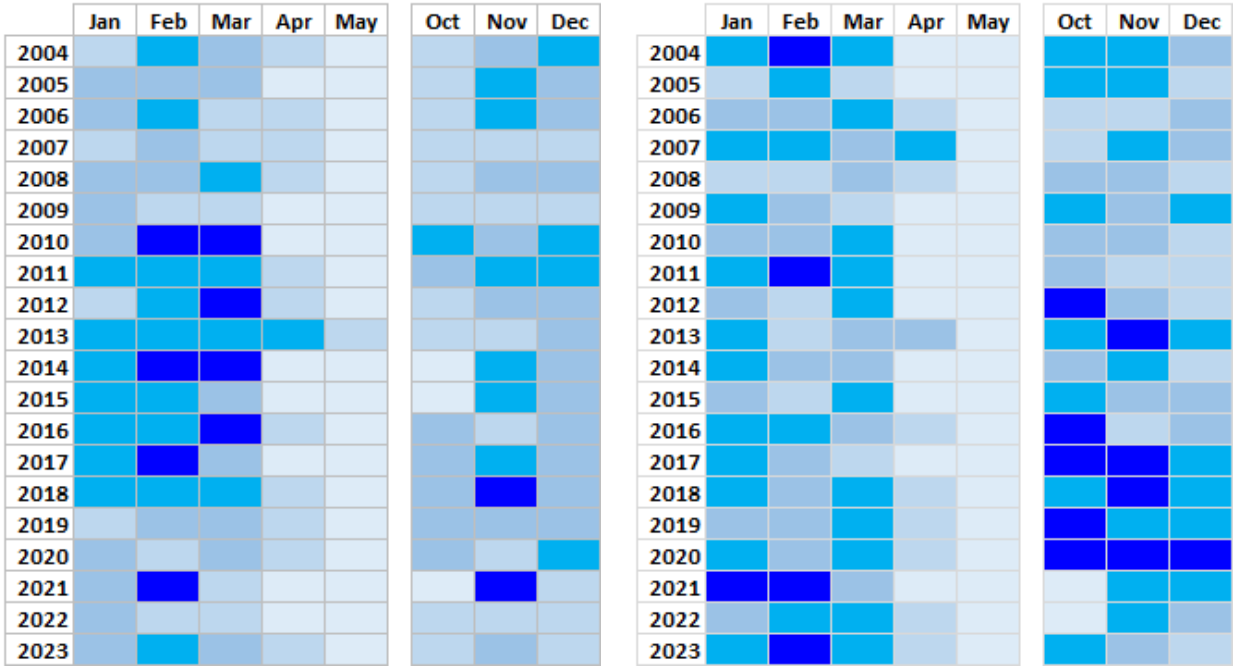


Figure 159. *Counts of 40 or more birds for Fieldfare and Redwing plotted against standard week number. Data are from the period 2004-23.*



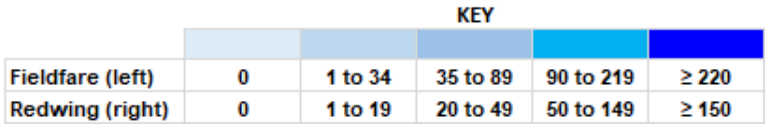


Photo courtesy of Terry Smith.

.Figure 160. *Plots of monthly maxima for Fieldfare (left) and Redwing (right) in the period 2004-23. The key to the relevant categories is shown above.*

Redwing *Turdus iliacus* (5, 20, 1000) [≥99]

Common winter visitor and passage migrant. Median spring departure date (2004-23) 31st March; median autumn arrival date (2004-23) 12th October. The latest spring departure date is the 28th April and the earliest autumn arrival the 1st October. All records between May and September (inclusive) are very significant.

2023. With just 32 days-recorded across the two winter periods – the majority (24) in the first winter period – it was surprising to find the year's best count of 250 birds on the 17th February was a record-count for that month. The other three months in the first winter period all produced maxima above the 2004-23 median but numbers in the second winter period were below the median values – no doubt a reflection (at least in part) of the very low coverage through the latter part of the year. Spring departure (2nd April) and autumn arrival (21st October) were fairly typical albeit the first birds of autumn were a little late.

Table 101 *Monthly maxima data for Redwing in the periods 2003-24 and 1983-2003. Relevant maxima are highlighted.*

	Jan	Feb	Mar	Apr		Sep	Oct	Nov	Dec
Maximum 2023	120	250	60	11		0	56	39	8
Median 2004-23	50	45	50	1		0	69	45	28
Maximum 2004-23	200	250	125	50		40	1000	345	200
Maximum 1983-2003	200	50	100	150		0	340	50	80

Pre-2004. The first record in the Tyttenhanger GPs dB is of 20 birds on the 1st April, 1983, and as well as being generally less numerous than its winter-partner, Fieldfare (see *Tables 100* and *101)*, days-recorded for this species prior to 2004 (78) were also substantially less than for the latter (156). However, there are several similarities in the database entries for the two species most notably in the skewing towards high counts (counts of ≥40 birds comprise 31.9.0% of all counts compared with 53.7% for Fieldfare) and the frequency of no-counts (14.5% - 10.1% for Fieldfare). The highest count prior to 2004 was 340 birds on the 17th October 1997 with two further counts of more than 100 birds in January 1996 (200) and April 1996 (150). These three counts (4.3% of all counts) highlight the difference in numbers between this and Fieldfare i.e., the latter producing 39 counts in excess of 100 birds (26.2% of all counts). Prior to 2004 the latest spring departure date was the 21st April 1983 - although the issue is muddied slightly by a record from the 11th May 1994 (see *Footnote 102)* - while the earliest autumn record was the 7th October 1997.

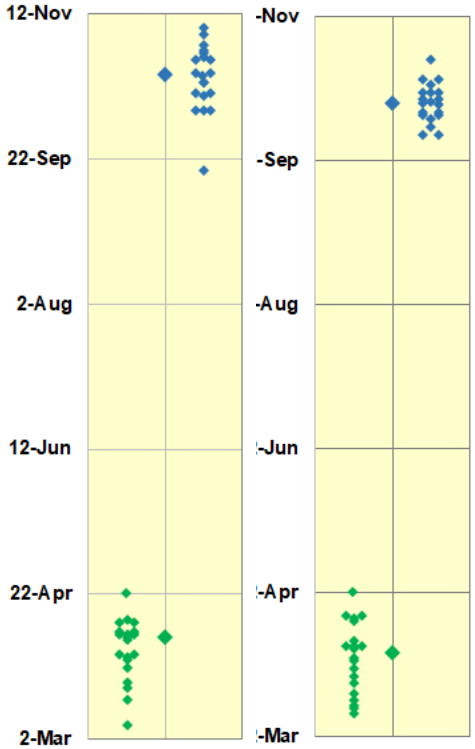


Figure 161. *Spring departure (♦) and autumn arrival (♦) dates for Fieldfare (left) and Redwing (right) in the period 2004-23. The larger symbol on the centre-line shows the median date. Raw data are in Appendix 1B.*

2004-23. The database entries from 2004-23 are much more consistent than in the period prior to 2004 and show this species has occurred at about the same frequency as Fieldfare over the last 20 years – albeit the last couple of years there is a suggestion it is becoming a little more frequent (see *Figure 158)*. Overall numbers are generally lower than for Fieldfare and show a tendency to occur in the late autumn/early winter (Weeks 42 to 44 – 14th October to 3rd November – see *Figure 159)*. The high count for this species was 1000 birds on the 25th October 2019 which comprised a large number of birds leaving a roost first thing in the morning. The next highest count was also in October - 650 birds on the 20th October 2012; the remaining count of 600 or more birds was on the 11th October 2019. While numbers are generally lower than for Fieldfare, passage numbers in October are clearly when peak numbers occur and notably there has only ever been a single count of similar size for Fieldfare (600 on the 21st February 2021). The median date for spring departure between 2004 and 2023 was the 31st March (n = 20, range from 10th March to 22nd April) and the median for the autumn arrival was the 12th October (n = 20, range = 1st to 28th October) (*Figure 161)*.

Additional Information: *Appendix 1* – Migrant Arrival and Departure (*Figure 161); Appendix 4* – Year Lists. *See also Figure 158, Figure 159 and Figure 160 .*

Mistle Thrush *Turdus viscivorus* (5, 20, 125) [≥14]

Breeding resident and local migrant that has been in decline in the UK since the late 1970s.

2023. The 15 days-recorded this year amounted to a recording rate of just 8.5% - which although low is not unprecedented in the last 20 years (see *Table 102*). The maximum count of 13 birds on the 6th August was a little better than the last couple of years (8 and 10 for 2022 and 2021 respectively) and was at the expected time of year i.e. see *Figure 162*. There was no evidence of

probable or confirmed breeding this year - which was hardly surprising given the complete absence of records between May and July (December also proving a blank).

Table 102. *Recording rate and counts of 14 or more birds for Mistle Thrush in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Recording rate (%)	17.6	29.4	34.9	18.1	23.5	17.0	14.3	11.4	8.0	7.9	11.8	14.2	12.4	16.9	8.9	9.2	20.4	9.8	15.5	8.5
Counts ≥14	3	10	2	2	5	1	3	2	4	0	1	1	0	2	0	1	6	0	0	0

Pre-2004. As with many resident species it can be difficult to get a feeling for how a species has fared on-site since first recorded - and Mistle Thrush is no exception. First recorded on the 26th July 1983, there are a subsequent 77 days-recorded until the end of 2003. Most years produced between up to six days-recorded, but there were 16 in 1984 and nine in both 1985 and 2003. However, what does appear to be consistent is the reporting of the regular flocks that gathered in the July to September window i.e. counts of ten or more bird comprise 42.1% of all counts prior to 2004 and 59.6% of all these counts are from July-September. The post-nuptial gatherings were clearly the focus of recording in the period up to 2004 and the following shows why:

1991. The 19th August and 29th July produced counts of 64 and 63 birds respectively. **1992**. A flock of 80 birds flying over on the 25th July.

1996. Still a county-record, 125 birds on the 31st July 1996.

All of the above counts are higher than the best count in the period 2004-23 (54 on the 11th September) and even the next best count of 34 birds (30th July 2007) was bettered by five further counts before 2004 (August 1984 and 1985, July 1986, September 1989 and August 1991).

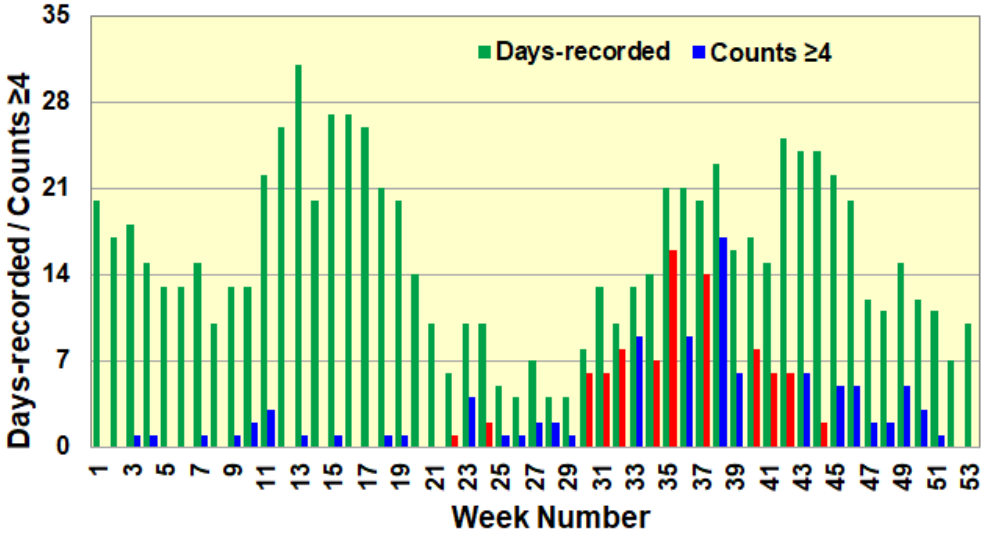


Figure 162. *Distribution of days-recorded and significant counts (≥4) by standard week for Mistle Thrush. Weeks which included counts over 20 are in red.*

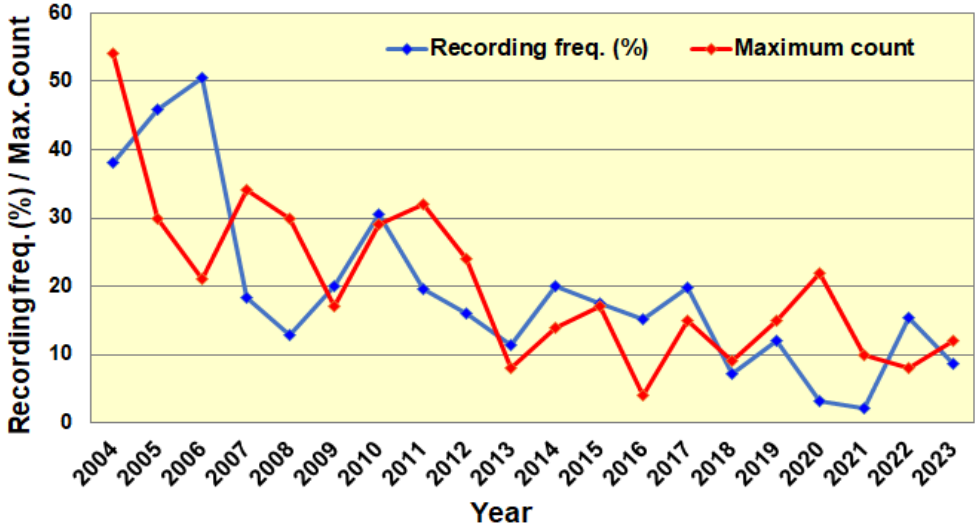


Figure 163*. Recording frequency[103] and maximum count for Mistle Thrush in the years from 2004 to 2023.*

2004-23. Since 2003 recording for this species has become more consistent, albeit the overall picture is still subject to normal patterns of year-to-year fluctuation – as can be seen in *Figure 163*. What is striking from the latter figure is the agreement between maximum count and the frequency at which a species is recorded. In this case recording frequency (data from a single observer) was used rather than recording rate (all observers) as it a better estimator of presence (see *Appendix 2*). The data in *Figure 162* shows the annual pattern of occurrence with a peak

[103] Recording frequency is based on the records from a single observer as these were considered in the current instance to be less susceptible to reporting bias than recording rate (days-recorded as a percentage of days-covered by all observers) – the former is used in *Table 163*. Further discussion of these parameters can be found in *Standardization of Occurrence Data* and *Appendix 2*.

in the spring between weeks 13 and 17 (25th March to 28th April) along with peaks in late summer – weeks 35 to 38 (26th August to 22nd September) with another peak in late autumn/early winter in weeks 42 to 44 (14th October to 3rd November). Counts of 4 or more birds comprise just over 21% of all counts and the distribution through the year is also shown in *Figure 162*. The post-breeding peak in numbers (counts of 4 or more birds) can be seen between weeks 35 to 38 (26th August to 22nd September) with counts of 20 or more birds (less than 2% of all counts) occurring mostly from week 30 to week 42 (22nd July to 6th October).

Breeding. Although there are large post-breeding counts from Tyttenhanger GPs dB, confirmed records of breeding prior to 2004 are quite scarce. The 1988-92 Hertfordshire Bird Alas shows this as a confirmed breeding species in TL10X - as does the 2008-12 Atlas. The last 20 years have shown confirmed breeding in just seven years (2007, 2010-11, 2016-17 and 2019-20) although some of these are likely to relate to off-site breeding e.g. a record from the 5th June 2012 involved a flock of 11 adults and five juveniles indicating post-breeding flocking may have already started and is not taken as a confirmed breeding record in this case because of the numbers involved .

Additional Information: *Appendix 4* – Year Lists.

Cetti's Warbler *Cettia cetti* (4, 5, 3) [All]

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

2023. Birds have now been recorded on-site almost continuously from September 2022 at a recording rate of 32.7%. This year saw further records of two birds and the first of three (on the 15th September) but also saw our first records where no count was made - probably a reflection of what a familiar sound this species now represents. As most birds are heard rather than seen it is probably no surprise there was a lull in middle-late summer (24th June to 1st September) when no birds were heard – although no further evidence of breeding was forthcoming. With recent losses from the list of Tyttenhanger regulars it is nice to see a new species establishing itself – one wonders what may be next?

Summary. A timeline for all days-recorded (136) for this species from the first record on the 9th October 2018 until the end of 2023 is shown in *Figure 164*. The first bird on-site only stayed until the 24th October after which there was a gap of nearly two years before the next bird(s) were found on the 2nd September 2020. Days-recorded after this stretched out until the 8th March 2021. After this extended gap (543 days), from the 2nd September 2022 birds have been present almost constantly (see "*2023"* above). In total this species has now been recorded on 132 days with multiple counts being made on 12 of those days – the first of these on the 4th November 2022. The increasing frequency of occurrence and the presence of multiple birds at seemingly increasing frequency leads to the hope this species will be around for many years to come and may soon be added to the list of breeders.

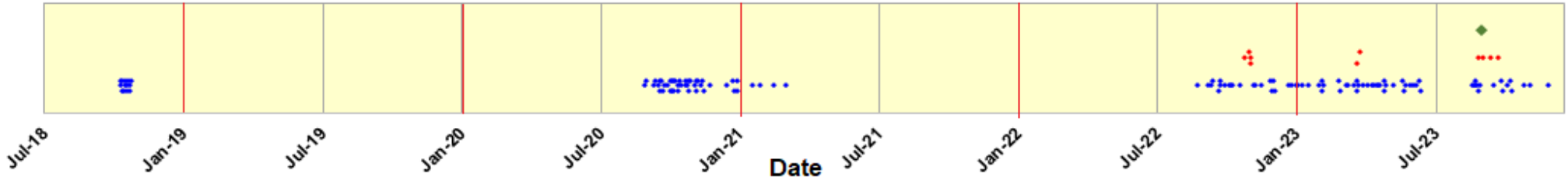


Figure 164. *Time-line of Cetti's Warbler records from July 1st 2018 to December 31st 2023. The vertical axis is proportional to the number of birds and has been expanded to allow for better resolution of individual points. Key - single birds ♦; two birds ♦; three birds ♦.*

Postscript. Birds continued to be recorded through 2024 and were noted from most months of the year with another count of 3+ birds on 29th May. Up to June 2025 birds were again recorded in most months with yet again, a count of 3 birds in May (1st and 9th).

Additional Information: *Appendix 4* – Year Lists.

Grasshopper Warbler *Locustella naevia* [2, 0, 2] [All]

Irregular visitor with six occurrences four of which were last century.

2023. Not recorded.

Summary. A total of 15 days recorded, involving six separate years and seven individuals are summarised below

1985. A bird on the 20th April is listed in the London Bird Report (no date given in the 1985 Hertfordshire Bird Report) (1 day-recorded).

1987. A bird first noted on the 18th April was recorded on the 19th and 20th before being joined on the 21st by a second bird. The only subsequent records are of both one and two birds on the 25th April (a total of 5 days-recorded).

1988. A bird heard on the 17th April at Coppice Wood was followed by a bird on the 30th April reported as "*in oilseed rape field*". It is presumed the two dates refer to the same bird – but this may not be the case (2 days-recorded).

1998. A single bird on the 4th and 5th July with no further details.(2 days-recorded). **2005**. A bird on the 31st May in the area between The Mound and the River Colne. (1 day-recorded).

2018. A bird found on the 25th April was subsequently seen and heard on the 27th, 28th and 29th (4 days-recorded).

Additional Information: *Appendix 4 – Year Lists*.

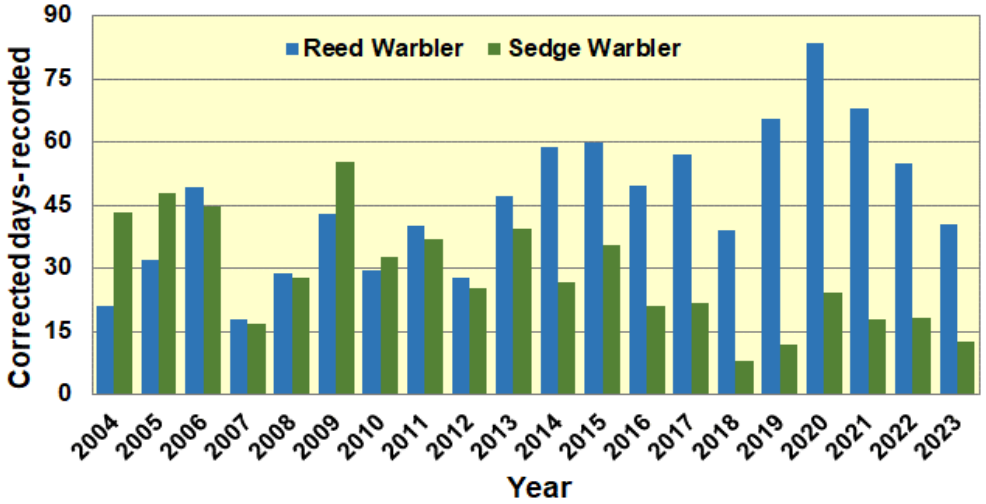


***Figure 165**. Corrected days-recorded for Reed Warbler and Sedge Warbler in the period 2004-23.*

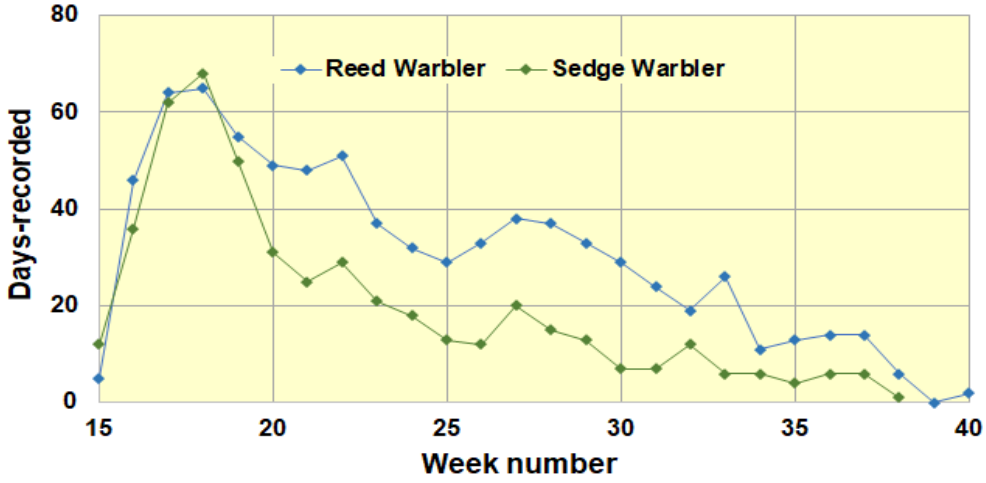


***Figure 166**. Distribution of days-recorded by standard week for Reed Warbler and Sedge Warbler. Data are from the period 2004-23.*

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

Summer visitor and breeding species. Median arrival date (2004-23) 18th April; median departure date (2004-23) 11th September. The earliest recorded spring date is the 7th April and the latest autumn date is the 3rd October

2023. The first arrival of the year was on the very early date of the 7th April (equalling the previous record from 1997) but with just 29 days-recorded, even after correction for low coverage (41 days), it was still below the 2004-23 median of 45 days. The maximum count for the year was of nine birds – a little down on the last several years – and there were no confirmed breeding records. Despite the recent decline in corrected days recorded (see *Figure 165*) the average-count this year (3.2 = bird-days/days-recorded) still remained above 3.0 (*Table 103*). The last bird of the year was recorded on the slightly late date of 17th September.

Pre-2004. The absence of suitable habitat for this species in the early 1980s explains the absence of records for it before the first on the 3rd June 1989 - although given the next record in the Tyttenhanger GPs dB is not until the 29th May 1992 it indicates the first was probably a wandering non-breeding bird. Regular records from 1992 onwards along with frequent records of singing males suggest that reed-beds may have been forming on-site – although not specifically noted in the database entries. Certainly, by the early 2000s we are aware there was a small reed-bed on the Deep Lake and a confirmed breeding record from 1997 indicates it may have been there even earlier. In total there are 46 days-recorded before 2003 with the majority of these (38) coming from May and June. The earliest spring arrival date was the 7th April 1997 (2 birds including a singing male – also an equal on-site record for returnees) while the latest date is the 26th July.

Table 103. *Maximum counts and average counts for Reed Warbler in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Maximum	2	3	5	2	6	5	8	5	4	8	8	10	20	10	12	11	10	10	13	9
Ave. count	1.1	1.5	1.6	1.3	1.9	2.1	2.8	2.3	2.4	2.6	2.9	3.1	3.0	2.9	4.3	3.9	3.6	3.2	3.5	3.2

2004-23. As suggested above, the growth of the reed-beds around the Main Pit and The Scrape have made the site much more attractive to this species in the last 10-12 years as indicated by the steady rise in occurrence (*Figure 165*) and number of birds (see average count in *Table 103*). The recent decline from 2020 through to the present may be due to increasing difficulty in seeing birds in the large reed-bed on the Main Pit and the increasing impacts of the accumulation of sand reducing the area of reed-bed around The Scrape (see *Figure 4*). Reed Warblers tend to arrive on-site in April with the earliest date being the 7th April (2023 and 1997) and a peak around weeks 17 and 18 (15th to 28th April – see *Figure 166*); median arrival date for the period 2004-23 is the 18th April (see *Figure 167*). Larger counts (≥6 birds) tend to peak between the end of April and the end of May (data not shown) followed by a smaller peak in July that corresponds with the appearance of the first broods/family parties. Since 2003 there has a been a weak trend towards increasing departure dates (data not shown) with a median (2004-23) of the 11th September and birds recorded as late as the 3rd October (2022). The largest on-site count was of 20 birds on the 2nd July 2016 the next highest being 13 birds on the 13th May 2022.

Breeding. The first confirmed breeding record for the site was in 1997 with neither the 1967-73 or 1988-92 Hertfordshire Bird Atlases producing any evidence of breeding. Since 2003 breeding was confirmed in 12 of the 20 years and failures to confirm breeding may be due the increasing size of the large reed-bed on the Main Pit making it hard to observe, coupled with loss of the reed-bed at The Scrape.

Additional Information: *Appendix 1* – Migrant Arrival and Departure *(Figure 167); Appendix 4* – Year Lists.

See also *Table 106, Figure 165 and Figure 166.*

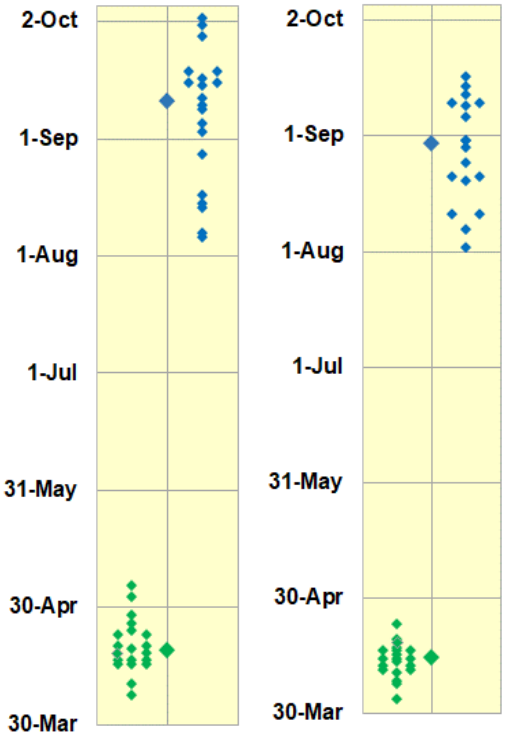


Figure 167*. Spring arrival (♦) and autumn departure (♦) dates for Reed Warbler (left) and Sedge Warbler (right) in the period 2004-23. The larger symbol on the centre-line shows the median date. Raw data are in Appendix 1.*

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

Summer visitor and breeding species. Median spring arrival date (2004-23) 14th April; median autumn departure date (2004-22) 30th August. The earliest spring arrival date is the 3rd April and the latest departure date the 21st September.

2023. Just nine days-recorded for the year and with just two of these days producing more than a single bird (2 birds on the 29th April and 5 birds on the 9th May) makes for pretty dismal reading. Even after adjusting for the poor coverage this year (see *Figure 165*) the days-recorded still indicate a slow decline from the late 2000s - consistent with the trend in the UK. The first bird of the year arrived on the record early-date of the 3rd April (the earliest for the county this year, along with a record the same day at Amwell NR). There were no records of confirmed breeding this year and birds were not recorded after the very early date of the 8th July.

Pre-2004. The 157 days-recorded in the years before 2003 - including the first record on the 27th May 1983 – belies the fact it was a more abundant species at Tyttenhanger GPs than it has been in the recent past. The latter is supported by the number of significant counts (≥4 birds) i.e. 20 counts comprising 13.6% of all counts, suggesting that the paucity of records resides in poor data capture rather than a lack of birds. The earliest arrival date in this period in the Tyttenhanger GPs dB is the 14th April 1997 while the latest departure date is the 21st

September 1996 (the latest recorded at Tyttenhanger GPs). The maximum count before 2004 was of eight birds on the 30th April 1999.

2004-23. The last 20 years has seen this species decline at Tyttenhanger GPs as it has in much of the UK. Despite the decline, birds have still tended to arrive and depart as before with a median spring arrival date of the 14th April (2003-23, n = 20) and an earliest date of the 3rd April (a site record) – ironically in 2023. The spring peak in occurrence (*Figure 166*) is around week 18 (29th April to 5th May) with the peak in numbers between weeks 17 and 19 (22nd April to 12th May) (data not shown). Autumn departure dates since 2003 have been spread between the beginning of August and the middle of September (*Figure 167*) with a median date of 30th August (2004-22, n = 18) with the latest date the 17th September. Surprisingly, the largest count in the last 20 years has been just six birds made on the 7th May 2005, 23rd April 2017, and 3rd and 20th May 2020.

Breeding. Confirmed breeding records for this species in the period prior to 2004 can be found in the Tyttenhanger GPs for the following years: 1985, 1996, 1997, 1999, 2000 and 2003; in addition, the 1988-92 Hertfordshire Bird Atlas shows this as a confirmed breeding species in TL10X. After 2003 breeding was confirmed in 2004, 2010, 2012 and 2014 – supporting the confirmed breeding result in the 2008-12 Hertfordshire Bird Atlas.

Additional Information: *Appendix 1* – Migrant Arrival and Departure *(Figure 167); Appendix 4* – Year Lists. See also *Table 106, Figure 165 and Figure 166.*

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

Common summer visitor and breeding species. Median arrival date (2004-23) 1st April; median departure date (2004-23) 30th September. Wintering birds, although uncommon at Tyttenhanger GPs, can confuse arrival and departure dates but the earliest recorded arrival is the 12th March and the latest departure the 30th October.

2023. In many respects a fairly typical year for this species with the first bird arriving on the 3rd April and the last bird seen on the 30th September. However, even while corrected days-recorded (49) were just below the 2004-23 median of 57 days, it was the number of birds that was most disappointing. The maximum count for the year was just seven birds on the 8th July – the lowest since 2017 (see table below) – and the average count (bird-days/days-recorded) was below 2.00 for the first time since 2009. Both parameters may have been affected by factors indirectly related to the low coverage e.g. under-recording, lack of coverage of favoured areas, however, it is possible the site is becoming less attractive than in the past and numbers are genuinely falling[104]. The latter is supported the occurrence data summarized in *Figure 168*, but in the case of this species (as with Whitethroat) the decline in the last couple of years is from a substantial peak from 2019 to 2021 (2020 in the case of Whitethroat).

Table 104. *Maximum counts, average counts and recording rate (April-September) for Blackcap in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Maximum	6	6	5	6	4	8	7	10	6	8	5	10	10	8	13	13	20	25	10	7
Ave. count	2.0	1.9	1.8	2.2	1.7	1.8	2.2	2.9	2.1	2.1	2.1	2.8	3.1	2.4	3.6	4.0	3.3	3.7	2.1	1.9
Reporting rate (%)	21.6	37.1	38.0	16.3	34.3	32.9	24.3	27.9	20.3	31.5	34.2	38.7	39.7	41.0	33.1	48.5	60.1	51.5	41.8	37.6

Pre-2004. The first record in the Tyttenhanger GPs dB is of three birds on the 21st April 1983 with a further 64 days-recorded, rather patchily, though until the end of 2003. The earliest spring date was the 4th April 1988 and the latest autumn date was the 19th October 1998; the largest count prior to 2003 was of eight birds ("*singing ms*") on the 14th April 1997.

2004-23. Arrival and departure dates for this species in the last 20 years are a little more extended than for the other sylvia warblers (see *Figure 170*), possibly because spring dates and late autumn dates are complicated by overwintering birds and the associated west-east migration[105]. Consequently, the 2004-23 spring arrival date has shown a weak trend to earlier dates in this period with a median that currently sits at the 1st April (n = 20). Conversely the autumn departure has shown a weak trend towards increasing dates with a current median of the 30th September (n = 20). Occurrence through the spring and autumn passage has a similar pattern to the other sylvia warblers (see *Figure 168*) but shows the earliest peak at around week 16 (15th to 21st

[104] There is recent evidence the population may be declining slightly nationally – although it will probably be a few more years before we know if this is an on-going trend.

[105] The BTO factsheet on wintering Blackcaps provides a summary of some of the available information. Although quantitative data on the abundance of wintering Blackcaps in the UK is quite tricky to find there are some semi-quantitative figures from Hertfordshire: Sage (1959) didn't quote any winter records at all – although interestingly there is a record in the Transactions of the Hertfordshire Natural History Society of one in St Albans in February 1902. Gladwin and Sage (1986 – p240) indicate the winters (December-February) from 1965 to 1982 produced around. six records per winter while the Hertfordshire Bird Reports show the winters (November-February) between 1999/00 and 2002/03 averaged around 36 records per winter The Herts Bird Cub record archive from December 2019 to January-February 2023 shows the winters 2019/20 to 2022/23 average around 185 bird-days, with numbers generally higher in January and February than in December.

April) and a peak in numbers at around the same time which extends to the end of week 17 (28th April) (data not shown). The last 20 years has seen this species steadily increase in abundance in England through until 2020 after which there has seen a slight decline[104]. Interestingly the pattern at Tyttenhanger GPs has been rather similar – although the decrease since 2020 appears to have been more dramatic than nationally (*Figure 169*).

Finally, this species has shown an increasing tendency towards overwintering in the UK, with overwintering birds tending to be from the German breeding population[105] . There are some records of wintering Blackcaps at Tyttenhanger GPs – but surprisingly few – as summarised below:

2001. One (unsexed) at Colney Heath on the 7th December. **2006**. A female on the 10th December at Colney Heath Common. **2018**. A single (unsexed) on the 16th January.

2022. At least one (unsexed) bird on the 4th November and another (the same bird?) on the 18th November.

Breeding. The 1967-73 and 1988-92 Hertfordshire Bird Atlases both show this as a confirmed breeding species in TL10X but the only specific records prior to 2004 are of recently fledged young on the 13th August 2000 and 20th July 2003. Breeding has been confirmed in 14 of the last 20 years with the negative years being 2005, 2008-09, 2016, 2018 and 2023. A record from 2014 is one of only two in the database that uses the BTO code UN i.e. used nest or eggshells – with eggshells found on the 7th June.

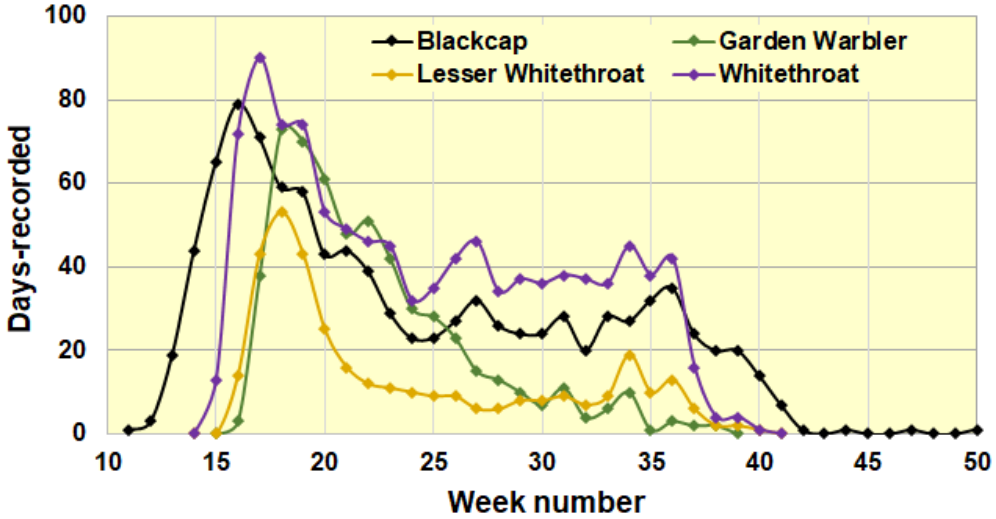


***Figure 168**. Days recorded by standard week (2004-23) for Blackcap, Whitethroat, Lesser Whitethroat and Garden Warbler on-site; no correction has been applied.*

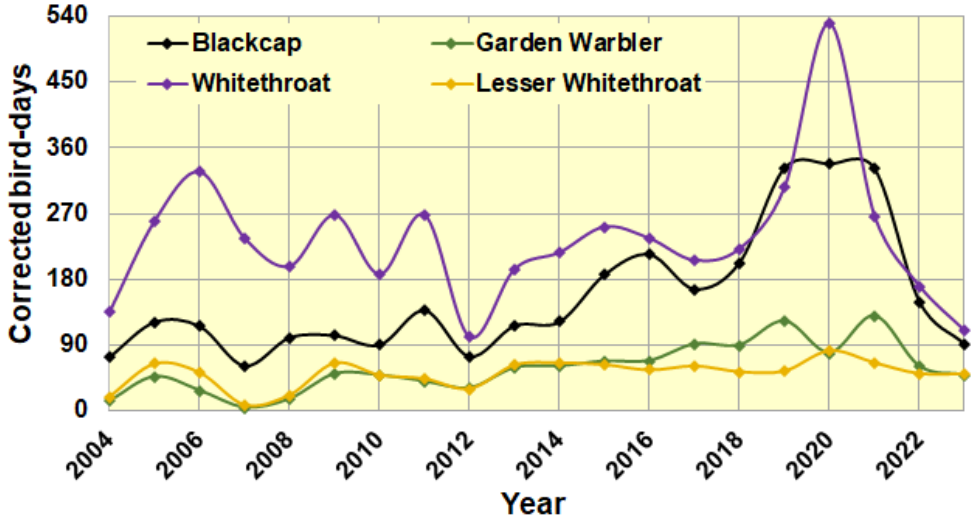


***Figure 169.** Corrected bird-days[106] for Blackcap, Whitethroat, Lesser Whitethroat and Garden Warbler on-site for the period 2004.23*

Additional Information *Appendix 1* – Migrant Arrival and Departure (*Figure 170*); *Appendix 4* – Year Lists. See also *Table 106*, *Figure 168* and *Figure 169*.

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

Regular summer visitor and breeding species. Median spring arrival date (2004-23) 24th April; median autumn departure date (2004-23) 20th August. The earliest spring arrival date is the 7th April and the latest bird in autumn was on the 17th September.

2023. The first bird of the year was noted on the 27th April – a fairly typical spring arrival date for this species. There were then a further 19 days recorded with the final bird of the year being on the relatively late date of the 10th September. The 20 days-recorded - equivalent to a recording rate of 38.5% - was a little above the 2004-23 median of 31.7% but there is evidence numbers

[106] An attempt has been made to standardise abundance figures through the period by using average count (bird-days/day-recorded) in each year and multiplying this by the corrected days-recorded. The correction used for the coverage used the April to September window. While the later may not be a good fit for each species it was considered the overall effect would be internally consistent across species.

were lower than in the recent past i.e. the maximum count for the year was just four birds (29th April and 3rd May) and the average count was down to 1.8 (see *Table 105*). Another worrying feature of the records this year was that several failed to produce a count. This species has never been abundant at Tyttenhanger GPs and so it is interesting why some observers no longer consider a count to be a useful piece of information.[107]. There were no records of probable or confirmed breeding this year[108].

Table 105. *Maximum counts, average counts and recording rate (May-August) for Garden Warbler in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Maximum	2	3	2	2	4	4	4	5	5	4	4	6	4	5	5	7	3	8	5	4
Ave. count	1.1	1.5	1.3	1.3	1.4	1.7	1.9	1.7	1.5	1.6	1.6	1.6	1.7	2.1	1.8	2.8	1.7	2.5	2.0	1.8
Recording rate (%)	10.5	26.0	18.8	2.9	10.3	28.2	23.5	20.4	18.5	33.3	34.0	38.0	37.4	38.3	43.0	38.4	37.4	45.1	30.1	38.5

Pre-2004. The first record of this species was not until the 22nd May 1987 after which it was a little surprising to find only 42 more days-recorded up until the end of 2003 – with 17 of these from 1997[109] alone. The earliest spring date in this period in the Tyttenhanger GPs dB is the 7th April[110] 1997 (the earliest Tyttenhanger GPs arrival) while the latest in autumn was the 8th September 2003. The highest count before 2004 was of four birds on the 6th May 1997 with counts of more than one bird comprising 31.6% of all counts in this period; no-counts were surprisingly high at 19.1% of all records – suggesting it was possibly more common than other data indicate.

Table 106*. Summary statistics for migrant warblers at Tyttenhanger GPs in the periods 1983-2003 and 2004-23.*

	Reed Warbler	***Sedge Warbler***	***Blackcap***	***Garden Warbler***	***Whitethroat***	***Lesser Whitethroat***	***Willow Warbler***
Days-recorded - 2004-23	797	487	1049	551	1121	351	729
Days-recorded – 1983-2003	46	160	65	44	157	78	80
Recording rate (Apr-Sep) – 2004-23	26.9%	16.4%	35.4%	18.6%	37.8%	11.8%	24.5%
Counts of single birds - 2004-23	33.0%	50.9%	35.7%	52.5%	22.4%	74.4%	52.7%
No-count rate - 2004-23	1.9%	1.2%	5.3%	0.7%	6.4%	0%	1.5%
Average count - 2004-23	2.89	1.78	2.63	1.85	4.19	1.37	1.69
Confirmed breeding - 2004-23	12 years	4 years	14 years	9 years	18 years	5 years	4 years

2004-23. Since 2003 this species has probably become slightly more common and seems to have fared reasonably well on-site (*Figure 169* and *Table 106*). The first birds in spring arrive around a median date of the 24th April (n = 20) with a peak in both occurrence (see *Figure 168*) and numbers (data not shown) around weeks 18 and 19 (29th April to 12th May). There is a weak trend towards earlier arrival dates through the years 2004 to 2023 with the earliest date being the 15th April (2022 – eight days later than the earliest date in the period prior to 2004) and the latest the 15th May (2004). The autumn departure in the period 2004-23 was more drawn out than spring arrival (*Figure 170*) ranging from the 28th July until the 17th September (2010 - the latest for Tyttenhanger GPs) with a median date of the 20th August (n = 18). The maximum count on-site in this period was of eight birds on the 3rd June 2021 (a site record), counts of four or more birds are considered significant[111] but over 50% of all counts are of single birds; the no-count rate was very low in this period at just 0.7%.

Breeding. Despite the apparent scarcity of this species prior to 2004, there is a confirmed breeding record from 1997 – 2 young birds seen on the 25th July - as well as a confirmed breeding result for TL10X in the 1988-92 Hertfordshire Bird Atlas. The last 20 years has seen confirmed breeding for this species in nine years – 2010, 2012-14 and 2016-20.

Additional Information: *Appendix 1* – Migrant Arrival and Departure *(Figure 170); Appendix 4* – Year Lists. See also *Table 106*, *Figure 168* and *Figure 169.*

[107] See *Data Collected – 2023* for further comment.

[108] The 2023 Hertfordshire Bird Report states there was confirmed breeding at just two sites in the county this year – a slight improvement on 2022 which produced no records of confirmed breeding.

[109] Interestingly Breeding Birds Survey data show this was the best year in the period since 1994.

[110] The Tyttenhanger GPs dB contains a record from the 12th March 1994. However, this is not mentioned in the Hertfordshire Bird Report of 1994 which states the earliest that year as at Cheshunt GP on the 4th April. We have not included this record in our analysis.

[111] These are 9.8% of all counts even though the cut-off for significant counts is set at the 95th percentile.

Whitethroat *Curruca communis* (5, 20, 22) [≥12]

Common summer visitor and breeding species. Median arrival date (2004-23)12th April; median departure date (2004-23) 14th September. The earliest spring arrival is the 4th April and the latest autumn date is the 2nd October.

2023. Like the other three common sylvia warblers, this species appeared to be down on both frequency of occurrence and abundance this year despite the arrival (9th April) and departure (15th September) dates being very close to the 2004-23 median values (see above). Total days-recorded (33) after correction for coverage (46) were well down on the 2004-23 median (61 days; n = 20) and the maximum count of eight birds on the 8th July was well down on the recent past and, the lowest since 2003 As with the other sylvias, it difficult to get a feel for whether the local population is really in decline or if the overall numbers reflect the lower coverage and changes in recording habits – although *Figure 169* would certainly suggest the former. Finally, a bright note for the year was confirmed breeding with a bird seen carrying a faecal sac/food by Tyttenhanger Farm on the 9th July – stretching the run to eight consecutive years with confirmed breeding.

Photos courtesy of (l to r) Patrick Wainwright and Simon West

Pre-2004. While this was probably still the most common sylvia on-site in the years before 2004, it is interesting to note that records were a less frequently captured than those of Sedge Warbler *(Table 106)*. The first record in the Tyttenhanger GPs dB is from the 27th May 1961[35], the next on the 21st August 1983 with 156 days subsequently recorded through until the end of 2003 distributed across all of the 21 years – albeit rather heterogeneously. The maximum count before 2004[112] was of nine birds on the 30th April 1997 with counts of more than one bird comprising 52.2% of all counts in this period and no-counts being quite high at 16.2% of all counts. The earliest spring arrival recorded before 2004 was on the 9th April 2000 with the latest bird in autumn noted on the 20th September 1993.

2004-23. The period since 2003 has certainly seen this species the most frequently recorded and also the most abundant of the summer migrant-warblers (see *Table 106*). The median arrival date from 2004-23 is the 12th April (n = 20), with the earliest being the 4th April (2009 and 2012 – the earliest for the site); there is no indication there has been any change in arrival times over this period. The peak occurrence for this species is in week 17 (22nd to 28th April) (*Figure 168*) with a very obvious peak in numbers between weeks 17 and 19 (22nd April to 12th May) (data not shown). Autumn departure dates range in this period from as early as the 24th August through until the 2nd October)the site-record) with a median of the 14th September (2004-23; n = 20). The largest on-site count in this period was of 22 birds (a site-record) was on the 25th April 2021 but there have been a further 11 counts of 20 or more birds – most of these (8) in 2020[113], all other years with the exception of 2010 and 2023 have produced double-figure counts.

Breeding. Confirmed breeding in the years up to 2004 was noted in 1990-91, 1993-95, 1997 and 1999, while the Hertfordshire Bird Atlases of 1967-73 and 1988-92 also show a confirmed result for TL10X. After 2003 breeding has been proven in all years with the exception of 2009 and 2015.

Additional Information: *The First Gravel Pits; Appendix 1* – Migrant Arrival and Departure *(Figure 170); Appendix 4* – Year Lists. See also *Table 106*, *Figure 168* and *Figure 169*.

[112] The Tyttenhanger GPs dB has a record of 18 singing males on the 7th April 1997. The Hertfordshire Bird Report for 1997 has no mention of this unlikely record and the earliest record for the county in that year is shown as the 13th April. Most likely this is a transcription error and relates to another species, the record has not been used in any subsequent analysis.

[113] This year was a very unusual year for Tyttenhanger GPs – and for most of the country full stop. The COVID-19 pandemic had a significant effect on people's normal routines and as discussed elsewhere led to record numbers of days-recorded for many species and for a record number of database entries for the site. The changes in routines and the changes in recording habits led to numbers that were in many cases atypical of most other years – the example here being a point in case.

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

Frequent spring migrant/summer visitor with some breeding success in the recent past. Median arrival date (2004-23) 22nd April; median departure date (2004-23) 9th September. The earliest spring date is the 8th April and the latest autumn date the 28th September.

2023. This species, along with Sedge Warbler, are probably the warblers that appear to have declined most on-site over the last several years. Certainly, this year's eight days-recorded with just a single count of two birds (3rd May), looks dismal. However, it is easy to forget this species has always been the least abundant of the sylvia warblers at Tyttenhanger GPs and that after correction for coverage etc., that it could still get worse (see *Figure 169*). As with most other warblers this year, the spring arrival date - 29th April and last autumn date - 15th September - were in keeping with dates in the recent past i.e. birds are arriving and departing on time – they are just not hanging around.

Pre-2004. The first record for this species in the Tyttenhanger GPs dB was on the 27th August 1983 with a further 77 days-recorded up until the end of 2003 (*Table 106*). The majority of days-recorded produced counts of a single bird (60 = 82.2%), there were relatively few no-counts (5 = 6.4%), and the maximum count was of four birds on 13th August 1993 and 24th July 1997 – both records involving family parties. The earliest spring date prior to 2004 was the 8th April 1997 (a site-record) and the latest date in autumn was on the 28th September 1997 (also a site record). The spring record in 1997 while the earliest for the site, was interestingly followed by a count of three birds on-site on the 13th April – two days earlier than the earliest date in the period 2004-23.

2004-23. After 2003 this species continued a trend of regular occurrence but in small numbers and with breeding infrequently confirmed. The recording rate since 2003 has been just 11.3 % (but with a stunning no-count rate of 0.0%) and an average count of 1.37 birds - very similar to the 1.29 for the period prior to 2004 (see *Table 106*)). Occurrence has been relatively stable since 2004 (see *Figure 169*) as has spring arrival *(Figure 170)* with a 2004-23 median date of the 21st April (n = 20) and no indication of any change over the last 20 years (data not shown). Peak occurrence is in week 18 (29th April to 5th May) (*Figure 168*) and the maximum count for the site is just five birds on three dates between the 28th April and 9th May 2017 – dates that coincide with peak abundance on-site between weeks 17 and 19 (22nd April to 12th May) (data not shown). Autumn departure is quite a drawn-out affair (*Figure 170*) with a median date of the 9th September and a range from the 14th August to 27th September (n = 15).

Breeding Despite the relatively small number of days-recorded there are several confirmed breeding records from the period prior to 2003 including the 1988-92 Hertfordshire Bird Atlas along with specific records in the Tyttenhanger GPs dB from 1989, 1999, 1991, 1993 and 1997. The next confirmed breeding on-site was not until 2007 with gap through until 2017 when breeding was then confirmed in four consecutive years (2017-2020).

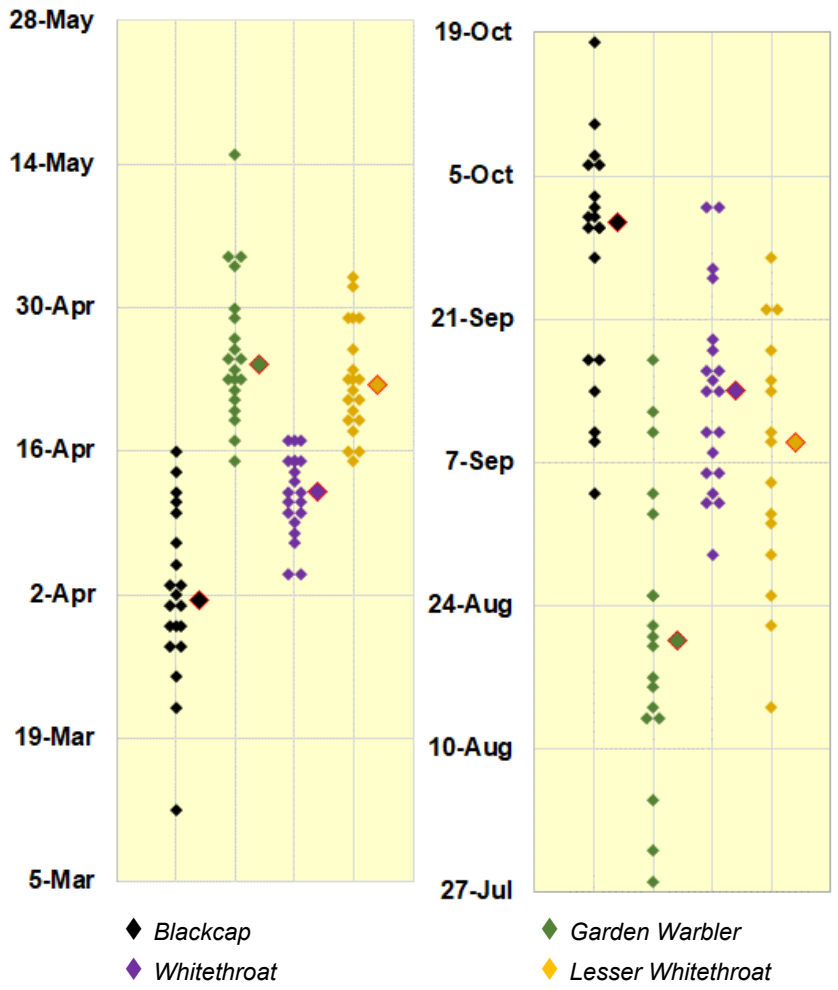


Figure 170. *Arrival (left) and departure (right) dates for the four common sylvia species in the period 2004-23. Median date are shown by the larger symbol to the right of the individual plots for each species. Raw data are in Appendix 1.*

Additional Information: *Appendix 1* – Migrant Arrival and Departure (*Figure 170); Appendix 4* – Year Lists. See also *Table 106*, *Figure 168* and *Figure 169.*

Dartford Warbler *Curruca undata* (0, 1, 1) [All]
Rare visitor, one record in 2006.

2023. Not recorded

Summary The one and only record for the site was a bird found on the 11th February 2006 after being flushed by a dog from the base of a post adjacent to the drive to Tyttenhanger house. Initially seen at around 10.15 am subsequent searching for a further couple of hours failed to relocate the bird in this area. However, the bird was re-found at 1.45 pm along the fence-line of the Amaizing Maize field. The bird gave good views from the second location and allowed it to be identified as a first winter bird – probably a male. While two birds had been present at Essendon Gold Course from November 2005 to January 2006 (one of the birds was also aged as a first winter) the last record prior to this was in 1947. Since the Tyttenhanger GPs bird there was no further records in the county until 2016, but since then both 2021 and 2022 have produced records.

Additional Information: *Appendix 4* – Year Lists.

Wood Warbler *Phylloscopus sibilatrix* (0, 0, 1) [All]
Rare visitor.

2023. Not recorded.

Summary. The only record for the site is of a single bird seen on the 29th August 1994. Although it was a confirmed breeding species in three tetrads in the 1988-92 Hertfordshire Bird Atlas (and was shown as a probable breeding species in in the Broad Colney tetrad -TL10R[114]) it had disappeared as a breeding species in the county by 1997. Hertfordshire has produced one or two records in most years in the recent past, so there is always an outside possibility another bird will turn up at Tyttenhanger GPs in the future.

Additional Information: *Appendix 4* – Year Lists.

Willow Warbler *Phylloscopus trochilus* (5, 20, 15) [≥4]
Regular summer visitor and breeding species. Median arrival date (2004-23) 3rd April; median departure date (2004-23) 15th September. The earliest date recorded in spring is the 18th March and the latest in autumn the 12th October.

2023. A bit of a mixed-bag this year; the first bird arrived on the slightly early date of the 30th March and there was a total of 26 days-recorded (corrected for coverage to 36 days - just below the 2004-23 median of 43 days) There was a disappointing maximum count of just 3 birds – the lowest since 2015 and then the last birds of the year were reported on the very early date of the 18th August when three birds were seen around the Fishing Lakes.

Pre-2004. The first entry in the Tyttenhanger GPs dB is from the 26th June 1983, after which there are a further 79 days-recorded through until the end of 2003 (*Table 106*) with most years being represented - 1986 and 1992 excepted. The largest count was of 15 birds on the 19th August 1989 (a site record); the earliest arrival was the 18th March 1990 (the earliest recorded on-site) and the latest departure the 12th October 1994 (the latest recorded on-site).

Table 107. *Summary Statistics for Willow Warbler in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Median
Rec. rate (%)	18.7	29.3	33.3	28.1	35.0	30.7	30.3	23.4	9.1	14.8	18.7	19.4	26.3	20.5	13.4	25.7	37.4	32.1	24.6	21.1	**25.2**
Ave. count	2.4	2.4	2.5	2.2	2.7	2.3	1.8	1.8	1.4	1.1	1.4	1.5	1.6	1.7	1.7	1.5	1.6	1.8	1.3	1.5	**1.7**

2004-23. From the beginning of 2004 onwards there have been a total of 729 days-recorded – a recording rate of 24.5% for the April-September window (*Table 106*). The earliest spring arrival

[114] There is a record in the 1988 London Bird Report of a "*male on May 7th*" at Old Parkbury. This record is not in the Hertfordshire Bird Report of 1988 but "*males were heard singing in May at …Harperbury*" may relate to the same singing male? Both locations may have been in TL10R – but neither could be conclusively located to that tetrad from the location quoted.

since 2003 was the 20th March 2020[115] and the latest the 15th April (2013) with a median date of 3rd April (2004-23) (n = 20) (see *Figure 175*). Spring occurrence peaks around Week 16 (15th to 21st April) with significant counts (≥5 birds) peaking slightly later in Week 17 (22nd to 28th April) (*Figure 172*). While this species has been in slow decline in England over this period, occurrence

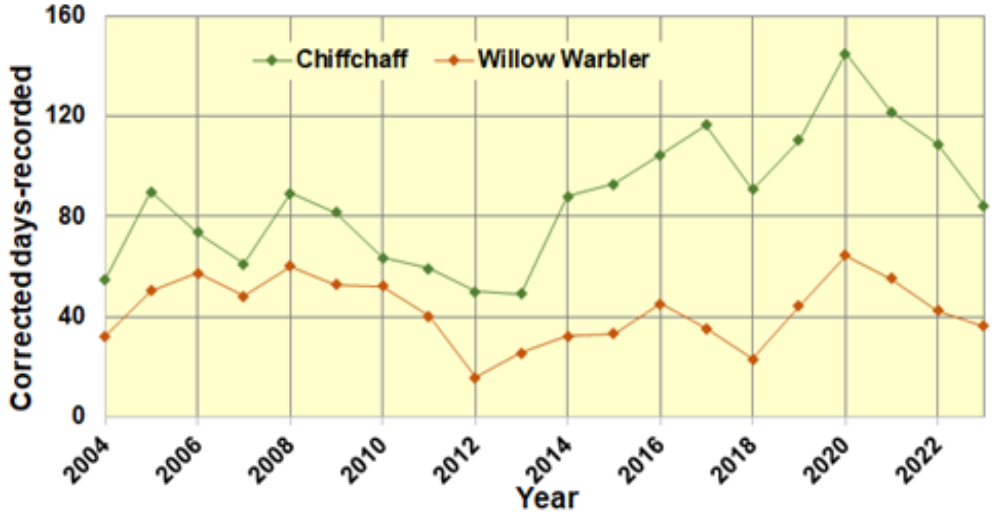


***Figure 171**..Corrected days-recorded in the period 2004-23 for Willow Warbler and Chiffchaff.*

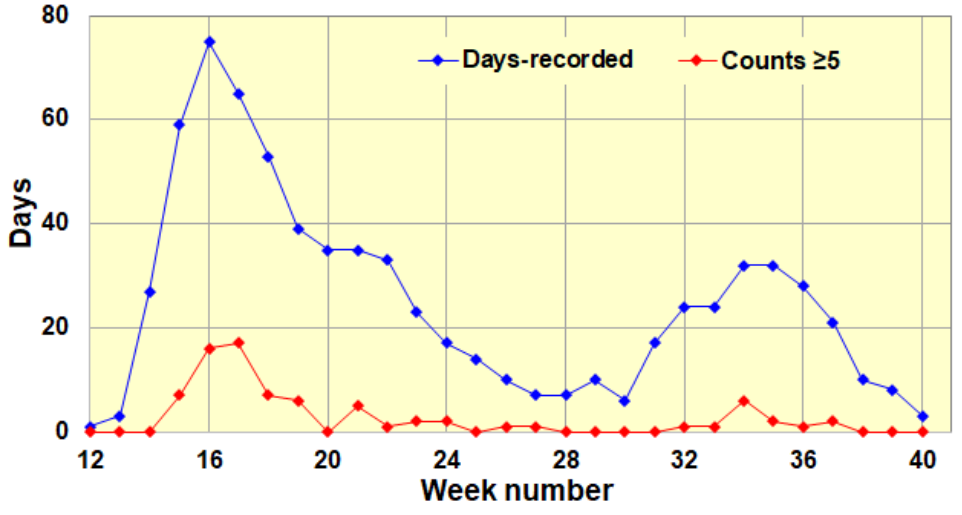


***Figure 172**. Days recorded and signficant counts (≥5 birds) plotted against standards week for Willow Warbler.*

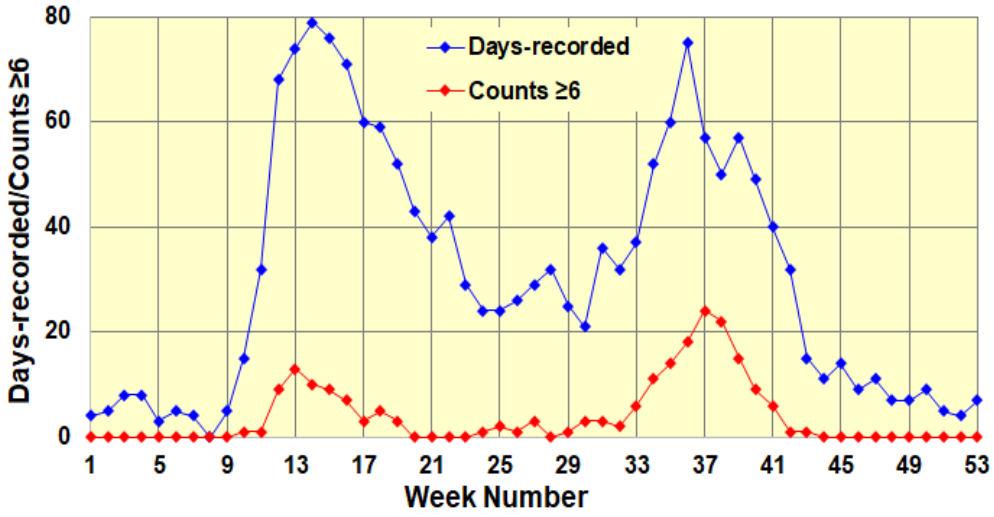


***Figure 173**. Days recorded and signficant counts (≥5 birds) plotted against standards week for Chiffchaff. Data from 2004-23.*

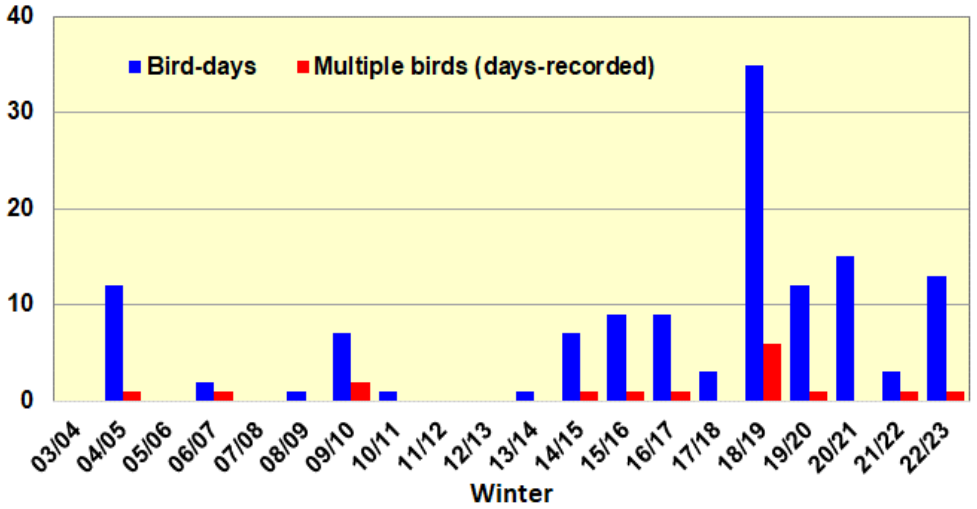


***Figure 174**. Days-recorded and counts of multiple birds of Chiffchaff shown for the winter periods (November-February) from 2003/04 to 2022/23.*

[115] The Hertfordshire Bird Report of 2020 has a record on the 22nd March at Boxmoor as the earliest in the county.

at Tyttenhanger GPs appears reasonably stable despite the year-to-year fluctuations (*Figure 171*). The autumn passage at Tyttenhanger GPs is much less noticeable than spring (*Figure 172*) and peaks around weeks 34 and 35 (19th August to 1st September). The period after 2003 produced a latest date of the 4th October 2014 and a median departure date of the 15th September (2004-23; range 20th March to 15th April, n = 20). The largest count since 2003 (and the only double-figure count) was 13 birds on the 12th April 2009; counts of single birds comprise 52.7% of all daily maxima.

Breeding. In the period up to 2004 there were three specific breeding records – a family party with two dependent young on the 23rd June 1984, a family party on the 23rd June 1985 and an adult with a young bird on the 26th June 1997, with both the 1967-73 and 1988-92 Hertfordshire Bird Atlases showing confirmed breeding. The years after 2003 have produced just four confirmed breeding records i.e. 2006, 2017, 2018 and 2020.

Correction. The departure date for 2010 was previously stated to be the 7th October in the 2010 Tyttenhanger GPs Report; this should have read the 8th September.

Additional Information: *Appendix 1* – Migrant Arrival and Departure *(Figure 175); Appendix 4* – Year Lists.

See also *Table 106* and *Figure 171*.

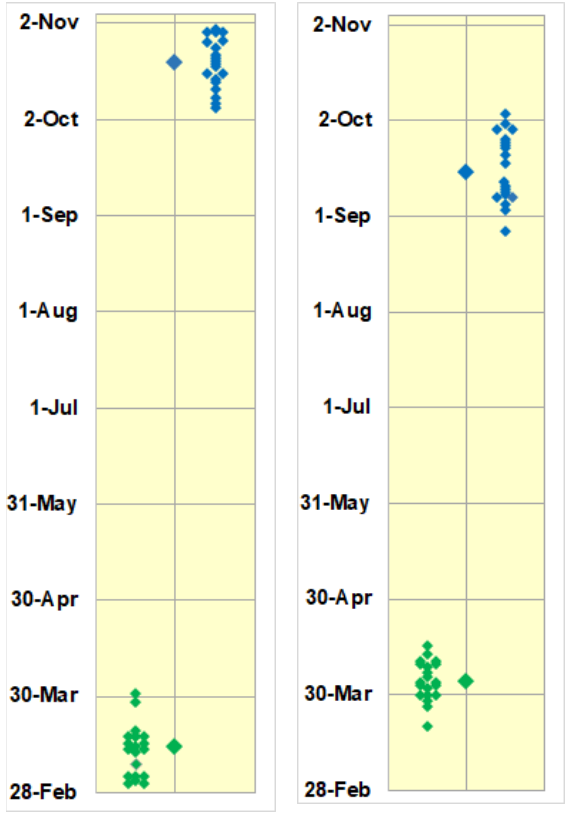


Figure 175. *Arrival (♦) and departure (♦) dates for the Chiffchaff (left) and Willow Warbler (right) in the period 2004-23. Median dates are shown by the larger symbol to the right of the individual plots for each species. Raw data are in Appendix 1.*

Chiffchaff *Phylloscopus collybita* (5, 17, 40) [≥10]

Common summer visitor and breeding species with overwintering birds becoming more regular. Median arrival date (2004-23) 13th March; median departure date (2004-23) 20th October. Records between the 1st November and the 28th February are considered to relate to over-wintering birds.

2023. Over-wintering birds were recorded on three days in January and February before the first spring migrant appeared on the 17th March. Spring numbers peaked with ten birds on the 7th April but although birds were present through the May-July window there were no confirmed breeding records this year. Numbers picked-up through August and peaked at 20 birds on the 17th September with numbers then falling until the last migrants were seen on the 21st and 23rd October. December produced single birds on the 21st and 30th to round-off the year.

Summary. Over the last 30 years this species has become a story in two parts. The first part is that of the regular summer migrant and herald of spring – early to return and late to leave. The second part is of the opportunistic winter-visitor that has changed its migratory behaviour in response to a changing world. Because of this duality we discuss the two parts of the story in separate sections below.

Summer. It was quite surprising to find 147 days-recorded for this species prior to 2003 with at least one record every year from 1983 and the first being of a single bird on the 21st April 1983. Although there are a number of records of singing birds scattered across the years there are no confirmed breeding records in this period. With relatively few winter records (see below) migrants should be easier to identify however, two years produced early records that may have been overwintering birds e.g. 2nd March 2003 and 6th March 1997. Days-recorded in the summer months (May-July) are relatively sparse (25) compared to spring (March-April = 70) and autumn (August-October = 45) with the maximum count of 14 birds from the 22nd September 1997 and three counts of ten birds coming from 2003 (25th August, 31st August and 1st October).

Spring. With winter records becoming more frequent after 2003 (see *Figure 174*), spring arrival dates since then have been a little bit more difficult to categorise. However, using the cut-offs derived for winter occurrence (1st November to 28th February) to delineate spring arrival dates we get a median arrival date of the 13th March[116]. Peak occurrence in spring is in week 14 (1st to 7th April) with counts of 6 or more birds peaking a week earlier (25th to 31st March)[117] (*Figure 173*). Post-breeding dispersal/autumn passage appears to begin around week 33 (12th to 18th August) peaking around weeks 36 and 37 (2nd to 15th September) and continuing through until the end of October (*Figure 173*) with a median late-date of the 20th October (n = 20). The maximum

[116] A more conservative approach using dates for the first singing birds as arrival dates, still produced several early dates and a median date of the 15th March.

[117] The 90th percentile was used in this instance rather than the 95th percentile to look at peak numbers as this gave a greater number of days-recorded with which to work.

count for the site is of 40 birds on the 27th August 2022 and although significant counts are 10 or more birds, counts of 20 or more birds have increased substantially since 2018 with most of these counts in August/September.

Winter. The phenomenon of over-wintering Chiffchaffs in Hertfordshire was first documented by Sage (1959) who cited just a single record in February 1913 of a bird at Tring. By the time Gladwin and Sage published their Birds of Hertfordshire in 1986 winter records had increased substantially to "*seen in the county between December and February in most winters since 1958*". Further to this, the excellent 2017 study by The Rye Meads Ringing group showed the increasing trend in occurrence from 1963/64 through until 2016/17. The winter story at Tyttenhanger GPs however, doesn't begin until 1994 when a bird was seen on the 17th December. After this there are records from December 1995, November 1996, November 1999, December 2001 and February 2003. The winter of 2004/05 was the first significant one at Tyttenhanger GPs (see *Figure 174*) and since then there has been an increasing frequency of good winters. Numbers are still generally small[118] (only 16 of 98 days-recorded since 2003/04 involve more than one bird) but reporting in the winter months has increased dramatically over the last several winters.

Breeding. Confirmed breeding for this species comes from the 1967-73 and 1988-92 Hertfordshire Bird Atlases with more specific records after 2003 from seven years i.e. 2004, 2013-15, 2017 and 2019-20.

Postscript. The winter of 2023/24 produced a couple of days-recorded before the New Year, but none after, bucking the long-term trend of most winter occurrences being after New Year i.e. 73 opposed to 40 before.

Additional Information: *Appendix 1* – Migrant Arrival and Departure (*Figure 175); Appendix 4* – Year Lists. See also *Figure 171.*

Yellow-browed Warbler *Phylloscopus inornatus* (1, 1, 1) [All]

Rare visitor, occurring just once.

2023. Not recorded.

Summary. The only record for the site is of a bird found at 9.45 am on the 11th January 2019 in the bushes and trees by the River Colne (near the bridge over the conveyor belt). The same bird was seen in the same area until the 17th January (although not reported on the 15th) – occasionally being seen further towards Colney Heath. As this species is becoming more frequent in Hertfordshire and more common in the winter months in the UK it is interesting to speculate when the next record will be.

The only Yellow-browed Warbler recorded on-site was found on the January 11th 2019 and proved a popular attraction for the next seven days when it was photographed many times. Photos courtesy of (l to r) Ian Williams, Rupert Evershed and Ian Bennell.

Additional Information: *Appendix 4* – Year Lists. See also *Records not Assessed*.

[118] Reporting on the Herts Bird Club website has been almost daily in some of the last few winters (December- February) with occasional counts in double-figures and a massive 41 at Troy Mill Lake in the early part of 2024 (22nd January).

Goldcrest *Regulus regulus* (5, 20, 12) [≥5]

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

2023. There were just 21 days-recorded this year, but after correction for the low coverage it was a reasonable 39 days and just below the 2004-23 median of 43 days. The summer months (May to August) produced just a single day-recorded (July 2nd) and unsurprisingly there were no breeding-related records for the year. September to November produced a few days-recorded (8) but December produced none. The maximum count for the year was of just four birds on the 23rd October.

Pre-2004. There are just 43 days-recorded in the Tyttenhanger GPs dB for this period and although the first record is from the 31st December 1983, the majority of days-recorded are from 1997 onwards – despite the 1998-2000 database-gap - i.e. 32 of the days-recorded (1997 with 11 and 2003 with 13 being the best). The maximum count prior to 2004 was of ten birds on the 16th October 1997, the next best seven birds on the 22nd October 1988.

2004-23. From 2003 onwards there are a total of 720 days-recorded with roughly two-thirds of these from the winter months (October to April) (see *Figure 177*). The winter days-recorded (October to March) are shown in *Figure 176* and shows noticeable variation between winters. With the total number of significant counts (≥5 birds) from the winter months being 38 (from a total of 43) we have chosen to only indicate those winters that have produced 3 or more significant counts on *Figure 176*, with many winters failing to produce any at all (shown in green on the chart). The maximum count for the site is just 12 birds on the 13th January 2019 and surprisingly there are just a further four counts of ten or more birds from January 2005, December 2015, November 2018 and April 2019.

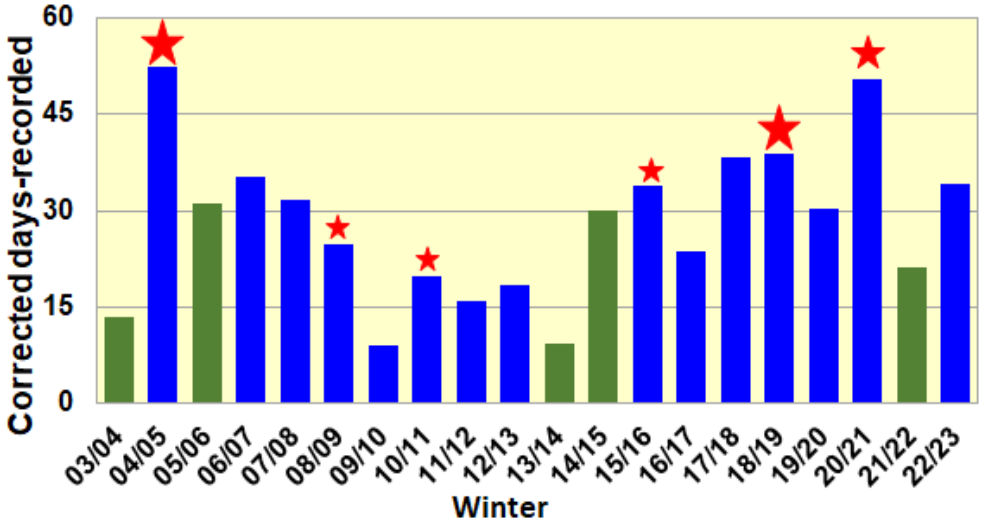


Figure 176. *Corrected days-recorded by winter period for Goldcrest between 2003/04 and 2022/23. The green columns show those winters that failed to produce a significant count; the stars (★)show those years that produced 3, 5 or 7+ significant counts (size is proportional to the three categories).*

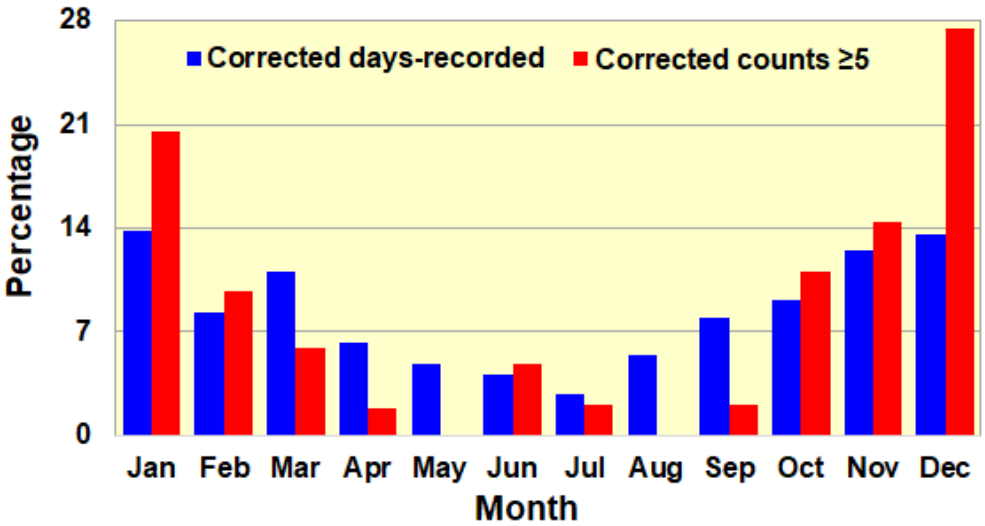


Figure 177*. Monthly distribution of percentage of corrected days-recorded and significant counts (≥5 birds) for Goldcrest.*

Breeding. An infrequent breeding species the only confirmed records prior to 2007 are from the 1967-73 Hertfordshire Bird Atlas and a record of an adult feeding young at Parkgate Corner on the 21st June 1988; subsequent confirmed records are from 2007, 2008, 2010, 2013 and 2017.

Additional Information: *Appendix 4* – Year Lists.

Firecrest *Regulus ignicapillus* (3, 5, 2) [All]

Infrequent winter visitor

2023. A bird around Garden Wood in the second winter period continued the good string of records in the recent past. First found on the 12th September (the first September record) it was then seen on the 15th and 16th before disappearing for a few weeks (or maybe a second bird arrived?) - reappearing on the 29th December.

Table 108. *Monthly distribution of days-recorded and bird-days for Firecrest in the period 1987-2023.*

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Days-recorded	4	3	1	13	4	0	2	2	**29**
Bird-days	4	3	1	15	4	0	3	2	**32**

Summary. While the first record was on the 22nd March 1987 it was nine years until the next bird was found on the 7th April 1996 – one of several species recorded as collateral when birders visited the site to see Hertfordshire's first *Lesser Scaup*. There was then an even longer wait until the next bird was found on the 10th April 2013, after which records have become more regular. While the first 30 years at Tyttenhanger GPs produced just 3 days-recorded, from 3rd January 2017 there have been a further 26 days-recorded until the end of 2023. A summary of the last few years is provided below while *Table 108* summarises the monthly distribution of days-recorded and bird-days.

2017. The second record in the year was of a bird trapped and ringed at Park Corner on the 26th November and then December saw a bird present from the 8th to 9th in Garden Wood.

2020/21. The first bird of the winter was found with a mixed flock of birds in Garden Wood on the 23rd October, not reappearing until the 2nd December. After this, although elusive at times, birds were seen on 12 dates between the 2nd December and 22nd January, with two birds present on the 27th and 28th December. The final record of the winter was of two birds on the 8th March 2021. In summary, this winter produced 15 days-recorded and also provided the first counts of more than a single bird i.e. two birds on three dates.

2021. The second winter period of 2021 produced 3 days-recorded (30th September and 1st and 6th October) – with possibly two birds present on the 1st October.

Postscript. Following on from the end of 2023 the good winters have continued with several records in early 2024 including two birds on the 7th and 12th January 2024, the winter of 2023/24 producing ten days recorded and 2024/25 at .least six days-recorded.

Additional Information: *Appendix 4* – Year Lists.

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

Declining autumn passage migrant that has bred in past years. Median autumn departure date (2004-2022) 9th September. The earliest spring date is the 7th May and the latest in autumn is the 25th September.

2023. Not recorded; the first year since 2002 it has failed to produce a record.

Pre-2004. The first record in the Tyttenhanger GPs dB is of a single bird on the 21st July 1984 with a further 32 days-recorded through until the end of 2003. There are several gaps in the dB for this species – but these tend to coincide with periods when data-capture may have been an issue for some species (see *Appendix 2);* a summary of days-recorded and recording-rate (May-September inclusive) are shown in *Table 109* for this period. Notable in this period were a record count of six birds (a family party – see *Breeding* below) on the 19th August and 3rd September 1998 and five birds on the 11th August 2001. The earliest arrival was on the 21st May (1991) and the latest birds (2) were seen on the 7th September 1996.

2004-23. Since 2003 there have been a total of 83 days-recorded distributed between the 7th May (2021 – the earliest date for Tyttenhanger GPs) and the 25th September (2008 – the latest date for the site) *(Figure 178)* - the majority of days-recorded (64 - 77.1%) involving just a single bird. Spring passage has generally been weak with just 13 days recorded in May and June (weeks 19-26). A scattering of records through until week 32 (August 5th) are probably from individuals that may have bred/attempted

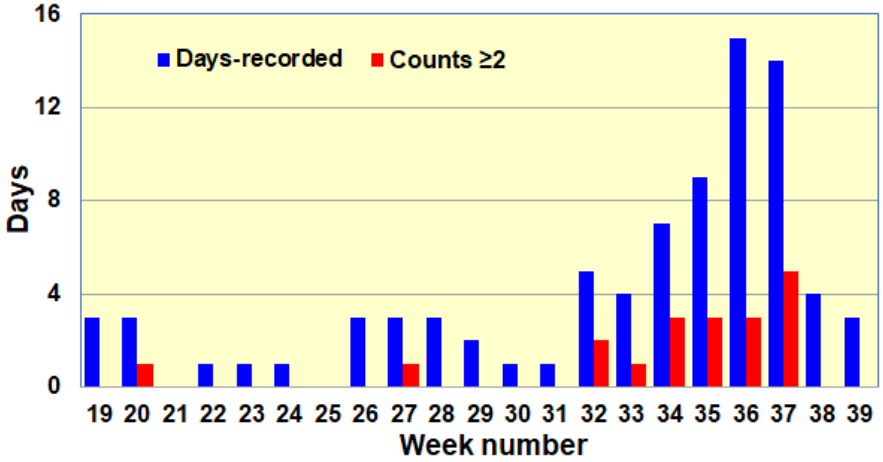


Figure 178*. Days-recorded for Spotted Flycatcher in the period 2004-23 plotted against standard week number.*

Table 109. *Days-recorded and recording rate (May-September inclusive) for Spotted Flycatcher in the period from 1984 to 2003. Years in which breeding was confirmed are highlighted in yellow*

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Days-recorded	1	4	1	2	0	2	0	1	0	0	0	0	6	2	5	3	0	3	0	2
Recording Rate (%)	4.0	9.1	2.4	3.3	0.0	2.4	0.0	1.2	0.0	0.0	0.0	0.0	4.6	1.4	6.8	4.9	0.0	4.4	0.0	1.8

to breed. Fledged young are usually apparent in late August (see *Breeding* below) and overlap with the autumn peak in occurrence i.e., weeks 36 and 37 (2nd September to 15th September). The period from week 32 to 37 (5th August to 15th September) accounts for most (17 of 19) of the counts of two or more birds (*Figure 178)* with the maximum count in this period being of four birds on the 20th and 21st August 2005, 6th September 2021 –surprisingly, also with one count in spring on the 15th May 2020. Autumn departure dates range between 1st August (2004) and the 25th September (2008 and 2019) and have a median of the 9th September (n = 19)

Breeding In the period prior to 2004 confirmed breeding is shown in TL10X in the 1967-73 Hertfordshire Bird Atlas and there are specific records of recently fledged young from 1998 (family of up to six birds from the 19th August), 28th August 1999, 5th August 2003 as well as a general record from the 2001 Hertfordshire Bird Report of "*Breeding was confirmed at … Tyttenhanger GP*…" (see *Table 109)*. The last breeding on-site was in 2005 and 2006.

Additional Information: *Appendix 1* – Migrant Arrival and Departure (*Figure A1-1*); *Appendix 4* – Year Lists.

Pied Flycatcher *Ficedula hypoleuca* (1, 3; 1) [All]

Rare visitor with single birds occurring on six occasions.

2023. Not recorded.

Summary. Just six occurrences from five years between 1998 and 2022; all summarised below.

1998. A single bird (unsexed) on the 4th September was the first record for the site.

2010. An unsexed bird behind the hide in the afternoon of the 16th September.

2013. A single (unsexed) in Garden Wood on the 27th August.

2021. A male on the 12th April alongside Willows Farm Lake.

2022. An unsexed bird on the 17th August (Birdtrack) and a female-type bird on the 10th September near the Main Pit (see photo).

Photo courtesy of Ricky Flesher.

Additional Information: *Appendix 4* – Year Lists.

Penduline Tit Remiz pendulinus (1, 1, 1) [All]

Very rare visitor recorded on just one occasion.

2023. Not recorded.

Summary. A male found on 16th April 2018 feeding on reedmace heads in the Back Scrape initially proved to be a little elusive but eventually showed well through until it went to roost at around 7.20 pm that evening. The following morning the bird was seen for a short time before it flew high and headed off north east at around 6.45 am. The bird was seen to be ringed and sufficient information could be garnered from images of the ring to identify the Tyttenhanger GPs individual as a bird that had spent several weeks in Gloucestershire over the previous winter. This was a first for the county and the first time Tyttenhanger GPs brought up the honours for a county-first since the *Lesser Scaup* in 1996 and the *Caspian Gull* in 2006.

Additional Information: *Appendix 4* – Year Lists.



Undoubtedly the bird of 2018 this stunning male Penduline Tit was *found on the 16th April 2018 on the Back-Scrape. The image on the right clearly shows the ring that allowed the identity of the bird to be traced to a visitor the previous winter in Gloucestershire. Photos courtesy of (l to r) Steve Blake – David Hutchinson – Steve Blake*

Long-tailed Tit *Aegithalos caudatus* (5, 20, 35) [≥20]
Common resident and breeding species.

2023. The 63 days-recorded this year when corrected for poor coverage (116 days), was slightly better than the long-term (2004-23) median of 102 corrected days-recorded. The maximum count of the year was 29 birds on the 30th December (*Table 110)* and there were three other significant counts (≥20 birds) one each in January, June and September. Strangely, although numbers were reasonably good in most months and included a count of 20 birds on the 27th June, there were no records at all in July and August. The only breeding related-record for the year was of nest-building on the 1st April.

***Table 110**. Monthly maxima for the four common species of tits in 2023.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Long-tailed Tit	20	13	10	10	4	20	0	0	20	15	14	29
Blue Tit	30	33	16	12	7	14	6	6	18	11	10	14
Great Tit	26	23	14	8	6	12	5	4	12	8	6	16
Coal Tit	5	2	0	0	0	0	2	0	1	0	0	0

Months are at or above the 2004-23 median values are highlighted- see *Table 111* for median values.

Pre-2004. The best-recorded of the common tits[119] in the years prior to 2004, the first record is from the 10th September 1983 with a further 83 days recorded until the end of 2003. Most records of this species (61.2%) produced counts with the largest being 35 birds on the 23rd June 1998 – which is a joint site-record. There are six other significant counts (≥20 birds) before 2004, all between the 22nd October 1995 and 20th September 2001.

[119] Although the affinities of the Long-tailed Tit are not close to those of the true-tits (*Paridae*) their similarities in behaviour and frequent co-occurrence in the winter months has led us to consider Long-tailed Tit, Blue Tit, Great Tit and Coal Tit as the "*common tits*". The other *Paridae*, Willow Tit and Marsh Tit are obviously considered separately.

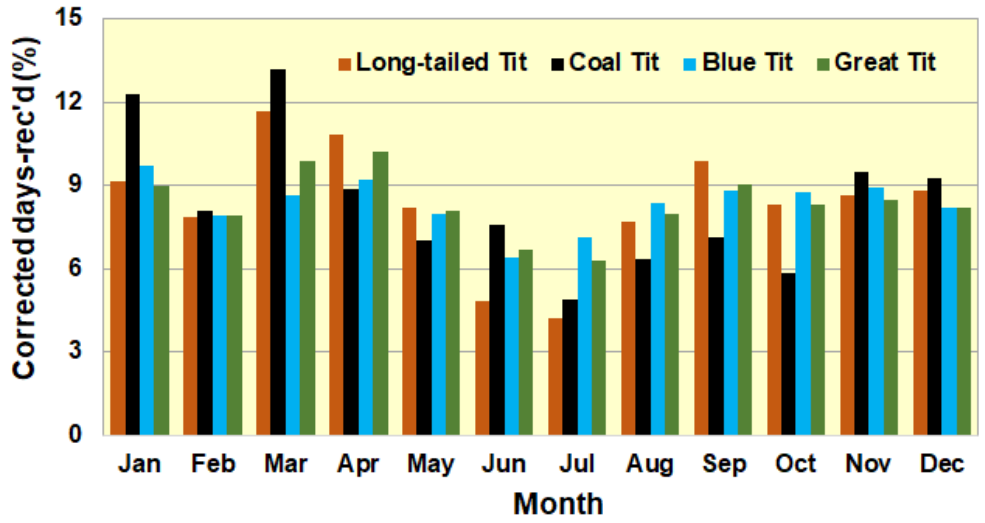


***Figure 179**. Monthly diistribution of corrected days-recorded (2004-23) for Long-tailed Tit, Coal Tit, Blue Tit and Great Tit.*

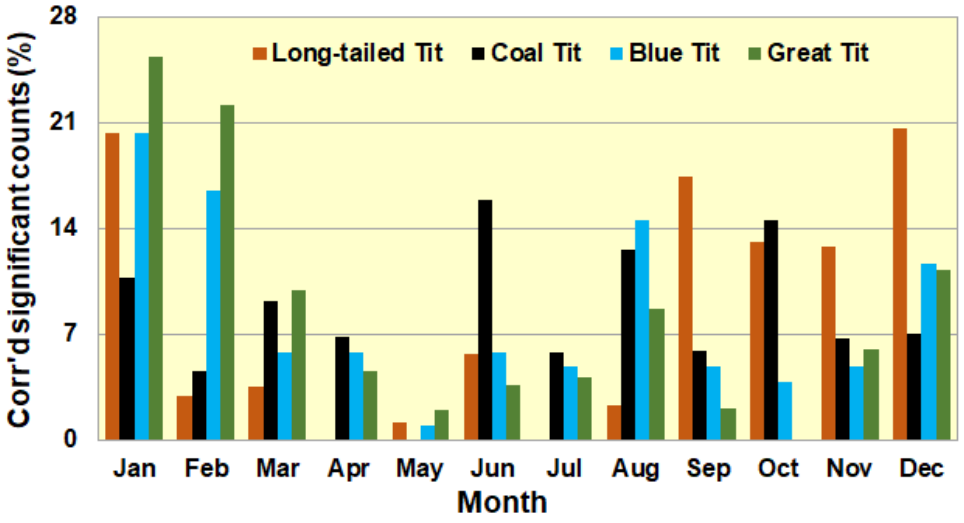


***Figure 180**. Monthly distribution of significant counts for Long-tailed Tit (≥20), Coal Tit (≥3), Blue Tit (≥20) and Great Tit (≥18).*

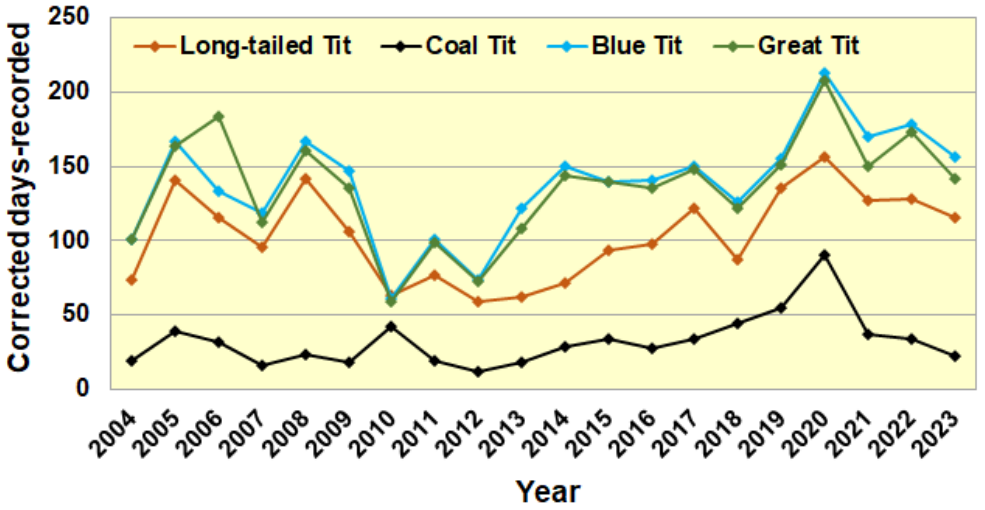


***Figure 181**. Corrected days-recorded for the years from 2004 to 2023 for Long-tailed Tit, Coal Tit, Blue Tit and Great Tit.*

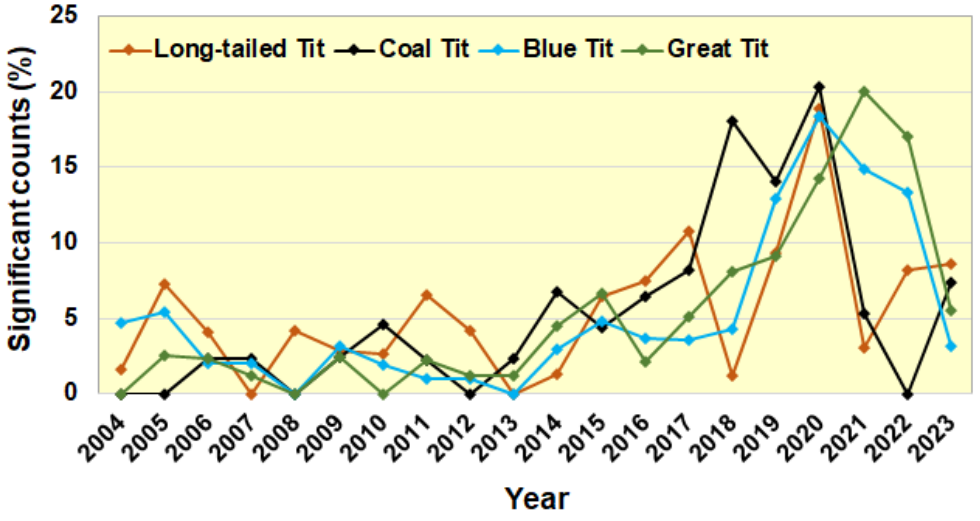


***Figure 182.** significant counts for Long-tailed Tit (≥20), Coal Tit (≥3), Blue Tit (≥20) and Great Tit (≥18).*

2004-23. After 2003 the overall record shows fluctuations in year-to-year occurrence and follows a similar pattern to both Blue Tit and Great Tit - although generally less frequently recorded in most years than Blue and Great Tits (the overall recording rate is 31.9% for Long-tailed Tit and 42.6% and 41.7% for Blue and Great Tits respectively) (e.g. see *Figure 181*). The monthly pattern of occurrence is similar to the other common tits but shows a small peak in March and April along with a typical summer trough in June and July (*Figure 179*). Significant counts (≥20 birds) have become more frequent in the recent past (*Figure 182*) but this seems to have been driven more by modified recording habits rather than any real increase in numbers. The monthly

distribution of significant counts from the period 2004-23 (*Figure 180*) shows an obvious peak from September through until January with few from February to August - and none at all from April and July. The maximum count in this period was of 35 birds on the 11th March 2017, 27th October 2019 and 31st December 2020 – a count shared with the 23rd June 1998 (see above).

Breeding. The period prior to 2004 produced confirmed breeding records in 1986 and 1997 ("*family parties*" on separate dates in June and July) along with confirmed breeding results from TL10X in both the 1967-73 and 1988-92 Hertfordshire Bird Atlases. There was a confirmed breeding record in 2005 but then a gap of 5 years until 2011 with confirmed breeding in every year from then until 2022.

Additional Information: *Appendix 4* – Year Lists. See also *Table 110, Table 111* and *Figures 179-182*.

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

Common resident and breeding species.

2023. The early part of the year produced counts of 33 on 5th February and 30 on the 1st January which were also the only two significant counts of the year. Monthly maxima from January through until June were above the 2004-23 median, as were September and October (*Table 110*). Nest building was observed in April and recently fledged birds on the 10th June confirmed breeding for the year. Overall, the 85 days-recorded, after correction for the low coverage (157 days) was a little above the 2004-23 median of 141 corrected days.

Pre-2004. From the first record on the 7th August 1983 until the end of 2003 this species was recorded on just a further 68 days. Less than half of the records in this period produced a count and the largest count was of 16 birds on the 5th February 1984.

2004-23. The period after 2003 has produced a total of 2364 days-recorded and an overall recording-rate of 42.6% with 733 (31.0%) of the days-recorded failing to produce a count. The distribution of days-recorded through the year shown in *Figure 179* and generally agrees with the trends of the other three common tits - albeit showing slightly less month to month variation. The distribution of significant counts (≥20 birds) shows a very clear winter peak in January and February and another in August, the latter almost certainly corresponding to post-breeding aggregation of birds (see *Table 111* for monthly maxima). The long-term trend in days-recorded (*Figure 181*) is almost identical to that of Great Tit, the closeness suggesting that recording-biases are a major driver of the observed variation rather than any real differences in occurrence[120]. Similar factors are probably also driving the year-to-year variation seen in the number of significant counts (*Figure 182*) with the 2020 peak resulting from local birding initiatives during the COVID-19 pandemic response (see also *Appendix 2*). The maximum count for the site is 50 birds, noted on the 30th December 2006 and the 5th August 2010.

Breeding. There is a single confirmed breeding record in the Tyttenhanger GPs dB prior to 2004 with recently fledged birds noted on the 14th July 2002, however, both the 1967-73 and 1988-92 Hertfordshire Bird Atlases show this as a confirmed breeding species in TL10X. In the 20 years since 2003 breeding has been confirmed in all years with the exception of 2018 – which is probably a record for any species at Tyttenhanger GPs.

Additional Information: *Appendix 4* – Year Lists. See also *Table 110, Table 111*, *Table A2-1, Table A2-3, Figures 179-182* and *Figure A2-3*.

Great Tit *Parus major* (5, 20, 50) [≥18]

Common resident and breeding species.

2023. A total of 77 days-recorded (corrected for coverage to 142 days – see *Figure 181*), a maximum of 26 birds on the 1st January and monthly maxima in most months above or equal to the 2004-23 median values (see *Table 110* and *Table 111)* signals this as a reasonable year.

Pre-2004. Days-recorded prior to 2004 are quite thin-on-the-ground (56) and while the first record is from the 7th August 1983, subsequent database entries produced a maximum count of just 10 birds (on four dates between the 14th July 2002 and 30th November 2003) with only 21 days of the 56 producing a count.

2004-23. Since 2003 this species has been recorded on 2316 days (recording rate 41.7%), had a no-count rate of 30.1%, a maximum count of 50 birds (30th December 2006) and a distribution of days -recorded (after correction) as shown in *Figure 179* – all parameters that are virtually inseparable from those of *Blue Tit*. The similarity does not stop there as shown by the annual distribution of significant counts (*Figure 182*) and the monthly distribution of significant counts *(Figure 180)*. Even the differences between the two species in the monthly distribution of significant

[120] It is worth noting the recording frequency from a regular observer for this species in the 3 years from 2022 to 2024 (*Table A2-3*) is in excess of 90% and is probably a more reliable indicator of how frequently this species is encountered on-site.

counts (*Figure 180*) are comparable albeit with slightly more variation than in the other parameters. The co-occurrence of the two species in mixed feeding flocks through much of the year and probable perceptions of their "notability" probably means they are treated similarly by most observers and hence the similarity in their database-footprint.

Breeding. There is a single confirmed breeding record in the Tyttenhanger GPs dB prior to 2004 with "*family parties* noted on the 14th July 2002; the 1967-73 Hertfordshire Bird Atlases shows this as a probable breeding species in TL10X and the 1988-92 Atlas as a confirmed breeder. In the 20 years since 2003 breeding has been confirmed 16 years - 2014, 2011-12 and 2022 the exceptions.

Additional Information: *Appendix 4* – Year Lists. See also *Table 110, Table 111* and *Figures 179-182*.

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

Resident at low density that breeds in most years.

2023. Just 12 days recorded this year (a recording rate of 6.8%), a maximum count of five birds on the 1st January (a record count for the month) along with three birds on the 27th January and two birds on single days in February and July. There were no records this year after the 30th September but there was a record of recently fledged birds on the 2nd July.

Pre-2004. This species has always seemed to occur with low numbers but has occurred regularly in the last 20 years. It was therefore a surprise to find that records prior to 2004 are relatively rare and that the Tyttenhanger GPs dB shows only 11 days recorded. The first record is from the 27th August 1983 and this and all of the records (seven) through until 6th July 1985 come from the personal records of a Tyttenhanger regular. The remaining three records are from the Herts Bird Club dB and include a breeding record (FL) from 1989, a record from Coppice Wood in October 1997 and then a record from Garden Wood in the same year. There is then a gap until 2003 when a bird was noted in Coppice Wood on the 14th June.

2004-23. Even from early 2004 entries in the Tyttenhanger GPs dB become more regular and suggest that recording/data-capture issues were a large contributor to the lack of records in the dB prior to this. The overall recording rate for the period 2004-23 was 10.3% with yearly rates ranging from 3.6% (2012) to 27.9% (2020) (see also *Figure 181*) alongside which, the overall no-count rate was very low at just 0.7% of days-recorded – the latter being a good sign a species is considered by most observers to be worth recording (*Appendix 2*). As seen in *Figure 179* the pattern of occurrence through the year is similar to the other common tits, but does show a clear peak in January and March, with a very obvious "February depression" (see *Appendix 2)*. The pattern of significant counts (≥3 birds) through the year is however, very unusual (*Figure 180*); which may be partly due to the small number of counts involved (just 59) and the low threshold (3 or more birds) which could introduce some noise into the analysis[121]. *Figure 182* shows the annual distribution of significant counts in this period and suggests similar drivers around data recording/capture may be acting for all of the common tits. Note however the peak in 2018 seems to be unique and suggests that other factors are also at work and may even indicate a short-term change in abundance (as does the low 2022 result). Finally, the maximum on-site count was 7 birds on the 17th July 2020 with a count of 6 birds on the 17th February 2018 being a close second.

Table 111. *Summary of monthly maxima for the periods 2004-23, 1983-2003 and the median values for 2004-23 for the four common tit species. See Table 110 for 2023 data*.

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Coal Tit	**2004-23 Maximum**	5	6	4	4	2	5	7	5	5	5	5	4
	Median 2004-23	2	2	2	1	1	2	1	2	2	1	2	2
	1983-2003 Maximum	0	0	0	0	0	2	0	0	2	3	0	1
Long-tailed Tit	**2004-23 Maximum**	30	20	35	12	20	30	18	26	30	35	28	35
	Median 2004-23	20	12	8	6	7	8	7	12	16	16	13	18
	1983-2003 Maximum	23	4	5	4	1	35	10	12	20	20	26	20
Blue Tit	**2004-23 Maximum**	36	35	35	25	20	30	25	50	30	28	27	50
	Median 2004-23	20	19	12	11	6	11	9	19	12	10	12	13
	1983-2003 Maximum	4	16	6	1	4	5	10	5	1	8	15	15
Great Tit	**2004-23 Maximum**	40	40	25	25	22	30	30	45	28	16	28	50
	Median 2004-23	20	14	14	8	5	9	6	15	10	8	8	10
	1983-2003 Maximum	4	7	1	0	0	5	10	2	0	10	10	8

[121] If the analysis is extended to include counts of 2 birds, 37.8% of all counts are now included i.e., single birds account for 62.2% of all counts, and the plot looks much more like those of the other three species (data not shown).

Breeding. The only specific confirmed breeding record before 2003 was of a family party at Colney Heath on the 4th June 1989, after 2003 there is confirmed breeding from 11 of the 20 years up to 2023.

Additional Information: *Appendix 4* – Year Lists. See also *Table 110, Table 111* and *Figures 179-182*.

Willow Tit *Poecile montanus* (0, 0, 2) [All]

Previous resident and breeding species last recorded in 1991.

2023: Not recorded.

Summary. This species was already in decline in the county when regular observation at Tyttenhanger GPs begun in the early 1980s, so given subsequent events it is hardly surprising there are a relatively small number of records all of which are summarised below (and in *Figure 184).*

1967-73. The first Hertfordshire Bird Atlas shows this as a confirmed breeding species in TL10X. The 1972 Hertfordshire Bird Report stated "*Widely recorded from many localities*".

1986. Three records for the year from 24th and 30th August and 25th October. A single bird noted in the first record but no count given for the other two records – a strong indication the latter was not considered especially notable (Tyttenhanger GPs dB- TdB).

1987. Two records for the year – a single on the 21st March and then a pair on the 29th. (TdB).

1988. Five records for the year with a single on the 16th January, two birds on the 20th February, one on the 1st July (noted as "*recorded during month*"), two on the 26th December and a further record of "present" on the 30th December. (TdB).

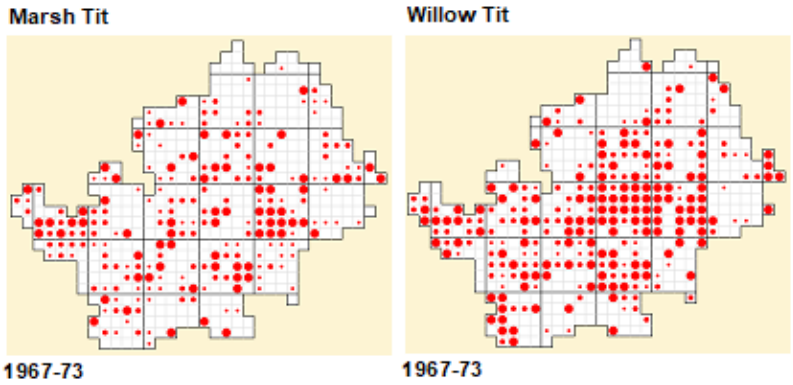


***Figure 183**. Breeding distribution of Marsh Tit and Willow Tit at the time of the 1967-73 Hertfordshire Bird Atlas.*

1989. A record of two birds ("*family party*") from "*Colney Heath*" on the 4th July may have not been on-site, but a single bird on the 4th September was (TdB).

1990. A single on the 15th September was the only record for the year (TdB).

1991. The Hertfordshire Bird Report states "*Pairs were noted in the breeding season from … Tyttenhanger GP*". The database also shows a record of a single bird on the 16th June.

Breeding. The 1967-73 and 1988-92 Hertfordshire Bird Atlases both show this as a confirmed breeding species in TL10X but by the 2008-12 Atlas it had disappeared completely as a breeding species in the county. The last breeding in the county was in 2000 (Smith *et al.*, 2015); the species was added to the Hertfordshire list for rare birds in 2004 and the last proven record in the county was in 2007.

Additional Information: *The First Gravel Pits; Appendix 4* – Year Lists.

Marsh Tit *Poecile palustris* (0, 7, 2) [All]

Previous resident and breeding species that is rapidly declining in Hertfordshire. This species was last recorded at Tyttenhanger GPs in 2017.

2023: Not recorded.

Pre-2003. At the time of the 1967-73 Hertfordshire Bird Atlas this was clearly a less common bird in the region around Tyttenhanger than Willow Tit (see *Figure 183*), but while the latter declined rapidly over the next 20 years this species appeared to hold its own in the region. The first record in the Tyttenhanger GPs dB is from the 10th September 1983 and while there is a second record on the 30th October of that year there was then a six-and-a-half year gap to the next record. Four records from the 17th March 1990 to the 19th July 1992 and a mention in the 1990 Hertfordshire Bird Report preceded another gap of three years until the 3rd August 1995. The last record in this period was of two birds in Coppice Wood on the 27th May 2003. A retrospective analysis of on-site distribution of occurrences shows a strong relationship between visits to Coppice Wood and records of this species from roughly 1995 until the end of the period.

2004-23. The database entries in this period are quite patchy (see *Figure 184*) but as with the earlier period does map quite closely to visits to Coppice Wood. These visits in the period from

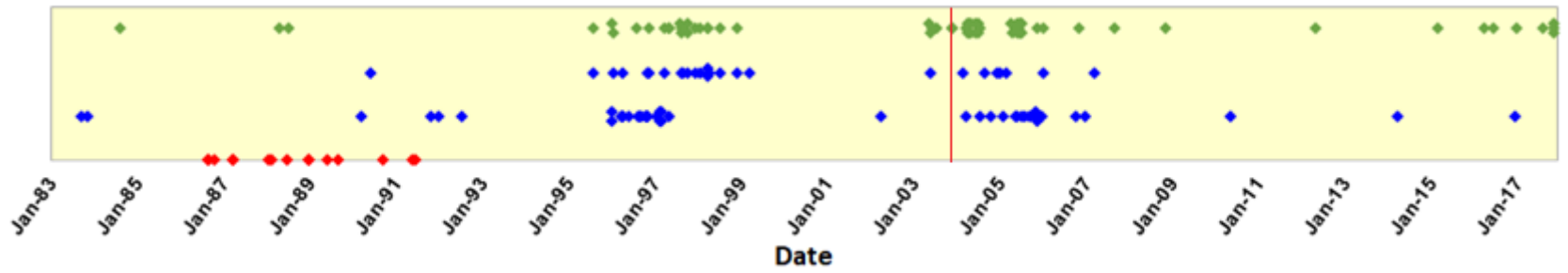


***Figure 184**. Temporal distribution of records of Marsh Tit (♦) (single birds - lower points; two birds – higher points), Willow Tit (♦) and of known visits to Coppice Wood (♦). The vertical red-line marks the start of the period 2004-23.*

2004-2007 were once again quite frequent and there were few records away from this site during this time. In fact, looking back on the records from 28th February until the 31st March 2007, of 22 records all but four were specifically from Coppice Wood[122]. Going back and plotting the occurrence of Marsh Tits and known visits to Coppice Wood we see there is congruence between the two for the 12 years in question. The gap between 1999 and 2004 appears to map to the lack of records from Coppice Wood although the possibility also exists that visits were made but the location was not specifically mentioned. After 2007 there was another decline in visits made to Coppice Wood and again the records of Marsh Tit begun to fall with the only records coming on the 18th May 2010 (Model railway), 12th April 2014 (Plantation Wood near Tyttenhanger Farm) and the last record on the 2nd January 2017 (Garden Wood). The flurry of visits to Garden Wood around the end of 2017 coincide with the discovery of *Hawfinches* there – but unfortunately these visits failed to locate any Marsh Tits. In summary, between the 10th September 1983 and 2nd January 2017 there were 69 days-recorded. The majority of daily maxima (42 days - 60.9%) were of just single birds with two days (both in 1983) producing no-count and a count of two birds made on 25 dates. The only confirmed breeding record comes from the 1988-92 Hertfordshire Bird Atlas. Of course, the story of the last few years has been the rapid decline of this species in the UK and even more noticeably in the county, where confirmed breeding reports have ceased. The species has almost certainly disappeared from Tyttenhanger GPs and it remains to be seen if any further records will occur.

Additional Information: *Appendix 4* – Year Lists.

Photo courtesy of Rupert Evershed.

Bearded Tit *Panurus biarmicus* (1, 1, 1) [All]

Rare visitor recorded on just one occasion.

2023. Not recorded

Summary. The only record is of a male which was initially heard and then showed well in the reed-bed below the High Viewpoint on the 11th March 2022. It was also seen in the same location on the 12th and 14th but unfortunately didn't stay around any longer. This was the last species to be added to the Tyttenhanger GPs list and brought the total to 208 species. It is hoped this is not the last record of this species - nor the last species to be added to the Tyttenhanger GPs list.

Additional Information: *Appendix 4* – Year Lists.

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

Common resident and species that probably breeds in most years; most frequently (68.8%) reported as single birds.

2023. Just 15 days-recorded this year and a recording rate of 8.5% (≥ 10 birds) (2004-23 median = 12.5%) makes it a poor year for this species. The highest count of the year was just three birds on the 10th September and the last three months of the year failed to produce a record. Hopefully this poor result is due to reduced coverage in the wooded areas rather than any general decline.

[122] The four other records were from Tyttenhanger House (1), Model railway (1), Garden Wood (1) and one from an unspecified location.

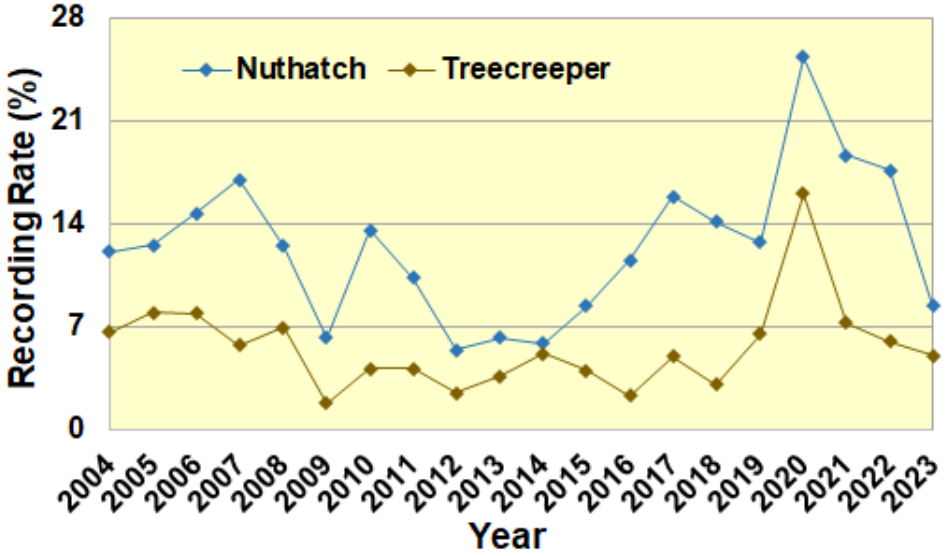


Figure 185. *Recording rate for Nuthatch and Treecreeper in the period 2004-23.*

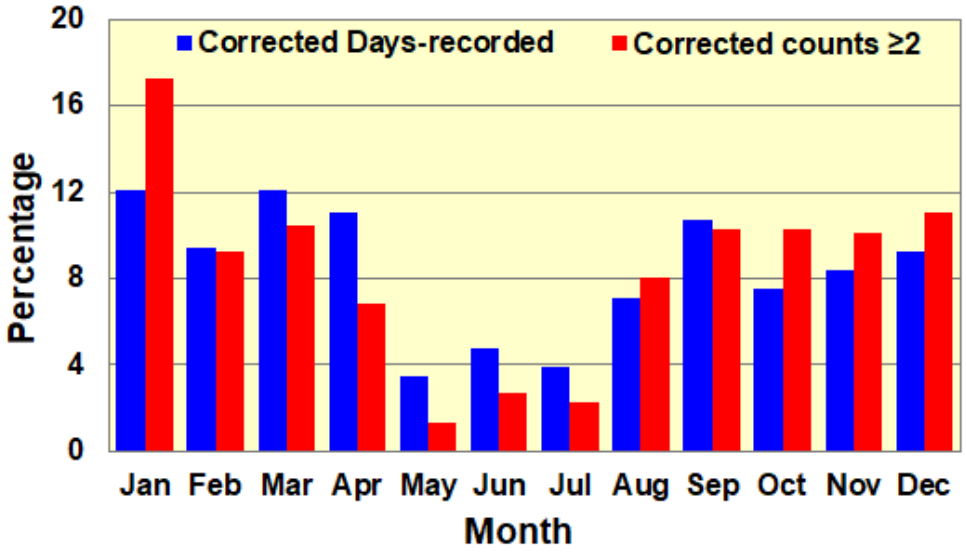


Figure 186. *Monthly diistribution of percentage of corrected days-recorded and significant counts for Nuthatch in the period 2004-23.*

Pre-2004. The Tyttenhanger GPs dB shows a reasonable number of days-recorded (71) in the period prior to 2004 although a number of these (16) contain no-count and there is a gap between 1989 and 1994 (inclusive) when there are no records at all. The first record was on the 10th September 1983 and the maximum count was of 4 birds on the 6th October 1984. The majority of counts (41 - 57.7%) were of single birds.

2004-23. After 2003 the database record is more comprehensive and includes a total of 701 days-recorded (reporting rate of 10.8%) and a maximum count of six birds on four dates in the winter of 2020/21 (12th September 2020 to 2nd January 2021). Counts of two or more birds comprise 31.2% of all counts and are distributed by month as shown in *Figure 186*. The monthly distribution of days-recorded shows the fairly typical trend of many "resident" species, a peak in the winter months and a trough in the summer; this is one of the species that shows an obvious February depression in occurrence (see *Appendix 2*) – although in this case it might well be a case of a January peak resulting from exuberant year-listing.

Breeding. Interestingly there are breeding records for the site mentioned in the Hertfordshire Bird Reports from 1986, 1987, 1996 and 1998 – suggesting breeding was poorly recorded in the county at this time – despite the results in the 1988-92 Hertfordshire Bird Atlas that showed Confirmed Breeding in 158 tetrads (45.8%) – including TL10X. The latter along with the probable breeding result in the 1967-73 Hertfordshire Bird Atlas complete the picture prior to 2004. From 2004 to 2023 there are a further six years in which breeding was confirmed (2010, 2011, 2014, 2015, 2020 and 2021).

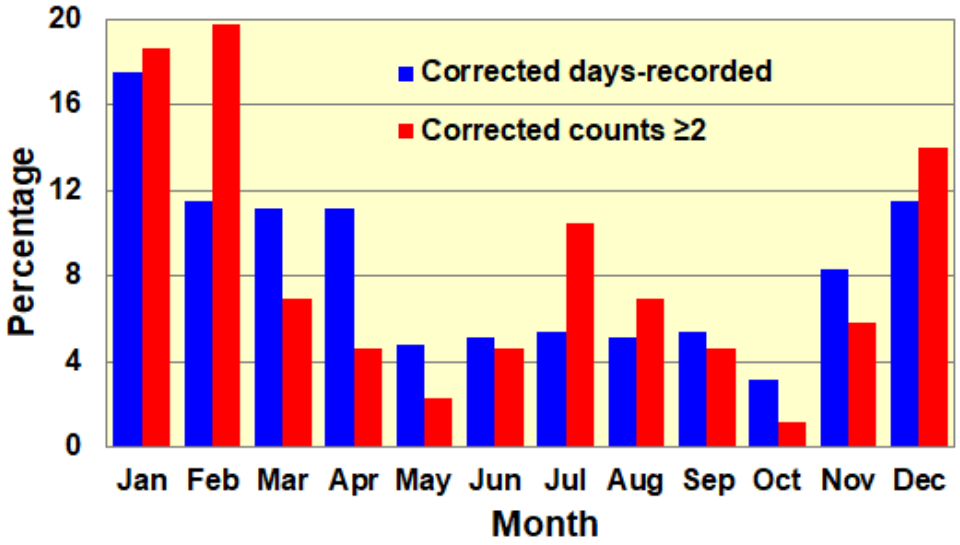


Figure 187. *Monthly distribution of percentage of corrected days-recorded and significant counts for Treecreeper in the period 2004-23.*

Additional Information: *Appendix 4* – Year Lists.

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

Resident at low density that probably breeds in most years; most counts (70.3%) have been of single birds.

2023. Just nine days recorded for the year and a maximum count of three birds on the 3rd March made for a very ordinary year – even after correction for the poor coverage (see Figure 174 - median recording rate for 2004-23 is 5.14%; 2023 = 5.08%). While the recording rate may not have been surprising it is a little worrying there was only a single record after the end of April (29th July). There were no breeding-related records this year.

Pre-2004. There are relatively few records in the Tyttenhanger GPs dB in the period prior to 2004 and with many failing to provide counts there are no discernible trends. Of the 38 days-recorded 11 produced no-count, 20 were of single birds and the maximum count of three birds was made on the 17th January 1988 and the 21st April 2003.

2004-23. The overall recording rate improved dramatically after 2003 (up to 5.7% from 1.2% before 2004) and the frequency of no-counts dropped to just 2.9% (just 9 of the days recorded from a total of 314). There is a degree of variability in occurrence between *years (Figure 185)* but some of this variability is undoubtedly due to observer habits i.e. the very high rate in 2020 appears to be due to the concerted efforts of a single observer. The pattern of monthly occurrence *(Figure 187)* shows a peak from November through to April with the greatest proportion of records in January. Counts of ≥2 birds show a clear winter peak (December to February) – but interestingly shows a smaller peak in July that coincides with a smaller number of records of family parties. The maximum count of ten birds was a site-wide count made on the 11th December 2020. The next highest counts are of five birds from the 7th February and 11th December 2020.

Breeding Despite the availability of suitable breeding habitat across the site, its secretive nature tends to contribute to the difficulty in obtaining confirmed breeding records. The only record prior to 2004 is the confirmed result from the 1988-92 Hertfordshire Bird Atlas while the last 20 years has produced records from six years (2010, 2012-13 and 2019-21).

Additional Information: *Appendix 4* – Year Lists.

Red-backed Shrike *Lanius collurio* (0, 0, 1) [All]

Rare visitor recorded on just one occasion.

2023. Not recorded.

Summary. Showing as a confirmed breeding species in the county during the 1967-73 Hertfordshire Bird Atlas (eight tetrads -not including TL10X), breeding had ceased soon after and from 1974 through until 1996 there were just eight records in the county. The only Tyttenhanger GPs record came on the 31st August 1996 when a juvenile bird was found but "*remained in the general area for just one day*"[123].

Additional Information: *Appendix 4* – Year Lists. See also *Records not Assessed.*

[123] The quote provided is from the 1996 Hertfordshire Bird Report. However, this ostensibly simple record has more twists than a piece of liquorice. First, the 1996 Tyttenhanger GPs Bird Report states "*A popular if mobile juvenile, found by Jack Fearnside and Marcus Brew on 31/8, was seen by many visitors as it roamed around Bowman's Farm area for just one day. This was the first record for the site in recent history*." The latter part of this statement is intriguing as we are not aware of any historical records for the site although Sage (1959) does suggest it was still quite common in the county at the end of the 1950s. Second, the Tyttenhanger GPs dB contains a record from the 29th August, again of a juvenile bird, suggesting the same bird was present before the 31st. Third, additional details from the database suggest the bird was a "j*uvenile male"* and it was *"in [the] dahlia field".* Personal recollection indicate this field may have been the field on the left of the driveway into Willows Farm, which after years of being open pasture was converted to flower-growing in the recent past. Finally, as if all of the above does not provide enough intrigue, the record is shown in Smith *et. al.* (2015) as having been on the 13th August – clearly a typho!

Raven *Corvus corax* (5, 13, 4) [All]

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

2023. After just three days-recorded in 2022, this year proved to be a bumper year with a total of 16 days recorded (despite the low coverage) of which ten produced counts of 2 birds. Days-recorded were distributed through the year as shown in the *Table 112* - interestingly showing more autumn than spring records. Despite the good number of records this year we are still waiting for our first February and June records.

Summary. The re-colonisation of Hertfordshire was a long-time in the making with historic records showing the last breeding in 1846 before the species was persecuted into the far-flung reaches of the country. There were occasional records in the last century through to the 1960s (see Gladwin and Sage, 1985), and then a gap of 31 years before the next record in 1999. Records increased dramatically after this and by 2006 the first recorded breeding in the county for 160 years had occurred. The expansion has continued and Tyttenhanger GPs soon became included in that event with the first record for the site of two birds on the 19th April 2009. There then followed a gap of nearly two years before the next records on the 16th and 17th April 2011, another gap of almost two years before the next record on the 13 April 2013, after which records became more frequent and started to occur in months other than April (see *Figure 188*).

***Table 112**. Monthly distribution of days-recorded in 2023, total days-recorded (2009-23) and counts of 2 or more birds (2009-23) for Raven.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days-recorded 2023	1	0	1	1	0	0	1	0	5	3	4	0
Total days-recorded	4	0	7	10	2	0	6	4	14	6	8	3
Counts of 2 birds	2	0	1	7	1	0	3	2	8	2	4	0

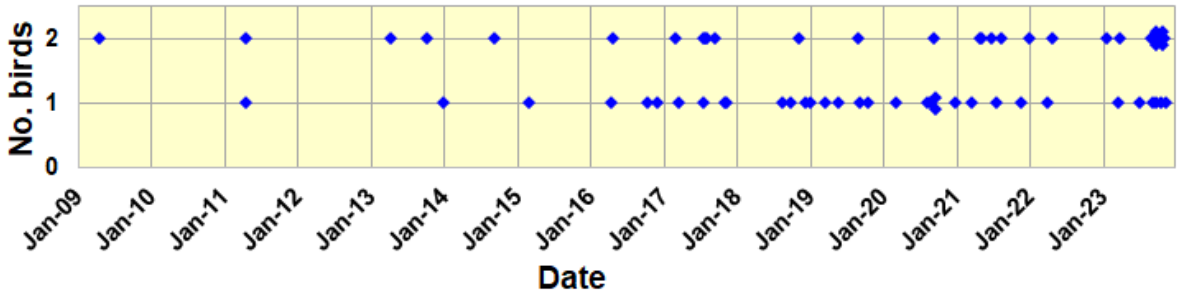


***Figure 188.** Timeline of all days-recorded for Raven in the period 2009-23.*

Up to the end of 2023 there was a total of 64 days-recorded – 30 of which produced a count of two birds (then the on-site record count). *Table 112* shows the monthly distribution of days-recorded (uncorrected), days-recorded in 2023 and counts of two birds.

Postscript. There were 36 days-recorded at Tyttenhanger GPs in 2024 with a count of four birds on the 16th June (a site-record count) and possibly a family party, suggesting local breeding, a bird was also seen flying over **Coursers Road** on the 15th February 2024 carrying nesting material. Although it seemed only a matter of time until breeding is confirmed at Tyttenhanger GP overall numbers seem to have dropped off in early 2025 and so we may need to wait a while longer.

Additional Information: *Appendix 4* – Year Lists.

Magpie *Pica pica* (5, 18, 75) [≥20]

Common resident.

2023. Once the low coverage for the year is considered this year was very similar to the last couple of years; corrected days recorded totalled 171 (176 in 2021 and 184 in 2022), eight significant counts (i.e., ≥20 birds; corrected to 15 with 30 in 2022 and 13 in 2021 – see also *Figure 189*) and only 14.4% of all records failing to produce a count (24.0% in 2022 and 15.5% in 2021 – see *Figure 191)*. The maximum count for the year was 38 birds on the 1st January (a January record) with five other months (February, March, April, September and December) producing significant counts (≥20 birds) with September also producing a month's record count of 35 *(Table 113).* The only breeding record for the year was of a bird sitting on a nest (ON) near Willows Farm Lake on the 16th April.

Pre-2004. The first entry in the Tyttenhanger GPs dB is on the 2nd July 1983 with most subsequent years until 2004 producing a few records making a total 99 days-recorded in this period. As with many species, there is a relatively high proportion of entries that did not include counts (43.3%) and the counts themselves show a bias towards significant counts i.e. ≥ 20 birds (21.4% of all counts). The maximum count prior to 2004 was of 55 birds on the 5th March 1992 with the 19th August the same year producing a count of 50 birds.

2004-23. The period after 2003 has seen this species consistently recorded, with an overall recording rate of 30.5% (range - 19.2% in 2010 to 61.9% in 2006). Occurrence through the year

Table 113. *Monthly maxima for Magpie, Carrion Crow, Rook and Jackdaw in the periods 2004-23 and 1983-2003 along with the medians of monthly maxima for the period 2004-23.*

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Magpie	**Maximum 2023**	38	22	27	26	18	18	10	16	35	12	16	20
	2004-23 Maximum	38	46	40	35	37	50	30	34	35	30	60	75
	Median 2004-23	20	20	17	14	9	10	9	14	13	13	15	14
	1983-2003 Maximum	41	24	55	3	1	10	12	50	13	21	28	33
Carrion Crow	**Maximum 2023**	21	28	12	42	10	9	12	12	100	30	40	20
	2004-23 Maximum	150	500	130	110	42	33	100	100	100	100	150	250
	Median 2004-23	30	39	26	25	10	10	9	12	22	20	55	18
	1983-2003 Maximum	10	29	100	57	50	8	8	100	70	100	50	150
Jackdaw	**Maximum 2023**	96	120	30	51	21	20	0	90	150	30	250	30
	2004-23 Maximum	500	300	92	51	30	60	220	200	300	280	400	500
	Median 2004-23	98	45	48	19	14	10	11	28	40	47	85	60
	1983-2003 Maximum	180	0	0	800	4	10	0	90	80	50	200	300
Rook	**Maximum 2023**	3	3	2	4	1	0	1	0	3	6	70	0
	2004-23 Maximum	135	68	60	23	12	20	54	50	20	30	70	117
	Median 2004-23	16	14	2	3	2	4	1	1	1	6	10	12
	1983-2003 Maximum	2	2	0	2	0	20	0	100	2	10	70	70

shows no substantial variation (see *Figure 190*), although the pattern of significant counts (≥20 birds) shows heavy skewing to January and February with the expected drop in the breeding season (May-August). The question of whether this species has become more abundant on-site is a little trickier to answer. It is clear from *Figure 189* the recent past has seen the relative proportion of significant counts increase – but there has also been a greater tendency for counts (rather than just presence i.e. no-count) to be made (*Figure 191*). Certainly, the maximum counts in 2018 (60 on the 4th November) and 2019 (75 on the 11th December - the site record) were the peak (see *Table 114)* – but even for a relatively sessile species such as Magpie, this is not necessarily a good indicator of overall abundance. The latter does indeed seem to be the case, and although there is evidence of increasing maximum counts there is less evidence to support increasing numbers overall.[124].

Table 114*. Maximum yearly counts for Magpie, Carrion Crow, Rook, Jackdaw and Jay in the period 2003-23. Total days-recorded in this period are also shown in the right-hand column.*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Days*
Magpie	15	19	27	24	22	16	21	28	29	36	22	23	31	36	17	60	75	50	35	46	38	**1692**
Carrion Crow	150	60	500	110	150	107	50	40	74	44	70	100	100	130	100	110	150	115	70	98	100	**1553**
Rook	50	41	108	68	67	30	74	21	40	117	80	50	56	50	40	20	10	50	34	135	70	**672**
Jackdaw	300	200	170	500	322	300	200	60	50	280	100	70	350	400	300	310	500	300	200	300	250	**2058**
Jay	4	5	6	6	7	5	6	7	9	15	4	10	4	6	8	15	12	8	10	7	6	**1469**

* Total number of days-recorded (un-corrected) in the period from 2003-23

[124] Plots of maximum count vs days of coverage show no evidence of a relationship but a plot of maximum count vs year does show a reasonably good positive relationship i.e. maximum count is increasing with time. However, when average count is assessed across the period 2004-23 there is no evidence there has been any increase with time i.e. median 7.9, range 5.7 (2013, 2016) to 12.2 (2022).

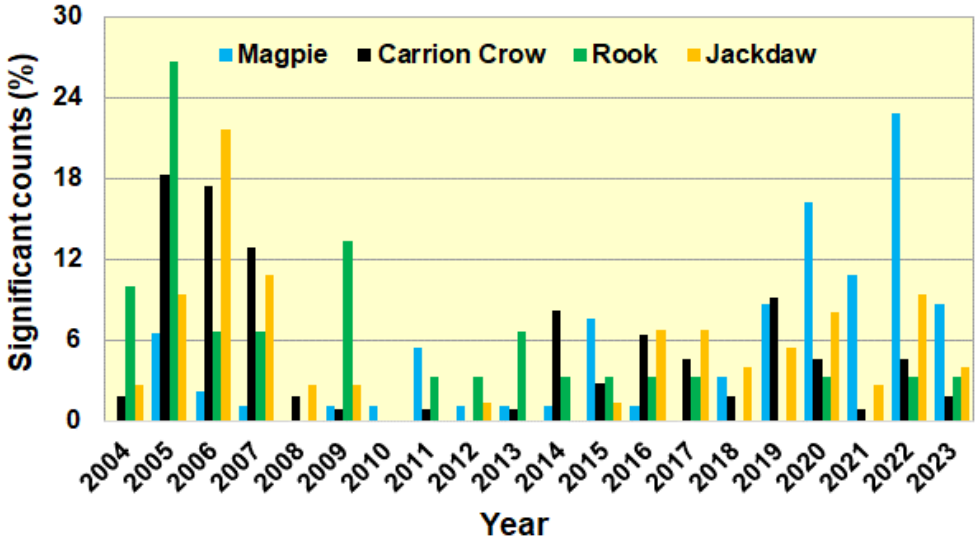


***Figure 189**. Percentage of of signiifcant counts for Magpie, Carrion Crow, Rook and Jackdaw in the years from 2004-2023.*

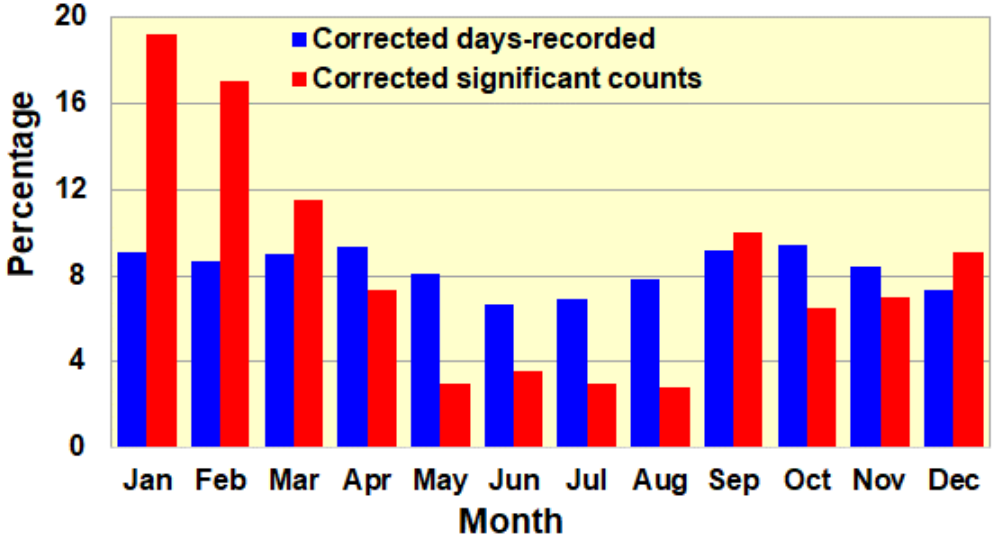


***Figure 190.** Monthly distribution of the percentage of corrected days-recorded and perrcentage of significant counts for Magpie in the period 2004-23.*

Breeding. Breeding records are very thin on the ground prior to 2004 with just the confirmed breeding noted in the 1966-73 and 1988-92 Hertfordshire Bird Atlases. After 2003 the first confirmed breeding was in 2008 with further confirmed records in ten of the years up to 2023 – including records in every year from 2017 to 2023.

Additional Information: *Appendix 4* – Year Lists. See also *Table 113, Table 114, Table A2-1, Table A2-3, Figure 189 and Figure 195.*

Jackdaw *Coloeus monedula* (5, 18, 500) [≥120]

Local breeder and common visitor to the site.

2023. A reasonable year for this species given the low coverage, with three months recording significant counts (≥120 birds in February, September and November) and a maximum count of 250 birds on the 5th November; the count of 51 birds on the 15th April was also a record for that month (*Table 113*). Probable breeding activity, nest-building/visiting possible nest, was recorded again this year (as it was in the last 5 years) but there was no confirmation of breeding. A summary of maximum counts in the period 2004-23 is shown in *Table 114*.

Pre-2004. The overall record for this species in the Tyttenhanger GPs dB prior to 2004 is very similar to many other common species i.e. relatively few records (recording rates of less than 5% in most years) and a tendency towards higher-counts/notable records (see *Appendix 2*). With just 58 days-recorded this species is clearly under-represented in the Tyttenhanger GPs dB but it does show a first record on the 17th September 1983 and the highest on-site count - 800 birds on the 21st April 1985[125]. Interestingly the next three figure count was not until the 10th November 1996, after which there were ten more counts up until the end of 2003 – five of which were at the end of 2003.

2004-23. Since 2004 this species has clearly been the most abundant of the four common corvids at Tyttenhanger GPs (e.g. see *Table 114*) – although it still only has an overall reporting rate of 37.1% in this period. Like the other common corvids it is subject to substantial fluctuations in reporting habits between years (e.g. see *Figure 191* and *Rook* for further discussion) and

[125] This count does not appear in the 1985 Hertfordshire Bird Report where the highest count noted that year was 100 birds. This is possibly an issue with data submission/capture in the paper-based years before the Herts Bird Club website was established i.e., the Tyttenhanger dB record is from the personal records of a long-term observer. See Smith *et al*., (2015) for further analysis of maximum counts of this species between 1982 and 2012.

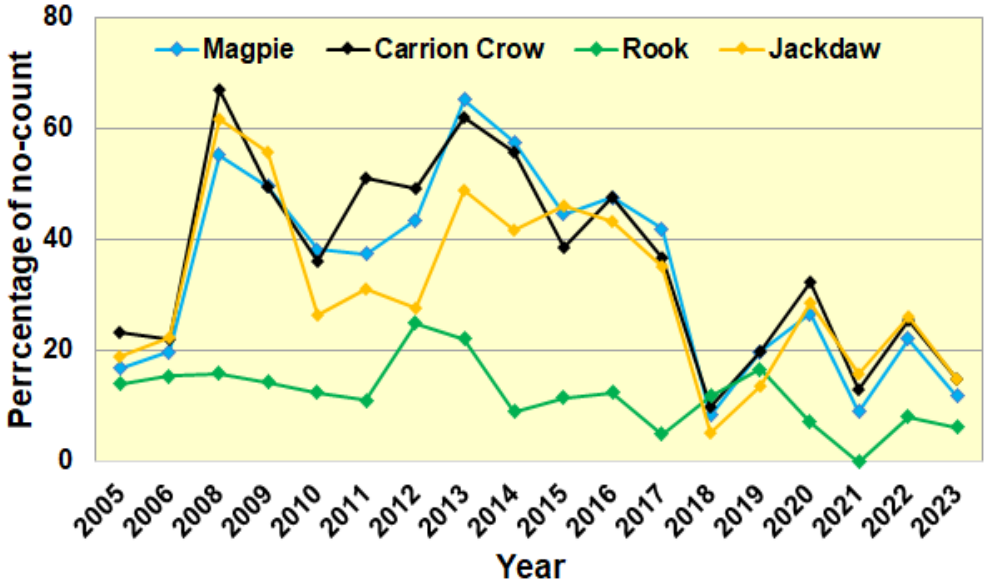


***Figure 191**. Proportion of no-counts (percentage of days-recorded) for Magpie, Carrion Crow, Rook and Jackdaw in the years from 2005-2023.*

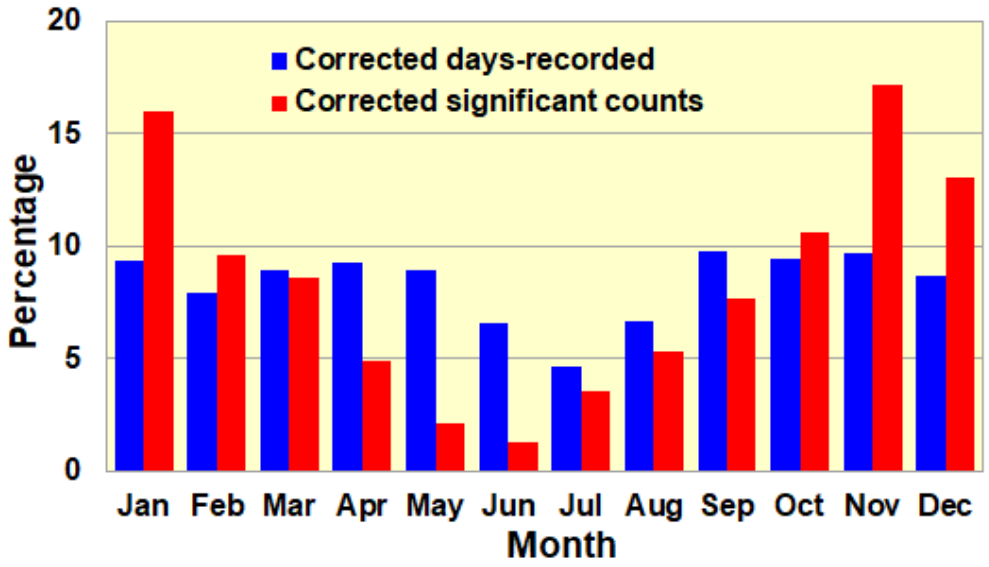


***Figure 192**. Monthly distribution of percentage of corrected days-recorded and significant counts for Jackdaw in the period 2004-23.*

although high counts tend to be reported they provide a poor estimate of abundance. Most years produce at least one or two significant counts (≥120 birds - *Figure 189*) but 2006 and 2007 were a little better than most. As expected, the harshest winter months (November to January) tend to produce most significant counts *(Figure 192),* albeit days-recorded are fairly consistent through the year with a slight trough between July and August. The highest counts since 1985 was of 500 birds on the 6th December 2005 and 1st January 2019; this period has also produced counts of 400 on the 7th November 2016 and 350 on the 21st November 2015.

Breeding. Confirmed breeding records for this species are only to be found in the Tyttenhanger GPs dB from 2005, 2019 and 2021 – although the Hertfordshire Bird Atlases of 1967-73 and 1988-92 both show confirmed breeding in TL10X - albeit these results may pertain to locations in the tetrad that are off-site.

Additional Information: *Appendix 4* – Year Lists. See also *Table 113, Table 114, Table A2-3, Figure 189 and Figure 195.*

Rook *Corvus frugilegus* (5, 20, 135) [≥36]

Local breeder and relatively frequent visitor to the site.

2023. Although there were just 16 days recorded this year, after correction for the low coverage this became a more typical 29 days (*Table 115).* Numbers through most of the year were in single digits but the evening of the 8th November produced a count of 70 birds flying over to the east - which also happened to be a record count for the month *(Table 113).* .

***Table 115**. Corrected days-recorded for Rook in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Median
Corr'd days-rec.	53	80	83	52	76	59	36	41	47	21	12	29	9	20	17	24	42	20	52	29	**38**
Average count	9.9	15.2	9.8	6.9	5.4	9.7	6.4	5.3	9.3	15.7	6.6	7.3	16.4	6.5	5.3	3.3	7.4	6.0	9.8	6.7	**7.1**

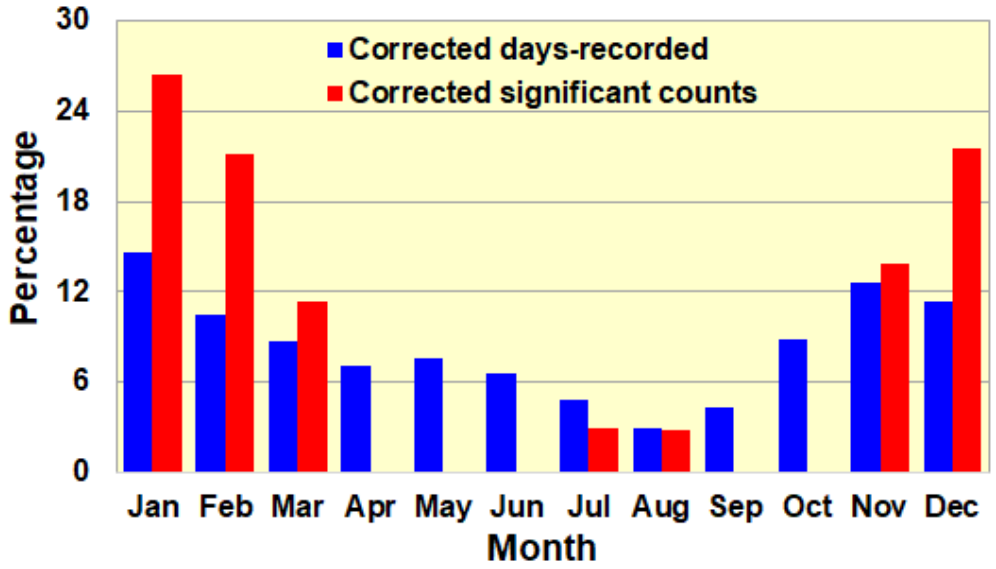


***Figure 193**. Monthly distribution of percentage of corrected days-recorded and significant counts for Jackdaw in the period 2004-23.*

Pre-2004. The earliest reference to Rooks at Tyttenhanger GPs is in van Koughnet (1895) which has the following (p143) "*Subsequent to the death of all Lord Hardwicke's sons*[126]*/*[c1810] *a curious fact was noticed at Tyttenhanger. The rooks in one body deserted the place; for many years they remained away, then in happier times they returned as suddenly and mysteriously as they had gone*"". The next reference to Rooks at Tyttenhanger GPs can be found in the 1971 rookeries survey (see *Breeding* below) followed by a record on the 30th October 1983 and a further 29 days-recorded in the Tyttenhanger GPs dB to the end of 2003. Records from 1988 and 1993 refer to the species being "*unusual*" and "*rare*" on-site which would certainly describe the infrequent pattern of occurrence in this period. Nevertheless, despite appearing only occasionally there are counts of 70 birds in November/December 1996 and a count of 100 birds on the 3rd August 1997. There is a gap in records between the 1st January 1999 and the 5th October 2003 – but the end of 2003 went on to produce eight days-recorded with a maximum count of 50 birds.

2004-23. More frequently recorded in the last 20 years, this species is generally the least often reported of the corvids - with the exception of Raven[127] (see *Figure 191).* The monthly pattern of occurrence and the distribution of significant counts (≥36 birds) is very similar to that of other corvids but with a more pronounced trough in days-recorded in the summer months (*Figure 193*). One thing that sets this species apart from the other common corvids is the ability to generate a count. As can be seen in *Figure 191* the no-count rate for this species has remained constant through this period whereas that for the other corvids has shown periods when it has been above 50%. The latter does seem to suggest that the majority of observers are aware of the local scarcity of Rooks and so both record and count them. Encouragingly, the no-count rate for all corvids has been relatively low in the past several years, but this may be due to the efforts of a few careful recorders . Counts of over 100 Rooks are rare and the maximum on-site count is of 135 birds on the 28th January 2022 – closely followed by 117 birds on the 28th December 2012 and 108 birds on the 30th January 2005.

Breeding. This has been confirmed just once on-site once when the 1971 Hertfordshire Bird Club rookeries survey found a small (4 nest) rookery near what used to be the Tyre Dump. However, the possibility exists the record from the early 1800's (see *Pre-2004* above) refers to Rooks breeding at Tyttenhanger rather than occasional visitors

Additional Information: *The First Gravel Pits; Appendix 4* – Year Lists. See also *Table 113, Table 114, Figure 189 and Figure 195.*

Carrion Crow *Corvus corone* (5, 20, 250) [≥50]

Common resident.

2023. While days-recorded this year were a little on the low side (88), the recording rate of 49.7% was still above the 2004-23 median of 44.3% (see *Figure 195*). The year produced two significant counts (≥50 birds) with a maximum of 100 on the 15th September (a record for the month). Despite the apparently average year it is notable that several months still managed to produce counts above the 2004-23 median values (*Table 113*). There

***Table 116**. Monthly distribution of corrected days-recorded and corrected significant counts (≥50 birds) for Carrion Crow in the period 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Corr'd days-recorded	164	150	163	178	163	133	132	138	172	155	161	129
Corr'd counts ≥50	23	19	14	6	0	0	1	3	7	5	36	23

[126] Philip Yorke, 3rd Earl of Hardwicke and his wife Elizabeth (nee Lindsay) had four sons and four daughters. The sons had all died by 1810 after which Lord and Lady Hardwicke moved to Tyttenhanger permanently where he died in 1834. His wife continued to live at Tyttenhanger and died at the ripe old age of 96 in 1856. Van Koughnet (1895) makes no mention of whether the rooks departed again along with Lady Hardwicke.

[127] In 2024 this was not the case, Rook producing 11 days-recorded while Raven notched-up an impressive 36 days-recorded.

was confirmed breeding this year with nest-building noted in March and then an occupied nest seen in April.

Pre-2004. The first record in the Tyttenhanger GPs dB is from the 9th July 1983 with a further 120 days recorded through until the end of 2003. Three figure counts before 2004 are relatively unusual with a maximum count of 150 on the 26th December 2003, and additional three-figure counts from 1994 (1), 1997 (2) and 2003 (1).

2004-23. After 2003 the maximum count for the species was of 500 birds on the 15th February 2005 – with the period 2005-2007 being the period that produced the highest proportions of significant counts (≥50 birds – see *Figure 189)*. Significant counts can occur at any time of the year but are generally more prevalent in the months from November to April (see *Table 116*).

Breeding. The only confirmed breeding before 2004 is from TL10X in the 1967-73 and 1988-92 Hertfordshire Bird Atlases. The 20 years since 2003 has seen confirmed breeding in seven years – 2010, 2011, 2017, 2019, 2020, 2021 and 2023; the record from 2021 is one of only two in the database that uses the BTO code UN i.e. used nest or eggshells – with the eggshells found on the 24th December 2021!

Additional Information: *Appendix 4* – Year Lists. See also *Table 113, Table 114, Table A2-3, Figure 189 and Figure 195.*

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).

2023. While there were only 50 days-recorded this year, once the low coverage is considered the recording rate of 28.3% was slightly better than the 2004-23 median of 25.4%. The maximum count for the year was of six birds on the 15th October with September-November producing four further counts of four or more birds – suggesting a small autumn movement. As usual, there were no breeding records this year.

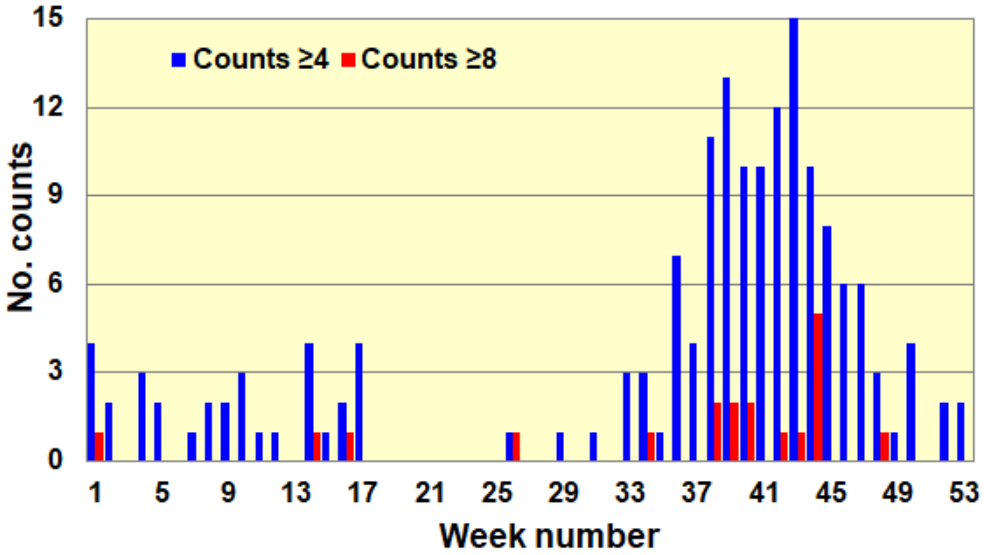


***Figure 194**. Distribution of higher counts of Jay shown by standard week. Data are from the period 2004-23.*

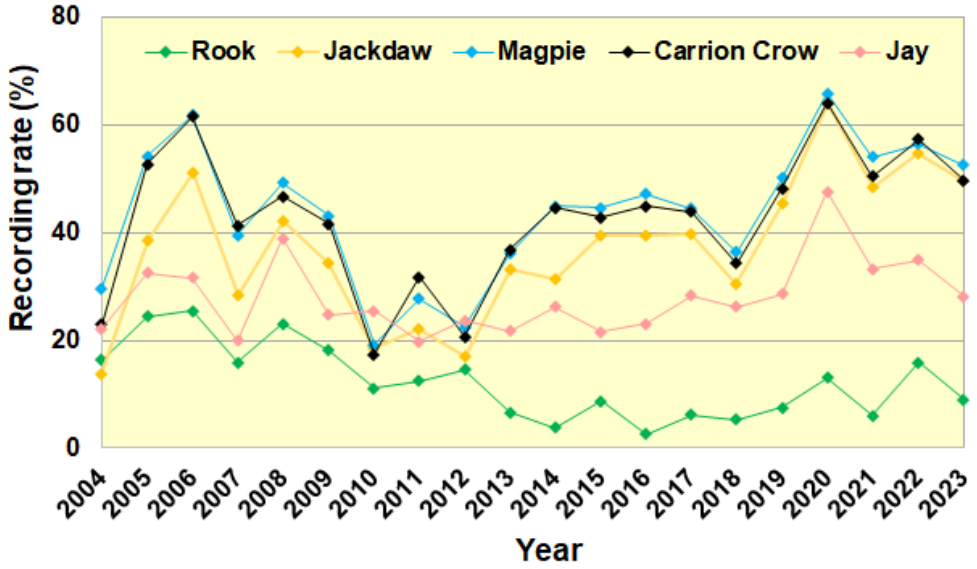


***Figure 195**. Recording rate for Rook, Jackdaw, Magpie, Carrion Crow and Jay in the years from 2004-2023.*

Pre-2004. First recorded on the 17th September 1983, the period up to 2004 yields another 73 days-recorded, albeit some of these (19) do not produce a count. The maximum count for this period was 10 birds on the 5th October 1996 but interestingly there does not seem to be a bias to higher counts i.e. 49.1% of counts are of single birds – which is very comparable to the rate in later years (47.2% see below). There is a suggestion of a small peak in records during autumn (September/October) but also a smaller peak in December

2004-23. More consistent recording of this species in the period after 2003 shows that while generally recorded in smaller number (47.2% of counts are of single birds), higher counts are focused in the period from the beginning of September to the end of November (see *Figure 194*). The maximum counts on-site were of 15 birds on the 30th September 2018 and 22nd September 2012. The peak in higher counts also coincides with the peak in corrected days-recorded (see *Table 117*) and average count (bird-days/total days on which counts were made). There is also evidence from corrected days-recorded of a peak, involving smaller numbers of birds in April although whether this is due to passage of birds or birds becoming more easily observed is unknown.

Table 117. *Monthly distribution of corrected days-recorded and average count for Jay in the period 2004-23.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Corr'd days-recorded	155	131	156	173	109	105	78	121	227	248	188	157
Average count	1.72	1.51	1.61	1.68	1.31	1.43	1.35	1.59	2.42	2.67	2.13	1.78

Breeding. Confirmed breeding for this species is infrequent and besides records in the 1967-73 and 1988-92 Hertfordshire Bird Atlases the only specific confirmed records are from 2004, 2018 and 2020.

Additional Information: *Appendix 4* – Year Lists. See also *Figure 195.*

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

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

2023. Just 46 days-recorded for the year with only 9 records in the final quarter looks a little like recording-fatigue rather than any real absence of birds (*Table 118).* There were three counts of ≥100 birds in the usual post-breeding period i.e. August/September, although the largest count of the year was of 1000 birds over Garden Wood on the evening of the 8th November. There were no records of breeding this year.

Table 118*. Summary statistics for Starling in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Corr'd days-rec.	100	132	169	99	153	129	64	80	55	87	82	102	93	124	53	80	127	98	117	85
Maximum	300	200	400	300	220	200	300	400	500	250	380	500	450	490	150	200	2500	2500	650	1000
Counts ≥200	2	3	3	5	8	1	6	2	2	4	3	4	6	1	0	1	15	12	2	3

Pre-2004. The first entry in the Tyttenhanger GPs dB is from the 9th July 1983 – but only indicates the species was present as no count was recorded. The latter is the case with many of the dB entries (29 of 67 entries) in this period, which also show a bias towards higher counts The highest count prior to 2004 was of 10,000 birds on the 8th August 1988 (still the site-record); two years later on the 30th July 1990 there was a count of 8,000 birds. Post-breeding peaks in late-July-September (*Figure 196*) are not unusual and often involve large proportions of juvenile birds The only other count of more than 1,000 birds before 2003 was on the 12th November 1995 when 3,000 birds were recorded.

2004-23. Although data capture becomes more frequent after 2003 (recording rate of 31.0% compared to 2.1% in the period before 2003), many of these records involve no counts (daily maxima without a count comprise 16.8%). Recording vagaries aside, this species shows small peaks in days-recoded in April/May and September/October (see *Figure 196*) but the occurrence of significant counts (≥200 birds) is much more heterogenous. There is a peak in August/September (post-breeding flocks) and then a second peak in November/December. A couple of points to note; first, all counts of 1,000 birds (14 dates in total in this period) were made between the 2nd December 2020 and the 17th August 2021. Second, the winter of 2020/21 saw Tyttenhanger GPs host a large roosting flock of around 2,500 birds (estimates from the 30th December 2020 and 9th January 2021 – the highest counts since November 1995) (see the image below). This aerial-show drew some large(ish) crowds to the site - many of whom were non-birders.

Breeding. Although both the 1967-73 and 1988-92 Hertfordshire Bird Atlases show confirmed breeding there are no entries in the Tyttenhanger GPs dB of confirmed breeding prior to 2003. Breeding records after this are also unusual and there are only confirmed breeding in 5 years up to 2023 (2013 and 2016-19).

Additional Information: *Appendix 4* – Year Lists.

One of the highlights of 2020 was this murmuration of Starlings that gathered in the last two months of the year to roost in the large reed-bed on the main pit; this image was taken from a video-grab courtesy of Rupert Evershed. Analysis of the image provided an estimate of just over 2,300 birds – what was your first guess?

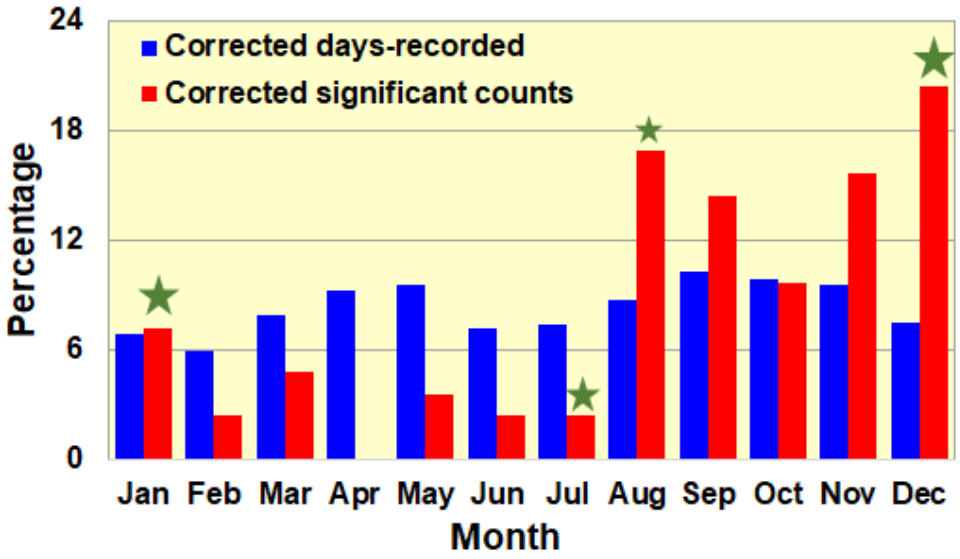


Figure 196 *Monthly distribution of percentage corrected days-recorded and significant counts for Starling in the period 2004-23. Those months that have produced counts in excess of 1,000 birds are indicated (★) – the increasing size of the symbols indicate larger counts.*

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

Previously breeding resident and frequent visitor from the nearby breeding population at Coursers Road; it has recently declined dramatically and is now locally extinct. Previous data indicated counts of 14 or more birds were statistically significant but all records are now considered notable.

2023. Not recorded. Synonymous with Tyttenhanger GPs for so long, it is perhaps fitting the last report in the current series should coincide with the first year in which the site has failed to provide any records of this iconic species. While the disappearance of this species from the Tyttenhanger area was well documented in the 2022 Hertfordshire Bird Report (Smith *et.al*., 2023, Trans. Herts. Nat. Hist Soc. 55 (2), 127-130), a final glimmer of hope locally, is provided by a record in 2023 of three birds at Symondshyde Farm on September 17th.

Summary. The importance of the Upper Colne valley to this species was noted by Sage (1959 p210) who described it as "*a fairly common but local resident"*. An early reference of this species to the site is from the 1962 London Bird Report breeding survey which listed 40 pairs in Tyttenhanger Park[128]. The 1967-73 Hertfordshire Bird Atlas showed an expansion into many other parts of the county since Sage's (1959) opus but by the 1988-92 Atlas, the range had contracted significantly - although locally it still appeared to be going well. The Tyttenhanger GPs dB story specifically begins with a record of 25 birds on the 9th April 1982, with the following years up to the end of 2003 producing a further 235 days-recorded. As with so many other species, the records captured in the Tyttenhanger GPs dB (TdB) are quite variable and so the following timeline includes data from both the Hertfordshire Bird Reports (HBR) and the TdB.

1982. A county maximum of c200 at Amwell in March (HBR). First Tyttenhanger GPs records (TdB)

1983. "*One or two moderate flocks were reported …100 at Tyttenhanger GPs on 5th November*". Maximum of 200 at Pirton in January. (HBR). A total of 18 days-recorded, a maximum of 100 birds (a site-record) and five counts of 14 or more birds.(TdB),

[128] The London Bird Report of 1962 carries the results of a survey of the number of breeding pairs within the London recording-area. The relatively small part of Hertfordshire in this area contained 308 pairs of Tree Sparrow with number from sites relevant in the current instance: London Colney 3 pairs, Napsbury, 8 pairs, Radlett (Old Parkbury), 45 pairs, Tyttenhanger Park 40 pairs.

1984. "*Flock sizes were generally low with maximum at Amwell GP in February, 150 at Maple Cross on 3rd March …*" (HBR). A maximum count of 60 on the 22nd January, 25 days-recorded and ten significant counts (≥14 birds) (TdB).

1985. "*In winter c100 were seen at Tyttenhanger GP on 19th January and 150 at Cole Green on 15th December*…". Tyttenhanger GPs – another count of 100 birds (and equal site-record: see 1983 above), 16 days-recorded and six significant counts (TdB).

1986; "*Flocks of c70 were at Cole Green on 1st January …c40 at Tyttenhanger GP on 25th October*." (HBR). Seven days-recorded, a maximum count of 40 birds and three significant counts at Tyttenhanger GPs (TdB)

1987. "*The only reports of breeding … a group of 7 including juveniles at Tyttenhanger on 6th June*." (HBR). Just four days recorded and a maximum count of nine birds at Tyttenhanger GPs with bird seen carrying food/faecal sac on the 30th May (TdB).

1988; "*Breeding was reported from 9 sites … Tyttenhanger... The maximum winter count was 75 at Mill Green village on 10th January"* (HBR). Thirteen days-recorded and a maximum count of just nine birds again. A bird seen carrying food/faecal sac on the 4th June (TdB).

1989. "*The largest flocks were c90 at Coursers Lane Colney Heath* (stet) *on 15th October, 67 at Puttenham …"* (HBR). Thirteen days-recorded and a maximum count of 12 birds (TdB)

1990. "*The largest flocks were 40 at Coopers Green GP on 18th March; 40 at Stortford Park in September and up to 50 at Rye Meads in December*." (HBR). Four days-recorded and a maximum of just seven birds (TdB).

1991. "*Largest winter flocks were at Rye Meads with up to 40 in January, 50 in February and also March…**All breeding season sightings of Tree Sparrow are now of interest***".(HBR – their highlighting). Only three days-recorded but a maximum of 18 birds - the only significant count for the year. (TdB).

1992. "*Elsewhere there were breeding season records from …Colney Heath … Tyttenhanger GP where there were 16 birds present at the end of April."* The highest counts in the county were 20 in February (Allens Green) and September (Colney Heath)(HBR). Twelve days-recorded and a maximum count of 16 birds – the only significant count (TdB).

1993. "*The seeming perpetual decline of this species' fortunes in Hertfordshire continues. … A flock building up to 40 birds by 25th September at Colney Heath*" … The latter was the highest count in the county this year (HBR). Four days-recorded and a maximum of eight birds (TdB).

1994. See figure on p362. "*A post-breeding flock at Colney Heath comprise 40 birds on 20th August …*" (see figure on p361 if the HBR). The latter was the highest count in the county this year (HBR). Five days-recorded and a maximum of four birds at Tyttenhanger GPs (TdB)

1995. "*The regular post-breeding flock at Colney Heath presented small compensation – its maximum count of 60 in mid-November, with 50+ a month later...* " (HBR). Three days-recorded and a maximum of just two birds (TdB)

1996; "*The two main sites at Beech Farm GP and Colney Heath/Tyttenhanger GP were diligently monitored throughout the year and contributed over 90% of the records. Outside the breeding season the maximum count at Colney Heath was of 35 in February and March*.." (HBR). Just four days-recorded, two significant counts and a maximum of 15 birds.(TdB)

1997; " *a singing male on territory at Bowman's Farm on 2nd June*." Maximum count for the year was of 25 on the 26th March at Colney Heath (HBR). Seventeen days-recorded and a maximum of 25 birds on the 26th March. (TdB).

1998; "*A pair nested successfully at Tyttenhanger GP where a family party was seen in late July and two pairs were feeding young at Bowmansgreen Farm in June and July*". The maximum count for the year was of 54 on the 28th December at Coursers Road fields. This year also saw the start of the supplementary feeding program (HBR) Eight days-recorded and a maximum count of 10 birds at Tyttenhanger GPs. (TdB).

1999; "*breeding season records …two at Bowmans Farm on 12th March … and up to seven at Tyttenhanger Farm in March and April*". Maximum count for the year was of 50 on the 23 February at Coursers Road. (HBR). Fourteen days-recorded but a maximum count of just seven birds. (TdB).

2000; The focus for siting nest-boxes (20) and supplementary feeding was at Coursers Road, with rewards seeming to arise with a count of 75 birds there on the 29th July. (HBR) The two at Tyttenhanger GP on the 14th and 16th April were mentioned in the HBR and are the highest counts from the four days-recorded (TdB).

2001. "*In the nearby area of Tyttenhanger GP and the adjoining farms there were four on 18th February and two on the 25th February, one on 29th October, a peak of 20 on 15th December, ten on the 20th and seven on 31st".* County maximum was 50 at Coursers Road in December (HBR). Just six days-recorded but with the maximum shown above. (TdB)

2002. "*All records came from the adjacent sites of Coursers Road and Tyttenhanger GP and their farms".* Pulli (47) were ringed at Coursers Farm but the maximum count there was just 25 on the 19th March. (HBR). Sixteen days-recorded, 3 significant counts and a maximum of 20 birds at Tyttenhanger GPs (TdB) .

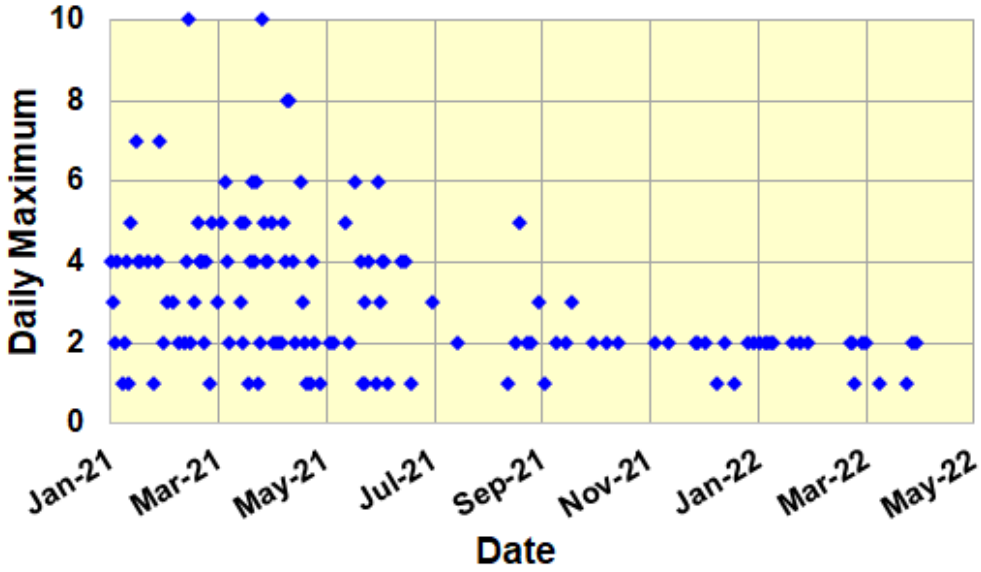


Figure 197 *(above left). Daily maxima for Tree Sparrow from January 2021 until the last record on 1st April 2022.*

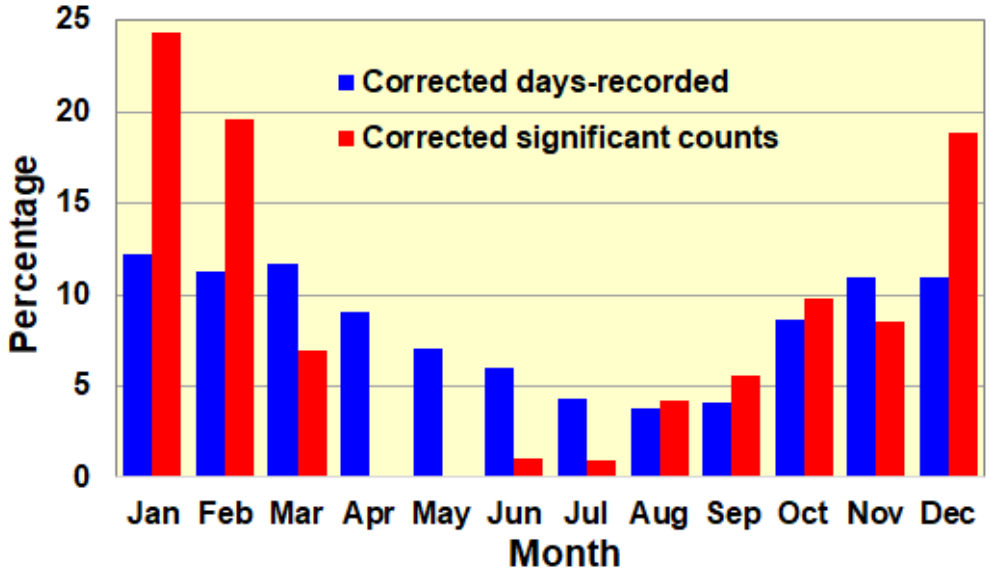


Figure 198 *(above right). Monthly distribution of percentage corrected days-recorded and significant counts (≥14) for Tree Sparrow in the period 2004-23.*

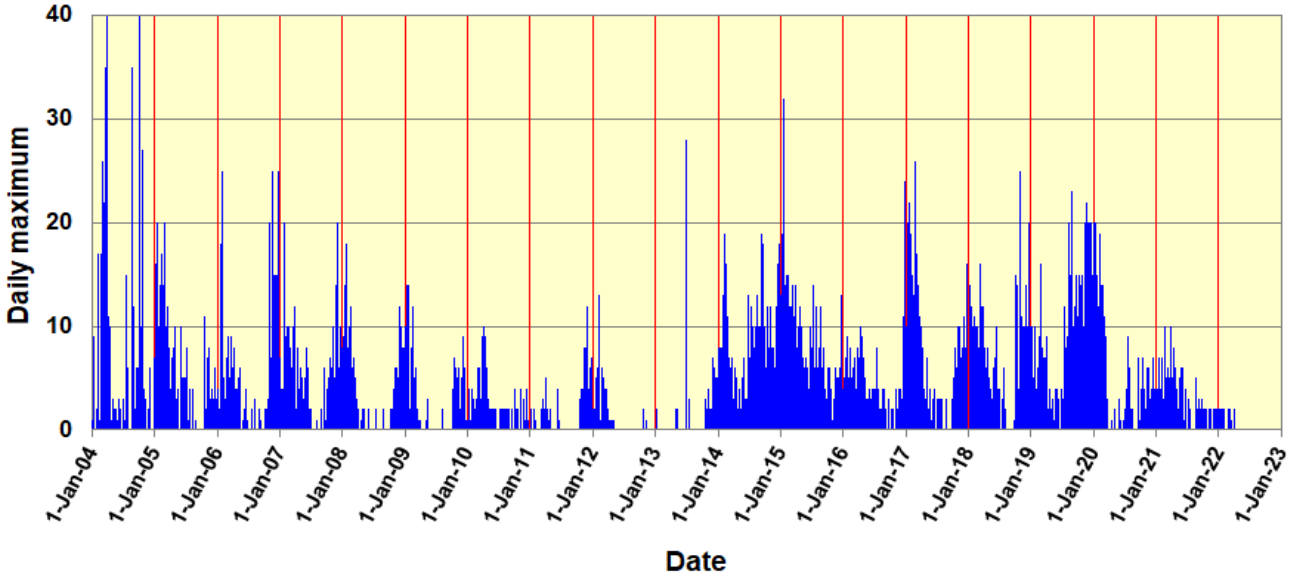


Figure 199*. Daily maxima for Tree Sparrow in the period 2004-23.*

One of the last images of a Tree Sparrow taken at Tyttenhanger GPs late in 2021. Note the similarity to the cover design we have been using since 2005. Photo courtesy of Simon West.

2003. The county maximum for the year was 35 birds in the "*second half of the year*". The first reference to the "*London Colney Herts Bird Club Tree Sparrow Biodiversity Action Plan (BAP) initiative*" is made in this report (HBR). A maximum count of 35 in the second winter period at Coursers Road was nearly matched by the 25 at Tyttenhanger GPs on the 25th November - one of seven significant counts and 40 days-recorded (TdB).

The above shows the decline in most of the County was pronounced by the end of the 1980s after which both counts and distribution[129] (number of recording-sites) dropped quickly. The records from Tyttenhanger GPs in the early part of the 1980s can be seen not a result of the local population but as a broader feature of large winter flocks found at various sites around the County. Gladwin and Sage (1985) state – *"Outside the breeding season Tree Sparrows feed in large flocks and also roost communally. Flocks of up to 200 have been regularly and frequently reported in recent years and numbers up to 500 are not unusual"*[130]. Even by the mid-1990s it was apparent that the breeding population was contracting into the areas around Coursers Farm and Beech Farm, with the latter disappearing by the end of the decade. Supplementary feeding at Coursers Road from 1998 onwards and the extension of that program to Tyttenhanger Farm in around 2002 further attracted and retained birds in what was now the last stronghold in the county.

By the start of 2004 Tyttenhanger GPs - especially the area around Tyttenhanger Farm[131] – had become the go to site for observing Tree Sparrow in the county. As can be seen from *Figure 199,* the reporting-record for this species was very good at this time (38.6% in the period 2004-2020, reaching 61.9% in 2014) and a reliable picture of occurrence and abundance can be deduced. Although occurring year-round, there is a winter peak in occurrence and a very clear winter peak in significant counts (≥14 birds) (*Figure 198*). There did appear to be a slow decline in the species from 2004 through until 2012 and by the winter of 2012/13 it looked like the species had virtually disappeared. However, by the middle of 2014 the species had bounced back and things looked good until the winter of 2021/22 when numbers seemed to be smaller than in previous winters – although even up until the 23rd March 2021 there was still the occasional count in double figures. But from there things deteriorated rapidly and by August/September it was clear there were very few birds around (*Figure 197*). One or two birds were seen through until the early part of 2022 but on the 1st April, the last birds (2) of the period 2004-23 were recorded. The decline of the broader population around Tyttenhanger is well documented by Smith *et.al.,* (*2023*) with the general conclusions that low winter survival of young birds into the following season, consequent low recruitment and the effects of increasing isolation, all played a role in the demise of this last outpost of the species in Hertfordshire. In many respects, the numbers mean very little but here are a few that signify the special place this species held for many:

Maximum count: 100 on 30th October and the 5th November 1983; and in the period after 2004 the maximum was 40 on the 22nd March and 30th October 2004.

Days-recorded- 2027 from the beginning of 2004 until the 1st April 2022 – that's 38.9% of all days-covered between those dates.

No counts – only six daily maxima in the period after 2003 were reported with no count – just 0.3% of all days-recorded. *Vale Passer montanus.*

Additional Information: *The First Gravel Pits*; *Appendix 4* – Year Lists.

House Sparrow *Passer domesticus* (5, 18, 60) [≥12]

Small resident populations around Willows Farm and Colney Heath around the borders of the heath.

2023. There were just 26 days-recorded this year, but after correction for the low coverage, 48 days-recorded was close to the median (45 days) over the period 2004-23. There was a confirmed breeding record this year with recently fledged young seen on the 2nd September near Willows Farm Lake and the maximum count for the year was of 12 birds on the 1st January. Note, in the latter case there were actually 2 records of 12 birds one from Colney

Table 119. *Summary month-by-month statistics for House Sparrow for the period 2004-23 and 1983-2003.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004-23 Maximum	20	29	13	18	10	20	36	40	20	12	15	20
Median 2004-23	10	6	5	4	6	5	5	5	6	2	5	5
1983-2003 Maximum	0*	25	0*	1	0	0	10	12	60	25	5	10
Corr'd days-recorded (2004-23)	78	65	86	78	90	60	49	54	44	42	66	70
Corr'd counts ≥12 (2004-23)	8	9	1	1	0	3	1	2	6	1	4	5

* Birds were recorded in these months, but no counts were made

[129] These data are not obvious from the quotes from the Hertfordshire Bird Reports, but even by the mid-1990's reports away from Coursers Road were rarely mentioned.

[130] The 1973 Hertfordshire Bird Report mentions a flock of 1,000 at Chorleywood on the 2nd January and 600 there on the 14th; the 1976/77 Report lists flocks of 550 at Mill End, 500 at Cheshunt GPs and 300 at Maple Cross. Even in the 1980 report the statement was made *"Numbers seem to be very low. There were flocks of 200 at Stanstead Abbots and Pirton in January*."

[131] The peak period for the releases of *Red-legged Partridge* and *Pheasant* was between 2003 and 2007. The supplementary feeding that occurred around Tyttenhanger Farm was also attractive to a number of seed-feeders – including Tree Sparrow. When the Herts Bird Club introduced the feeding station in 2005 this provided a more consistent attraction for Tree Sparrows and other seed feeders.

Heath Common and the second an eBird record from "Main GP".

Pre-2004. Although the first record for the site is from the 2nd July 1983 there are only a further 25 days-recorded through until the end of 2003. There is a count of 60 birds (a site-record) from the 11th September 2003 (Tyttenhanger Farm) and counts of 25 birds from the 5th February 1984 and the 19th October 2003 (an October record see *Table 119)*, but most of the records (15) do not actually provide a count.

Table 120. *Summary data for House Sparrow for the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Corr'd days-rec.	11	46	87	54	109	83	51	30	14	31	20	41	44	39	23	62	64	41	86	48
Maximum	40	15	36	29	14	20	15	20	18	6	10	14	20	15	15	20	14	10	20	12

2004-23. Improved data-capture in this period has provided a better picture of this species at Tyttenhanger GPs, however, it is still uncertain if the available data provide an accurate picture. *Table 120* shows a summary of corrected days-recorded and maximum counts in the period 2004-23 and demonstrates the variability between years. Also worth noting; one, the overall no-count rate from daily maxima is 21.0% - but some years (2008, 2013 and 2014) show rates of over 40.0%. Second, significant counts (≥12 birds) have been made in most years – but notably there were none in 2013 and 2014. Both of these observations suggest that variability in recording may be a major contributor to the overall variability rather than changes in status. Recording trends aside, the maximum count in the period after 2003 was 40 birds on the 29th August 2004 and significant counts (12 birds or more – 38 in total, uncorrected) have been made in all months of the year – with the exception of May (*Table 119*) – most frequently in January, February and September (unaffected by correction i.e. see *Table 119*).

Breeding. Confirmed records are relatively rare with none before 2004 and confirmed records from just seven years thereafter. All three Hertfordshire Bird Atlas - 1967-73, 1988-92 and 2008-12 - show this as a confirmed breeding species in TL10X.

Additional Information: *The First Gravel Pits*; *Appendix 4* – Year Lists.

Brambling *Fringilla montifringilla* (5, 14, 11) [≥4] [All]

Regular/irruptive winter visitor.

2023. There was just a single record for the year - a single bird heard calling at Willows Farm Lake on the 27th January.

Pre-2004. First recorded on the 27th October 1991 (a single bird), there is just one more record (one on the 20th March 1995) before the 26th February 1997, after which there are a total of 15 further days-recorded from 1997 (7 days across both winter periods), 1998 (3 days), 1999 (2 days) and one day each in 2001, 2002 and 2003. Prior to 2004, 11 of the 17 days-recorded were in the first winter period (seven of those in March) and the remaining six in October/November. It is difficult to know if the scarcity of records reflects the true status on-site, but it is worth noting the maximum flock size data in Smith et al, (2015) indicates the winters of 1996/97 and 1997/98 were much better than those beforehand i.e., from 1982/83 onwards[132].

2004-2023. Days-recorded in this period totalled 104 - a recording rate of 3.4% of the days covered from October-April - compared to just 0.8% in the previous period. As shown in *Figure 200*, there are clearly some winters better than others at Tyttenhanger GPs and while these are generally reflective of the broader pattern in the county[132] – this is not always the case. The most obvious example of the latter is the winter of 2010/11 – which was good at Tyttenhanger, but generally poor in the county. In this instance there were up to 4 birds seen on a number of occasions between the 10th November 2010 and 29th January 2011 at various locations around the site and often reported in association with Chaffinches; the winter of 2021/22 was similar to the latter i.e. small numbers reported over an extended time. The monthly distribution of records shows a typical winter pattern (*Figure 201*) - in this case with a very obvious peak in November. April records are unusual (just four) and the only September record is from the 19th September 2020 – days-recorded from 2nd and 1st winter periods are in the ratio 72:32. While there is a nominal significant count of 4 or more birds, the sample size is quite small and therefore inappropriate to apply. The maximum count on-site was of 11 birds on the 9th October 2021, with other notable

[132] Smith *et al.,* (1985) provide maximum count date for the winters from 1982/83 through until 2011/12. The higher maxima can be found in the winters of 1996/97, 1997/98, 2002/03, 203/04, 2004/05, 2005/06, 2007/08 (early 2008 produced some very large counts – 200 at Hertingfordbury on the 3rd February and 143 at Tring on the 10th March) and 2008/09. We re-performed analysis using the data in the Hertfordshire Bird Reports from 1982 through until 2023 and added the winters of 2016/17, 2017/18, 2020/21 and 2021/22 to the list of better-winters for the County. When we mapped the good winters (days-recorded) at Tyttenhanger GPs onto this analysis we found they generally mapped to the better county winters, but not all county winters were necessarily better on-site winters. The obvious exception in the first case was 2010/11 which was a good winter at Tyttenhanger but a poor one in the county.

counts of nine on the 15th December 2007, and eight on the 17th November 2007.

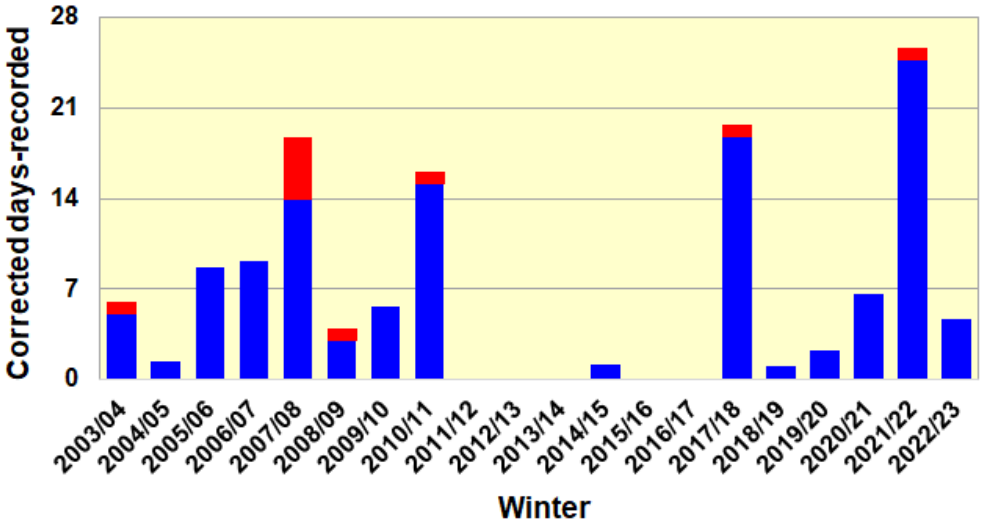


Figure 200. *Corrected days-recorded for Brambling in the winter periods from 2003/04 to 2022/23. Winters producing significant counts (≤11) are indicated by the red section of the columns (proportional to the number of uncorrected days).*

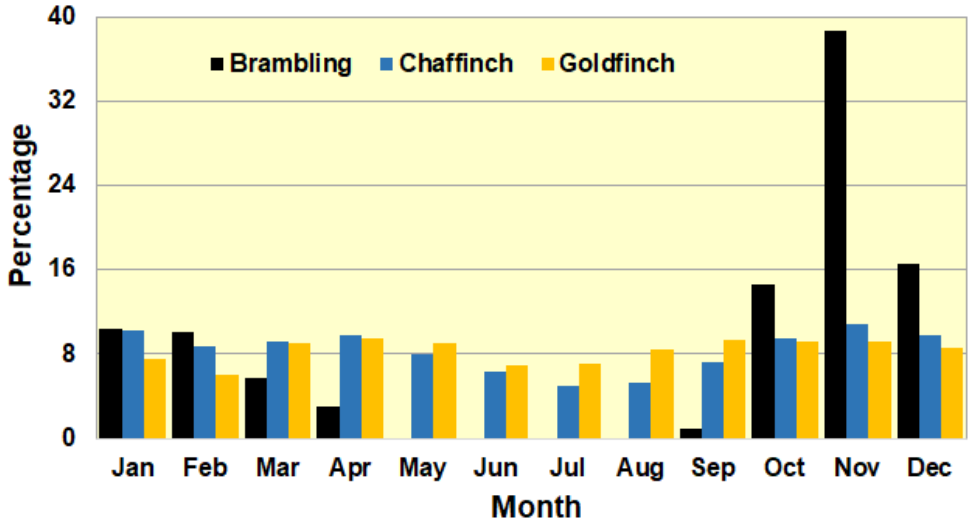


Figure 201. *(above). Monthly distribution of percentage corrected days-recorded for Brambling, Chaffinch and Goldfinch in the period 2004-23.*

Additional Information: *The First Gravel Pits*; *Appendix 4* – Year Lists. See also *Figure 201*.

Chaffinch *Fringilla coelebs* (5, 18; 200) [≥40]

Common resident and breeding species with winter flocks commonly noted.

2023. There were just 34 days-recorded and a maximum count of 27 birds on the 5th February *(Table 122),* which even after correction for low coverage *(Table 121)* means this was still the worst year in the period 2004-23 i.e., both the lowest days-recorded and the lowest maximum.

Table 121. *Corrected days-recorded and maximum counts for Chaffinch in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Corr'd days-rec.	115	162	176	115	157	135	70	96	73	102	113	98	107	118	106	121	177	107	131	63
Maximum	40	100	45	80	110	150	150	150	200	79	80	45	50	60	50	70	52	40	150	27

Pre-2004. First recorded on the 20th September 1959[35] the next record is from the 12th February 1983. Subsequent records in the Tyttenhanger GPs dB through until late 2002 are thin on the ground and heavily biased towards higher counts or, in many cases, entered as a no-count. The total number of days-recorded in the period from 1983 to 2003 is just 90 (27 of these in 2003 alone), there are 16 significant counts (≥40 birds – 17.8%) and 33 days (36.7% of all days-recorded) when no count was made. A maximum count of 200 birds was made on the 28th January 2003 – an equal site-record and the highest ever count for January. This period also produced a record count for February- 150 birds on the 26th February 1997 – with March, November and December also producing three-figure counts.

2004-23. As with many of the more common species, this period shows a more consistent pattern of days-recorded (*Table 121*) than the previous period but recording habits for this species

have still varied e.g., no-counts rate ranges between 2.8% (2018) up to 45% (2008) (overall rate of 20.4%). The monthly distribution of corrected days-recorded (*Figure 201*) shows a reasonably similar pattern to the other three resident breeding finches i.e. Goldfinch (*Figure 201*), Greenfinch and Linnet (*Figure 204*). A significant count for this species is ≥40 birds – with most of these counts made between October and February (see *Figure 202)*. These counts are distributed in a ratio of 42:39 between the two winter periods (Jan-Mar:Oct-Dec) with the stand-out winter being 2021/22 (*Figure 203*) – although notably 18 of the 20 winters covered in this period produced at least one significant count.

Breeding. Confirmed breeding on-site is comparatively rare for such a widespread and common breeding bird and records in the Tyttenhanger GPs dB show just four years with confirmed records from 1983 to 2024 i.e., 2010, 2011, 2018 and 2020. The Hertfordshire Bird Atlases of 1967-73, 1988-92 and 2008-12 all show this as a confirmed breeding species in TL10X.

Add'l Information: *The First Gravel Pits*; *Appendix 4.*

See also *Table 122, Figure 201, Figure 202* and *Figure 203.*

***Table 122**. Monthly maxima data for the four common species of finches for the period 2004-23 and 1983-2003.*

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Chaffinch	**Maximum 2023**	25	27	19	3	1	0	3	0	2	3	10	0
	Maximum 2004-23	150	100	150	41	11	10	10	20	25	60	150	200
	Median 2004-23	40	18	11	9	6	4	3	4	5	20	46	30
	Maximum 1983-2003	200	150	100	9	6	3	3	3	3	50	100	100
Goldfinch	**Maximum 2023**	15	18	8	7	5	5	10	14	20	26	10	13
	Maximum 2004-23	52	65	32	16	17	10	40	89	100	65	42	104
	Median 2004-23	24	18	10	9	6	6	10	20	30	26	20	20
	Maximum 1983-2003	62	48	100	50	4	5	24	100	75	80	40	50
Greenfinch	**Maximum 2023**	4	2	3	6	4	3	3	4	2	2	0	0
	Maximum 2004-23	20	37	21	10	12	6	15	40	50	116	70	21
	Median 2004-23	4	4	4	4	2	3	3	4	3	6	3	4
	Maximum 1983-2003	30	50	8	30	8	4	2	4	1	50	75	150
Linnet	**Maximum 2023**	150	150	150	48	4	6	1	0	60	0	20	40
	Maximum 2004-23	200	199	150	100	15	24	27	150	100	170	140	104
	Median 2004-23	55	40	30	13	5	5	6	18	27	40	44	39
	Maximum 1983-2003	250	250	120	150	50	20	100	200	350	160	60	51

Goldfinch *Carduelis carduelis* (5, 20, 104) [≥25]

Common resident and breeding species.

2023. With 72 days-recorded (corrected to 133 days to account for the low coverage) and a maximum count of just 26 birds on the 15th October (the only significant count i.e., ≥25 birds, of the year) , this is another species which had a very ordinary year. A couple of months (July and October) produced counts on or above, the long-term median (2004-23) (see *Table 122*) but with no significant counts in the early months of the year, the winter of 2022/23 also proved to be ordinary. There were no confirmed breeding records this year.

Pre-2004. The first record in the Tyttenhanger GPs dB is from the 9th April 1982 which makes it one of the 27 species with entries prior to 1983 (see *Appendix 4*). The record after this is substantially better than for a number of other common species with entries from most years and an overall recording rate of 5.8% (still substantially lower than the rate for the period 2004-23 i.e. 26.1%). The proportion of significant counts (≥25 birds) is high in this period (22.2% of all days-recorded – compared to 5.1% in the period 2004-23), suggesting a reporting-bias – especially in the Herts Bird Club dB entries where significant counts comprise 65.1% of entries. The largest count in the period prior to 2004 was of 100 birds on the 13th March 1997 and this and several other counts from this period are records for those months i.e., January, March April, August and October (see *Table 122*).

***Table 123.** Corrected days-recorded and maximum counts for Goldfinch in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Corr'd days-rec.	101	122	111	84	117	123	95	83	76	99	111	114	120	144	109	135	175	142	157	133
Maximum	30	35	44	30	26	37	52	32	50	89	100	50	104	70	38	40	65	42	40	26

2004-23. As shown in *Figure 201*, this species is present throughout the year with slight peaks in occurrence in spring (March-May) and late autumn/early winter (September-November). However, significant counts (≥25 birds) tend to be made in the periods August-October and December-January with fewer in the period February to July (*Figure 202*). Significant counts also

tend to be distributed quite evenly between winters (*Figure 203*), with all years in this period producing at least one, with 2014/15 and 2017/18 being the best of the winters. The highest count in this period was of 104 birds (a site-record) on the 12th December 2016.

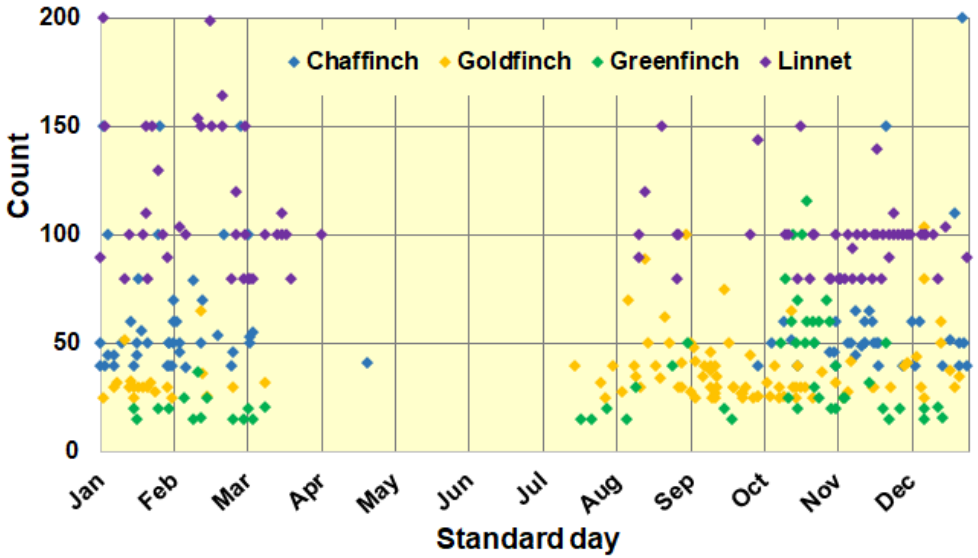


***Figure 202**. Distribution through a standard year of significant counts Goldfinch (≥25), Chaffinch (≥40), Greenfinch (≥15), and Linnet (≥80).*

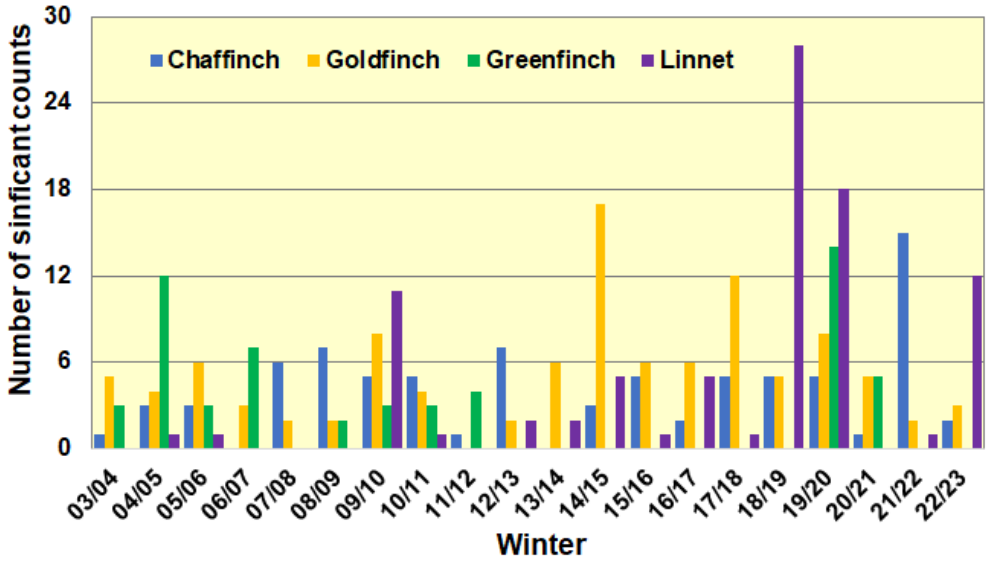


***Figure 203.** Number of significant counts by winter (2003/04 to 2022/23) for Chaffinch (≥40 birds), Goldfinch (≥25 birds), Greenfinch (≥15 birds) and Linnet (≥80 birds).*

Breeding. Specific records of confirmed breeding in the Tyttenhanger GPs dB in the period 2004-23 can be found for 10 of the 20 years, whereas the only record prior to 2004 is from 1984, but all three Hertfordshire Bird Atlases (1967-73, 1988-92 and 2008-12) show this as a confirmed breeder in TL10X. Flocks containing juvenile birds are common in the late summer/early autumn, and post-breeding dispersal and flocking also seem to contribute to the rise in numbers from June through to September (*Figure 202*).

Additional Information: *The First Gravel Pits*; *Appendix 4* – Year Lists. See also *Table 122, Figure 201, Figure 202* and *Figure 203.*

Greenfinch *Chloris chloris* (5, 20, 116) [≥15]

Common resident and probable breeding species in most years.

2023. Small numbers were reported throughout much of the year although November and December produced no records at all. The highest count of the year was of just six birds on the 1st April, when courtship and display was also noted – the only breeding related record of the year apart from a single report of a singing male on the 27th June. Clearly a disappointing year for the 2023/23 winter, but the months between April and August produced maxima that were either above or equal to the long-term median (see *Table 122*). The winter of 2023/24 also began poorly with both November and December failing to produce a count.

***Table 124.** Corrected days-recorded and maximum counts for Greenfinch in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Corr'd days-rec.	89	134	127	69	85	66	44	51	25	41	29	13	27	41	41	75	144	65	77	77
Maximum	25	37	50	9	25	21	50	70	4	7	8	5	5	5	8	116	20	5	7	6

When sunflowers have been planted around the Amaizing Maze they have proven attractive to a range of finches when left to the winter months. Photo courtesy of Andrew Streele.

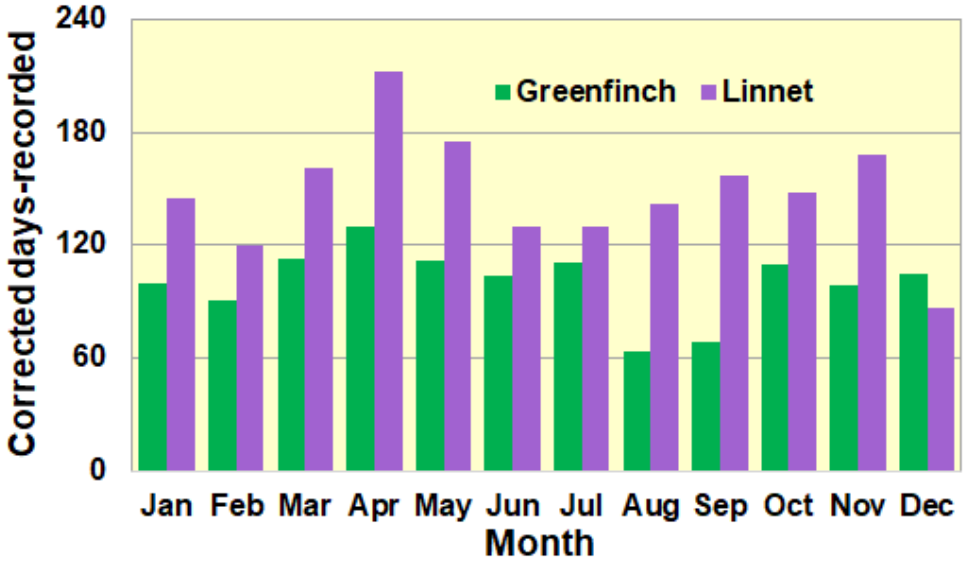


Figure 204. *Monthly distribution of corrected days-recorded for Greenfinch and Linnet in the period 2004-23.*

Pre-2004. While the other three common finch species on-site tend to produce reasonable numbers in most years, Greenfinch is a species that may occur in small numbers in most months and years, occasionally disappears completely and then, much less frequently, shows up in larger numbers. The first record in the Tyttenhanger GPs dB is from the 25th January 1964[35] but the next from the 12th February 1983 was of a flock 50 birds -still a January record. Records thereafter are relatively sparse - just 80 days recorded up to the end of 2003 with a reporting rate of 2.5%, and a bias towards higher counts (10.0% of all daily maxima are significant counts - ≥15 birds – and all are of 30 birds or more). The maximum count before 2004 was of 150 birds at Willows Farm on the 21st December 1985 –a record count for the site - with other counts above 30 coming from 1983 (3), 1985 (1), 1987(1), 1997 (1) and 2003 (1).

2004-23. This period has seen a number of ups and downs for this species as shown in *Table 124*, although the pattern of occurrence through the year (*Figure 204*) is similar to other resident finch species (Chaffinch and Goldfinch - *Figure 201*; Linnet – *Figure 204*) – albeit with a trough in August and September not so obvious (if there at all) for the other species. Significant counts (≥15 birds) tend to occur most frequently in the final quarter of the year most notably in October and November (*Figure 202*) which together account for over 50% of these counts. Interestingly, the majority (16 of 17) of the larger counts for this species (≥50 birds) also occur at this time – i.e. see *Figure 202*, so it not surprising that the largest count in this period (116) was made on the 25th October 2019. Although larger number tend to occur in late autumn/early winter not all winters produce significant counts (*Figure 203*). The obvious stand-out winters were those of 2004/05 and 2019/20. In the latter case a flock ranging from 50 birds upwards was reported from 11 dates between the 14th October and 3rd November 2019 but did not persist in these numbers into the new year. The winter of 2004/05 was slightly different as the significant counts were all made between the 15th January and the 11th March 2005. The above observations also need to be viewed in the light of the decline of the UK breeding population since the mid-2000s. Linked in large-part to the protozoan disease trichomonosis (e.g. see Hamner et al., 2022) the local decline indicates larger winter flocks are probably visitors[133] i.e. larger winter flocks have appeared in periods when the local population is in decline.

Breeding. Confirmed breeding records for this species are also relatively rare with the first on-site confirmation not being obtained until 2018 and subsequent records from just 2019 and 2020. This species is shown as a confirmed breeder in the 1967-73 and 1988-92 Hertfordshire Bird Atlases and as a probable in the third (2008-12) Atlas.

[133] The BTO BirdFacts page suggest that winter visitors may originate in Fennoscandia and although well supported by ringing recoveries the latter also suggest there is a fair degree of movement between the UK and closer parts of northern Europe (Belgium , The Netherlands, north west Frane and western Germany).

Additional Information: *The First Gravel Pits*; *Appendix 4* – Year Lists. See also *Table 122, Figure 202* and *Figure 203.*

Linnet *Linaria cannabina* (5, 20, 350) [≥80]

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

2023. The winter flock that had been building in the latter part of 2022 in the vicinity of the Amazing Maize, was still present in the early part of this year. This flock grew to reach 150 birds on three dates between the 17th February and the 3rd March, after which numbers declined through to the beginning of April – but still making it one of the best winters in the last 20 years (*Figure 203)*. The period through until September produced relatively few days-recorded (none at all in August and October – see *Table 122*) and there was no evidence of breeding. The second winter period did not produce the numbers of the previous winter and managed a maximum if just 60 birds on the 1st September. Despite the low coverage several months in the year still produced counts above the 2004-23 median (see *Table 122*) namely, January, February, March, April, June, September and December.

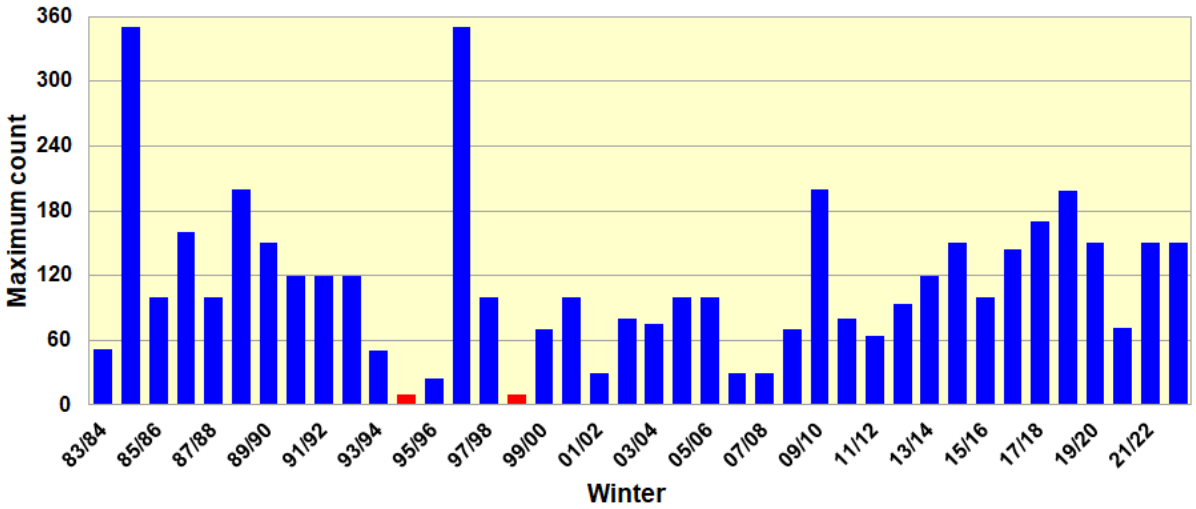


Figure 205. *Maximum counts for Linnet in the winters between 1983/84 and 2022/23. The winters shown in red are where substantial doubts about the Tyttenhanger GPs dB exist i.e. there are gaps in the dB or concerns about data capture; a nominal value has been used in the latter cases rather than leave them blank.*

Pre-2004. The first entry in the Tyttenhanger GPs dB is from the 9th April 1982 when a flock of 60 birds were recorded. Subsequent records (a total of 254 days-recorded at a rate of 7.9%) are scattered across the years through until 2003 and show a distinct bias towards higher counts i.e. significant counts (≥ 80 birds) represent 20.9% of all daily-maxima. The highest count up until the end of 2003 was 350 birds recorded on two separate dates - the 22nd September 1984 and the 23rd September 1996 (still site-records). Winter maxima apart from the two latter values are very similar to those in the later period (2004-23 – see *Figure 205*) Also notable, despite data- capture issues, records for monthly maxima from eight months (see *Table 122)* come from this period and there are seven counts greater than or equal to the maximum-count (200 birds) after 2003 i.e., three in 1985, two in 1988 and two in 1996.

Table 125. *Corrected days-recorded and maximum counts for Linnet in the period 2004-23.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Corr'd days-rec.	109	141	121	46	49	46	61	61	59	71	67	78	104	107	91	120	127	70	101	83
Maximum	100	100	70	30	50	104	200	70	94	120	150	100	144	170	100	199	72	60	150	150

2004-23. Since 2003, despite much better reporting/data-capture (a reporting rate of 27.2% across the whole year), numbers have generally been no better than those from before. The more comprehensive reporting does however allow us to look more closely at the seasonal occurrence pattern of this species (see *Figure 204*) along with the seasonal distribution of significant counts (*Figure 202*). The monthly distribution of days-recorded shows a clear peak in April, but perhaps more surprisingly, a real trough in December[134]. Significant counts (≥80 birds) are virtually all in the October-March window showing a clear peak in November (days-recorded in the two parts of the winter show a 2nd: 1st ratio of 402:426). As with the other common finches all winters are not equal and in this case the winters of 2018/19, 2019/20 and 2022/23 are stand-outs while there are a number of winters that failed to produce a significant count (e.g. none of those between 2006/07 and 2008/09 inclusive). In contrast to the period before 2004 the only ≥200 count after 2003 of 200 birds was on the 2nd January 2010.

[134] The apparent peak in January - that highlights the December trough - may be the result of over-exuberant recording in January as observers kick-off their year lists. Irrespective of the January result there is still clearly a trough in December that is even apparent in the plot of significant counts – *Figure 202*).

Breeding. Despite the relatively good record for this species up to 2004, there are no confirmed breeding records in this period besides those summarised in the 1967-73 and 1988-92 Hertfordshire Bird Atlases. The period after 2003 was only slightly better and managed confirmation of breeding in just two years – 2007 and 2011 – the latter result slightly at odds with the probable result in the 2008-2012 Atlas.

Additional Information: *Appendix 4 – Year Lists*. See also *Table 122, Figure 202* and *Figure 203.*

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

Regular winter visitor. Median spring departure date (2004-21) 22nd March; median autumn arrival date (2004-23) 20th October. Records between 4th May and 13th September are especially notable. See Mealy Redpoll below for details on the taxonomy of the Redpoll complex.

2023. Despite a reasonably good start to the 2022/23 winter at the end of 2022 there were just four days recorded in 2023 – all in the second winter period - with the first birds arriving on the 22nd October close to the long-term median date (see above). The maximum count was of four birds on the 22nd October and the 20th December. There were no records attributed to Mealy Redpolls this year.

Pre-2004. This species has an unusual pattern of reporting in the Tyttenhanger GPs dB prior to 2004. First recorded on the 27th December 1983 (and again on the 31st) all subsequent years through until 1996 have three or less records – with three years (1985, 1990 and 1991) having none at all. Then 1996 has 5 days-recorded (across both winter periods) with 1997 and 1998 producing 25 and 11 days-recorded respectively -with the winter of 1997/98 responsible for 28 of these days. Neither the 1997 or 1998 Hertfordshire Bird Reports suggest 1997/98 was an especially good winter for this species and so we are struggling with an explanation for the pattern observed. Notwithstanding the last comment, it is worth noting records from the Herts Bird Club dB (43) do show a bias towards larger counts i.e., ten or more birds, with 37.2% of those records being such counts - suggesting data capture issue. Nevertheless, the remaining years through until the end of 2003 showed a return to the pattern from 1983 to 1995. The earliest autumn return date in this period was the 26th September (1997) and the latest spring departure the 17th April (1993). Winter records aside, the period before 2004 did produce a record in May (a bird singing on the 13th May 1998 – see *The Breeding Birds of Tyttenhanger Gravel Pits* 1967-2023 for further discussion of this record) and one in August (15 birds seen on the 26th August 1998). Finally, although the years before 2003 only produced a total of 64 days recorded (overall recording rate of just 3.4%) these were spread across the first and second winter periods in the ratio of 22 to 42 – with October alone accounting for 23 of the days-recorded. The highest count prior to 2004 was of a massive 80 birds seen on the 9th January 1994 – which is the site record.

One of three Mealy Redpolls seen in the first quarter of 2006 alongside the River Colne. Photo courtesy of Jim Middleton.

2004-23. In contrast to the previous period this one produced a total of 374 days recorded (a recording rate of 12.1% for the September to April window) and a total of 87 days with a maximum of ten or more birds i.e., 23.3% of all days recorded[135]. Clearly when the days-recorded are corrected for coverage and analysed by winter period (*Figure 206*) it is clear there are good winters, not-so-good winters - but also a relatively high proportion of poor winters (those with less than 10 corrected days-recorded). There is a reasonable correlation between the better winters and number of significant counts (*Figure 206*); the monthly distribution of significant counts (*Figure 209*) which shows winter peaks in October and January. Departure and arrival dates (see *Figure 207*) show a relatively large spread of latest spring dates between the 23rd January (2020) and 4th May (2018) (record spring departure date) (median = 22nd March, n = 17) and autumn-arrival dates between the 13th September (2020) (record autumn arrival date) and 12th December (2010) (median = 20th October, n = 15). The largest count since 2003 was of 35 birds around the Main Pit on four dates between the 29th September and 9th October 2020.

Additional Information: *Appendix 1* – Migrant Arrival and Departure *(Figure 207); Appendix 4* – Year Lists. *See also Figure 206, Figure 208 and Figure 209.*

[135] In this case a cut-off of 10 is used to provide the comparison with the period prior to 2004. In the latter case the cut-off of 10 was proposed as the total number of records was relatively low and this seems to be more in keeping with the perceptions of what were "good numbers" at this time.

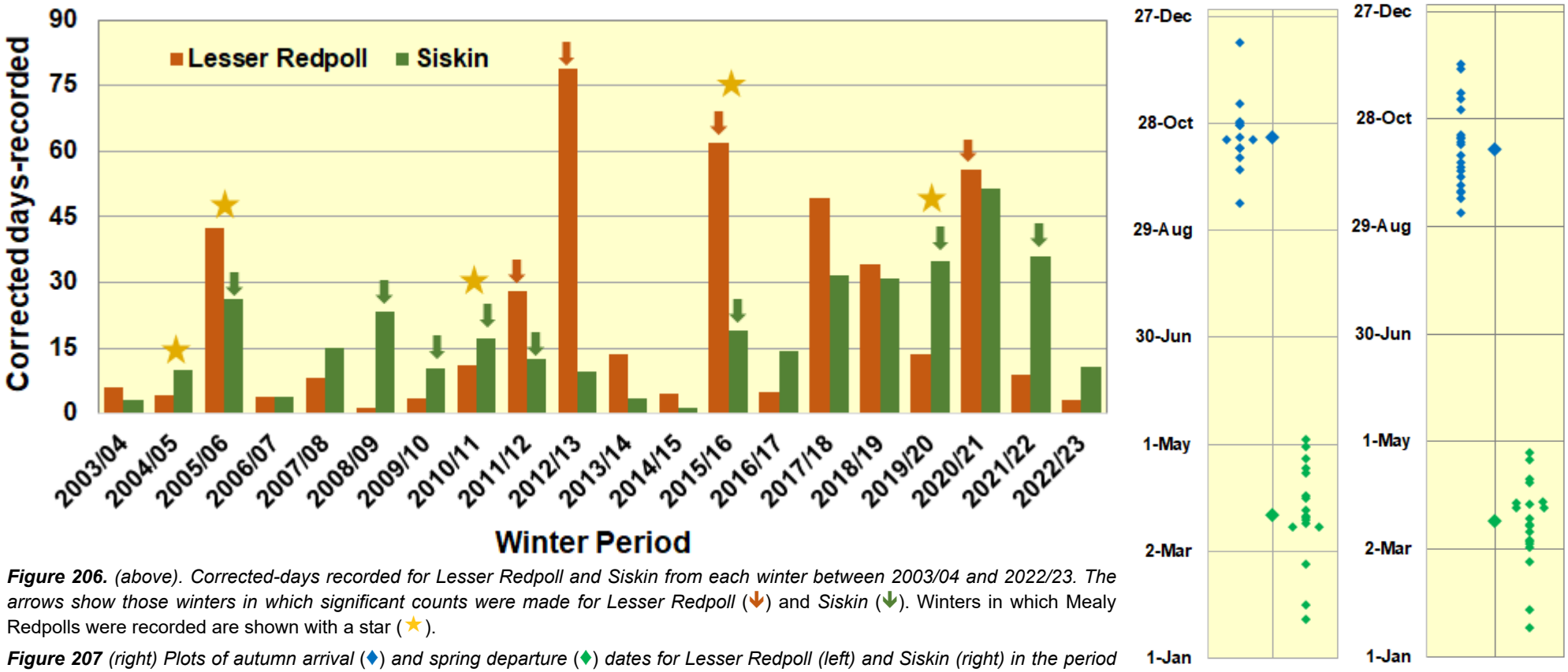


Figure 206. *(above). Corrected-days recorded for Lesser Redpoll and Siskin from each winter between 2003/04 and 2022/23. The arrows show those winters in which significant counts were made for Lesser Redpoll* (🔻) and *Siskin* (🔻). Winters in which Mealy Redpolls were recorded are shown with a star (★).

Figure 207 *(right) Plots of autumn arrival* (🔹) *and spring departure* (🔹) *dates for Lesser Redpoll (left) and Siskin (right) in the period 2004-23. The median dates are shown by the larger symbols on the centre line of the plot. Raw data are in Appendix 1B.*

Mealy Redpoll *Acanthis flammea flammea*

This taxon was not recognised as a full species in the UK until 2001[136] with the Hertfordshire Bird Reports of both 2000 (published in 2002) and 2001 making reference to the split from Lesser Redpoll *Acanthis cabaret*. Ironically, and reflecting their complex taxonomic history, recent data indicate there is only a single redpoll species in the northern hemisphere with the British Ornithologists' Union (BOU) adopting the classification from the International Ornithological Congress' World Bird List (v14.1) (the latest version recently launched as AviList v2025) – returning the Lesser and Mealy Redpolls to a single species.

Starting with the period from 1983 to 2003 there is only a single record in the Tyttenhanger GPs dB that of a single bird seen with 17 Lesser Redpoll on the 17th October 1997. In the period 2004-2023, this species has fared much better at Tyttenhanger GPs - maybe in part due to improved identification and reporting (e.g. see Smith et al., 2015). A summary of the all records

[136] Mealy Redpolls as a distinct and reportable form have a long history in the Hertfordshire Bird Reports. First mentioned in 1884 and referred to with the scientific name of *Linota linearia* (Lesser Redpolls at this time were recognised as *Linota rufescens*), there are a number of subsequent references that use a range of nomenclature. In 1923 it was *Carduelis linaria linaria* – Lesser Redpoll taking the subspecific name *cabaret*. The slightly more familiar *Carduelis flammea flammea* is in the 1947 Hertfordshire bird list (Lesser Redpoll – *C. f. cabaret*)- the latter being retained until the split in 2000 and the recognition of Mealy Redpoll *Carduelis flammea* and Lesser Redpoll *Carduelis cabaret* as separate species. The generic name *Acanthis* came into regular use in the Hertfordshire Bird Report of 2020 – despite being used by Smith *et a*l., (2015) several years previous. Note, for those interested in the older records of this taxon, Sage (1959) refers to several records (p201) that are not to be found in the Hertfordshire Bird Reports.

is provided below.

2005. Two birds on the 26th February reported through Birdtrack failed to make it into the 2005 Hertfordshire Bird Report.

2006. Up to 3 birds with characteristics of this species were found with Lesser Redpolls along the River Colne (near Willows Farm) during January/February. First found on 7th January (a single bird) there were a total of 13 days-recorded - the last being the 19th.

2011. A single bird was reported on the 20th March.

2016. A single bird was found on the 11th March.

2020. Yet again, another single bird, this time on the 19th February. In total there have been 18 days-recorded – all but one of these days being in the first quarter of the year. The maximum count was of three birds on the 18th January 2006 – with three other days on which two birds were recorded.

Correction 1998. The 2005 and 2013 Tyttenhanger Bird Reports refer to a single bird seen on the 11th October 1998. We have not been able to find any evidence of this record either in the Hertfordshire Bird Reports or the Tyttenhanger GPs dB. It would appear the 1998 record is a transcription error of the 1997 record. Regarding the latter, although the 1997 Hertfordshire Bird Report is worded slightly ambiguously and only suggests the Mealy Redpoll was seen on the same day as 25 Lesser Redpolls - the Tyttenhanger GPs dB clearly shows this record is from the 11th October 1997.

Siskin *Spinus spinus* (5, 20, 120) [≥56]

Frequent winter visitor - commonly along the River Colne at Colney Heath and more recently in Garden Wood. Median spring departure date (2004-23) 17th March; median autumn arrival date (2004-23) 11th October. All records between the 24th April and 6th September are considered notable.

2023. Just nine days-recorded for the year – three in the first winter period and six in the second – with a maximum count of 38 birds on the 30th December. Despite the relatively low number of days-recorded both spring-departure (19th March) and autumn-arrival (17th September) were close to the long-term (2004-23) median dates (see above). Similar to other years in the recent past, records this year were scattered across the site including Colney Heath Common, The Back Scrape, the Fishing Lakes and the Tree Sparrow hedge (Tyttenhanger Farm).

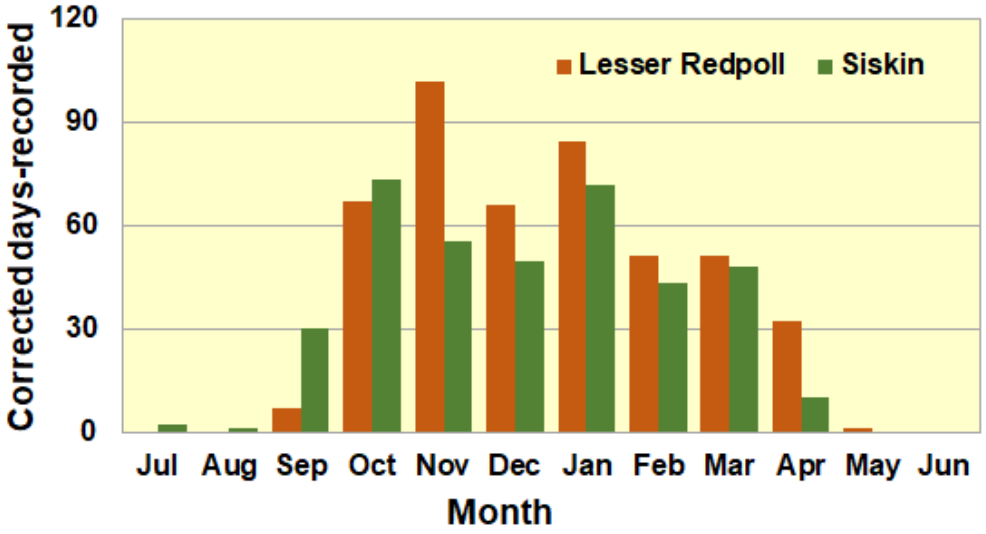


Figure 208. *Monthly distribution of corrected days recorded for Lesser Redpoll and Siskin. Data are from the period 2004-23.*

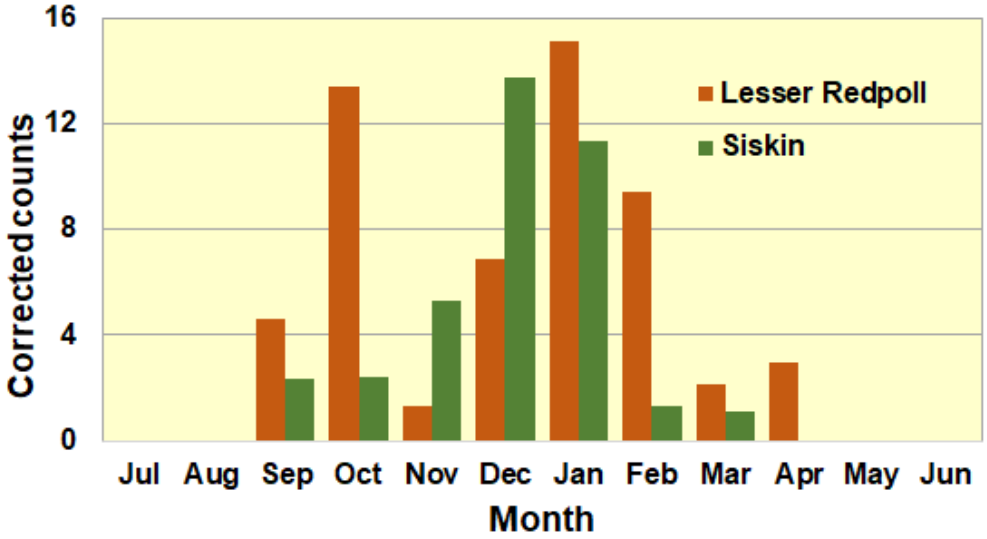


Figure 209. *Monthly distribution of corrected larger counts for Lesser Redpoll and Siskin. Data are from the period 2004-23; the cut-off for the counts is set at the 90th percentile.*

Pre-2004. Prior to 2004 this species shows a remarkably similar pattern of database entries to the species above. In this case it garnered just 38 database entries compared to 64 for the

species above – 12 of which are from the winter of 1996/97 (31 in the case of Lesser Redpoll). This observation again suggests a bias in data-capture during this period, the recording rate being a poor reflection of the true status of this species at the time. Notwithstanding issues with data capture, we found the first record is from the 29th October 1983 (a retrospective eBird entry) and the maximum count in the period from 1983-2003 was 100 birds on the 13th November 1997. There were just four further significant counts (≥56 birds) at this time- all from 1996 and 1997 and ranging between 60 and 70 birds. The latest spring date was the 24th April (1997) (a site-record) and the earliest autumn arrival the 8th September (1997).

2004-23. As with the previous species, data capture during this period was more consistent than earlier and data analysis was therefore more straightforward. Corrected days-recorded, corrected number of significant counts (≥56 birds) and maximum counts are shown in *Table 126* for each winter period from 2003/04 until 2022/23. These data are also summarised above in *Figure 206*. The monthly distribution of corrected days-recorded and corrected larger-counts for this and the above species is shown in *Figure 208* and *209* respectively. This species shows a peak in occurrence in October and then a slightly smaller peak in January –similar to the pattern for Lesser Redpoll, although the latter shows the late autumn peak in November rather than October. Generally, this species is reported in reasonably sized flocks (32.9% of days-recorded have maxima in excess of 10 birds) and often in association with alders and/or along the River Colne at Colney Heath Common. The peak in numbers seems to be around December/January and is quite pronounced – quite different to that for Lesser Redpoll (*Figure 209*). The maximum count for this species in this period is 120 birds (also the site record) and was made on the 12th December 2005, 21st January 2022 and the 5th March 2022 – there are a further five counts of 100 or more birds – all made between 2004 and 2009. Spring-departure and autumn-arrival dates are summarised in *Figure 207* alongside those for the species above. For this species spring-departure ranges from the 17th January (2015) to 24th April (latest spring departure) (median = 17th March, n = 20) while autumn-arrival is from the 6th September (2020) (earliest autumn arrival) to the 28th November (median = 11th October, n = 20). Records between May and August (inclusive) are rare but 2020 proved to be unusual in producing records of four birds on the 4th July, three birds on the 10th July and a single on the 23rd August.

Table 126. *Summary statistics for Siskin in the winters from 2003/04 to 2022/23.*

	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23
Corr'd days-rec.	3	7	21	3	13	18	9	14	11	7	3	1	17	14	29	31	31	47	24	7
Corr'd ≥56 birds	2	0	2	0	1	3	2	1	3	1	0	0	3	0	0	0	3	0	3	0
Maximum	100	15	100	10	50	100	120	80	60	60	9	1	60	35	30	40	80	30	120	20

Additional Information: *Appendix 1* – Migrant Arrival and Departure *(Figure 207); Appendix 4* – Year Lists. *See also Figure 206, Figure 208 and Figure 209.*

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

Scarce visitor.

2023. Not recorded.

Summary. This species shows a pattern of sporadic irruptions in Hertfordshire[137] and there is a correlation between these and most of the Tyttenhanger records i.e the general pattern is for irruptions to begin in May/June of the first year with good numbers through until the end of winter. There is usually little evidence of breeding in the county following an irruption (this species is an early breeder and nests in the first quarter of the year), but numbers tend to be good in the summer and autumn of the following year. Below is a summary of all on-site records:

1991. Two birds reported on the 27th October (London Bird Report, 1991). A good year in Hertfordshire owing to the 1990 irruption (Hertfordshire Bird Report 1991).

1997. Birds started to be reported in the County in June (Herts Bird Report, 1997) as an irruption unfolded. The first bird at Tyttenhanger was on the 19th July, followed by four further records of single birds through to the 23rd October and a count of five birds on the 22nd July.

1998. Four birds over Coppice Wood on the 22nd March were some of the birds recorded early in the year following the previous year's invasion (see Hertfordshire Bird Report, 1998)

2005. A single bird on the 10th July is the only occurrence that does not appear to be associated with an irruption.

2020. Having missed out in the 2011 irruption this one proved to be a ripper for Tyttenhanger GPs. Kicking off in the county in late May, it was the 26th July that produced the first on-site record

[137] Since 1983 there have been irruptions in 1990, 1997, 2002, 2008, 2011 and 2020. **Postscript**. It also appears that 2025 may be an irruption year, although at the time of writing it was not clear if this would reach Hertfordshire.

with 6 birds. There was a further record in July (one on the 31st) and then records on the 9th October (two), 23rd October (four), 25th October (four), 6th November (one) and 2nd December (one) – most of the records from within or around Garden Wood.

2021. The first quarter of this year proved to be a good one for the county following on the previous year's irruption, and Tyttenhanger duly played its part by producing a record site-count on the 17th January of 20 birds that flew from Coursers Road towards Lawson's before heading off west.

So, in total there have been 17 days recorded between 1991 and 2021 - with all but one of these records (2005) coming from irruptive years or in the year following. The maximum count on-site was of 20 birds seen on the 20th January 2021. Most records were in October (seven) and July (five) with single records from each of January March, August, November and December.

Additional Information: *Appendix 4* – Year Lists.

Hawfinch *Coccothraustes coccothraustes* (2, 5, 30) [All]
Scarce visitor.

2023. Not recorded.

Summary. Considered by Sage (1959) to be a "*fairly common resident*" albeit "*one of the most secretive species that breeds in the county*" even by the time of the 1988-92 Hertfordshire Bird Atlas it was still relatively widely distributed in the centre of the county (*Figure 211*). While it was later considered the record in 2011 (see below) was the first record for the site we did discover a record in the London Bird report of 1983 of a bird at "*Colney Heath S.P.*" on the 4th January 1983. While it is not possible to confirm the exact location for this record[138], it does demonstrate birds were close-by at this time. Moving on, it was to be another 28 years before the first definite on-site record occurred when two birds were found along the River Colne near Tyttenhanger House on the 6th April 2011 (see *Figure 211*). However, the wait for the next records was nowhere near as long as there was a massive irruption in the UK in the autumn of 2017[139] The winter of 2017/18 was probably one of the most remarkable Hertfordshire birding events of this century, and Tyttenhanger GPs was to play a significant role in the unfolding story. The following is a brief timeline of the events at Tyttenhanger GPs- with the plot in *Figure 210* showing what was happening in the rest of Hertfordshire at the same time:

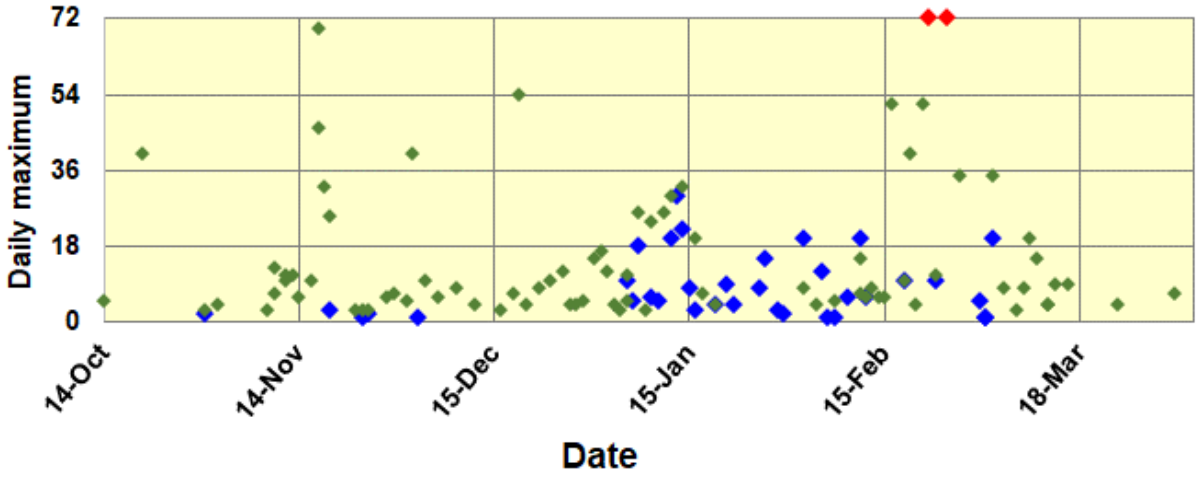


***Figure 210**. Daily maxima of Hawfinch in Hertfordshire during the 2017/18 winter invasion (♦) (only records of 3 or more birds are plotted). Also shown are the data Tyttenhanger GPs (♦) and the two highest counts in the County of 90 and 137 birds – both at Wormley Wood (♦).*

30th October 2017. Two birds seen flying over followed after country-wide reports of large numbers including a flock of 40 over the Chess Valley on the 20th October.

19th November 2017. Birds (three) reported again, this time from Coppice Woods, with further days-reported to the 3rd December.

5th January 2018. With things well underway in the rest of Hertfordshire, the first report at Tyttenhanger GPs was of ten birds in Garden Wood. This proved to be a favoured location over the next 11 weeks as the site racked-up 35 days recorded, 12 daily maxima in excess of 10 birds and a maximum count of 30 birds.

[138] The convention in the London Bird reports is that S.P refers to Sand Pit and using the National Library of Scotland Map Images website (and several hard copies) we've examined a number of OS 1:25,000 maps that cover London Colney and Colney Heath area up until the 1980s and can't find anything labelled or shown as a sand pit. We also searched in the online version of London and Hertfordshire Bird Reports from the 1980s, and while there are several references to Colney Heath G.P. (Gravel Pit) this is the only reference to the Sand Pit. In all likelihood the S.P. is an error (either in coding or interpretation on the ground) and refers to the Gravel Pits to the north-west of the village, but rather tantalisingly we will never be absolutely sure … and there is always a possibility the record refers to the Gravel Works – see *The First Gravel Pits*.

[139] There were purported to be over 50,000 sightings in the latter part of 2017 in the UK as birds flooded into the country following poor food availability in their normal wintering quarters. Note, the only proposal we can find for a collective noun for this species is a "Company". Given the power of its bill (it has enough to crush olive seeds!), we wonder if a more forceful word is required – a "Crushing" maybe?

13th January 2018. A count of 30 birds on this day remains the highest count for the site. It is worth remembering that up until this time the largest ever count in Hertfordshire was of 65 birds on the 24th February 1981 (Gladwin and Sage, 1986) and there was only one other count in excess of 30 birds i.e. 50 at Berkhamsted on the 27th March 1895 (Sage, 1959). The highest recorded numbers in the county during this irruption was 137 birds at Wormley Wood on the 22nd February, with a count of 90 at the same site on the 25th February; we sourced nearly 20 records of 30 birds or more from just the Hertfordshire Bird Reports (2017 and 2018) and the Herts Bird Club Sightings Archive.

25th March 2018. The last birds were seen at Tyttenhanger GPs on this day (four birds), elsewhere in the County small numbers lingered until the 14th April.

The above was not however, the last we were to see of this species at Tyttenhanger GPs and in the last five years of this period saw two further records:

2019. Two birds seen in Garden Wood on the 26th May.

2020. A single bird in Garden Wood on the 11th October.

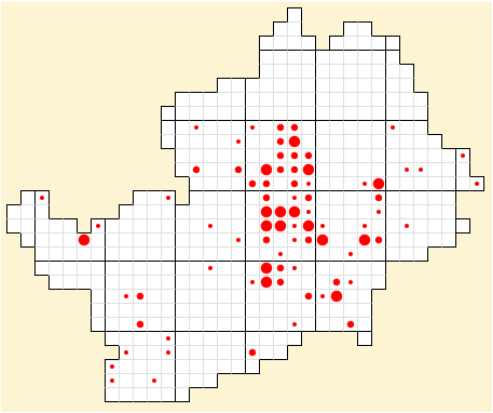


Figure 211. *Hawfinch at Tyttenhanger GPs (clockwise from far left), pictured in one of the Yew trees around Tyttenhanger House during the 2017/18 winter irruption (Photo courtesy Simon West); one of three Hawfinches found in Coppice Wood at the beginning of the 2017/18 season (Photo courtesy Steve Blake); Hertfordshire Bird Atlas map (1988-92) for Hawfinch; one of the two Hawfinches found near Tyttenhanger House on the 6th April 2011 – a first for Tyttenhanger GPs (Photo courtesy Simon West).*

Postscript. Although 2024 was a reasonable year in the county with plenty of records in both winter periods at a few favoured locations (Bramfield Churchyard being foremost amongst these) it was a surprise when birds were found in Garden Wood in early 2025 with up to three birds being reported by the end of March. Elsewhere in the county numbers seems to be a bit better than normal and were present at a few more sites than usual.

Additional Information: *Appendix 4* – Year Lists.

Bullfinch *Pyrrhula pyrrhula* (5, 18, 14) [≥4]

Resident that probably breeds in most years with population supplemented by winter visitors; most commonly reported in the winter months and often in small flocks; only 44.5 % of daily maxima relate to single birds.

2023. As with so many species this year saw remarkably few records and with just six days-recorded and the low coverage, it is difficult to understand what may be going on. The positive side the equation is that the year started well with a year's high-count of seven birds (2 parties, 2 males in total) on the 1st January; the latter also happens to be a record count for the period 2004-

23. However, most of the remaining days-recorded were in January (3) with further days-recorded in just two months - April (1) and November (1).

Pre-2004. The Tyttenhanger GPs dB contain entries from the 2nd July 1983 through until 2003 although there is a substantial gap in records for about ten years between mid-1985 and the mid-1990s. Despite the gap in records there are still 128 days-recorded but only 56 of these are from the Herts Bird Club dB (43.8%) and all of these are after 1994 [140]. The record count for the site came on the 16th November 1996 when 14 birds were noted – 12 of these in one flock. The second largest on-site count is also from this period – 10 birds on the 13th August 2000, this time a family party of four adults and six young (or two families?). Due to the nature of the Tyttenhanger GPs dB there does seem a slight bias towards higher counts in the period 1983-2003 with 18.0% of all records being significant counts (≥4 birds) and despite the limited number of dB entries it still holds record-counts for all months between July and November (*Table 127*).

Table 127. *Monthly maxima for Bullfinch in the periods 2004-23 and 1983-2003.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum 2004-23	7	5	4	5	4	4	4	6	4	4	6	6
Maximum 1983-2003	7	4	3	5	4	3	6	10	8	5	14	5

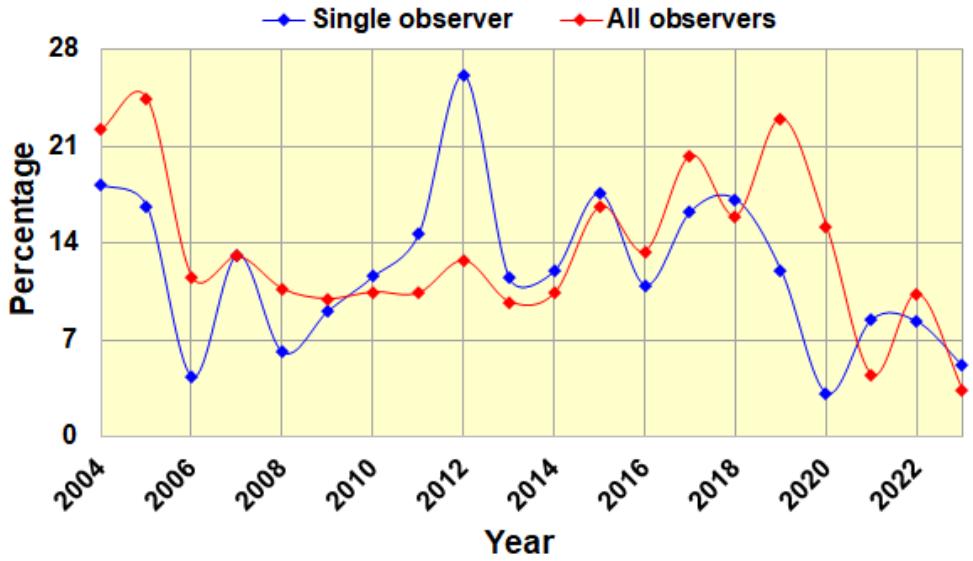


Figure 212. *(left) Recording rate (All observers) and recording frequency (Single observer) for Bullfinch in the period 2004-23.*

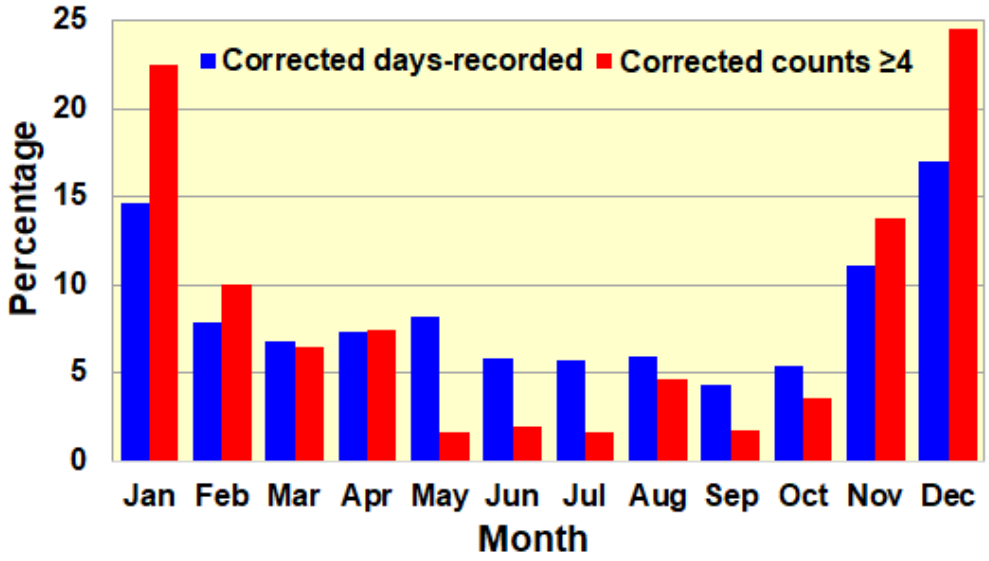


Figure 213. *Monthly distribution of percentage corrected days-recorded and significant counts(≥4) for Bullfinch in the period 2004-23.*

2004-23. The number of days-recorded has fluctuated quite substantially in this period - even when corrected for coverage. Nevertheless, recording-rate and recording frequency comparisons produce a fairly similar outcome (*Figure 212*) – suggesting fluctuations may be due to population changes rather than recording biases (see *Appendix 2* for further discussion of recording rates vs frequency). The data also shows a clear peak in days-recorded and significant counts between November and January suggesting winter visitors may be driving some of the observed variability (*Figure 213)*. This period has produced a high-count of just seven birds (ironically on 1st January 2023) and a further five days with five birds counted (one each in 2004, 2005, 2017, 2018 and 2020). Only 44.5% of daily-maxima are single birds and the average daily maximum is 1.83 birds; only 1.6% of daily maxima did not include a count.

[140] This period only contains data from the Herts Bird Club dB which would have been unlikely to capture specific data for this species during that time – see *Appendix 2*. In fact, in several of the early years of this period the Hertfordshire Bird Report either had no entry (1985) or minimal text stating "*No change in status was noted*" e.g. see 1986 1987 1988. The situation would not have been improved by the heading for the species indicating that only "Unusual" (U) records should be submitted and wasn't until a decline in confirmed breeding was noted in the 1988-92 breeding birds survey (first mentioned in the 1993 Hertfordshire Bird Report – published in December 1994) that greater note was taken of the species. Although relatively few species have been analysed in this way similar phenomena have been observed for *Reed Bunting* in the Hertfordshire Bird Reports of this time.

Breeding. Reports of confirmed breeding are scattered across the 41 years between 1983 and 2023 with most records being of family parties in July and August; the total number of years represented is just eight. This species is shown as a confirmed breeder in the 1967-73 and 1988-92 Hertfordshire Bird Atlases and as a probable breeder in the 2008-12 Atlas.

Additional Information: *Appendix 4* – Year Lists.

Snow Bunting *Plectrophenax nivalis* (0, 0; 1) [All]
Rare visitor.

2023: Not recorded.

Summary: Surprisingly there are two Tyttenhanger GPs records of this rare vistor that has occurred just 12 times in the county in the last 41 years. On-site records are of a single bird seen flying over with Meadow Pipits on 20th November 1988 followed by a first winter male found on 29th November 1996 that stayed for a further two days and was last seen on the 1st December.

Additional Information: *Appendix 4* – Year Lists.

Reed Bunting *Emberiza schoeniclus* (5, 18, 50) [≥7]
Resident and late winter visitor with a small number of breeding pairs in most of the last decade.

2023. The first quarter of the year produced five significant counts (the only ones of the year) with a maximum of 20 birds on the 11th February (second highest on-site count). After this, numbers fell through spring and the summer months and it was surprising the only breeding-related record of the year was of a singing male on the 27th June. Numbers picked up a little in the autumn and winter but it was surprising again that both August and December failed to produce any records at all.

Pre-2004. First recorded on the 2nd July 1983 it probably says something about its perceived status (see *Appendix 2*) that the first record in the Herts Bird Club dB was not until 9th April 1988 when there was a count of 15 birds[140]. Nevertheless, there are some retrospectively-captured entries in the Tyttenhanger GPs dB from 1983 to 1988 and while the overall pattern of dB entries through until 2003 is a little difficult to interpret (*Figure 214*) –it would certainly appear significant counts (≥7 birds) were unusual i.e. only 13 and mostly from 1997 (7) and 2003 (4) respectively. The other notable observation is that although dB entries are very patchy, they still show a peak in March-April - also apparent when dB entries become much more frequent i.e. 2004-23 (*Figure 215*). The record count in this period was of 20 birds on 31st January 2003 which is still the month's record count as is the count of 15 birds on the 9th April 1988 (*Table 128*).

Table 128. *Monthly maxima for Reed Bunting in the periods 2004-23 and 1983-2003.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum 2004-23	15	20	15	13	15	15	9	15	15	7	18	50
Maximum 1983-2003	20	2	10	15	4	4	5	4	7	5	10	8

2004-23. Notwithstanding data-capture problems in the earlier period, it is clear from 2004 onwards occurrence is reasonably consistent (*Figure 214*) and shows a fairly predictable annual pattern (*Figure 215*). The majority of significant counts (≥7 birds) were made in the first quarter of the year, but the highest on-site count - a remarkable 50 birds going to roost – was on the 24th December 2020 - not a time of the year usually associated with high counts (*Figure 215*). The next best counts of 20 birds are from a more typical time of year - the 11th February 2023 and the 31st January 2003. All available data suggest that although breeding appears to have increased in the last decade with the amount of reed-bed (see "*Breeding*" below), larger numbers of this species still tend to occur in late winter – often associating with winter finch-flocks.

Breeding. Finally, although there has been no confirmed breeding in the last two years there are confirmed breeding records that go back to 1997 and was confirmed breeding was frequently observed between 2014 and 2021 (six of the eight years). The 1988-92 Hertfordshire Bird Atlas is the only one that shows confirmed breeding – 2008-12 registering probable breeding only.

Additional Information: *Appendix 4* – Year Lists.

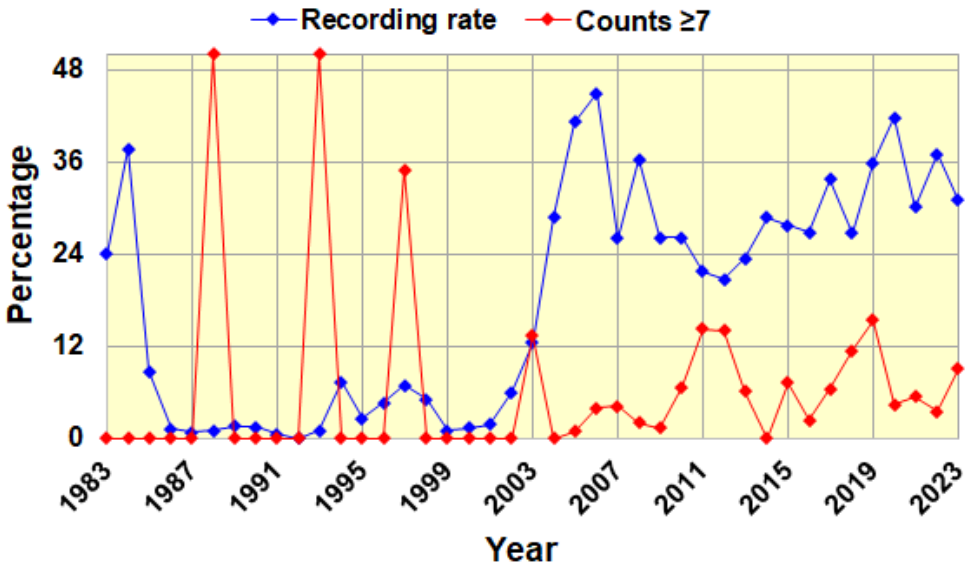


***Figure 214**. Recording rate for Reed Bunting in the period 1983-2023 shown along with the percentage of daily maxima that are significant counts (≥7 birds).*

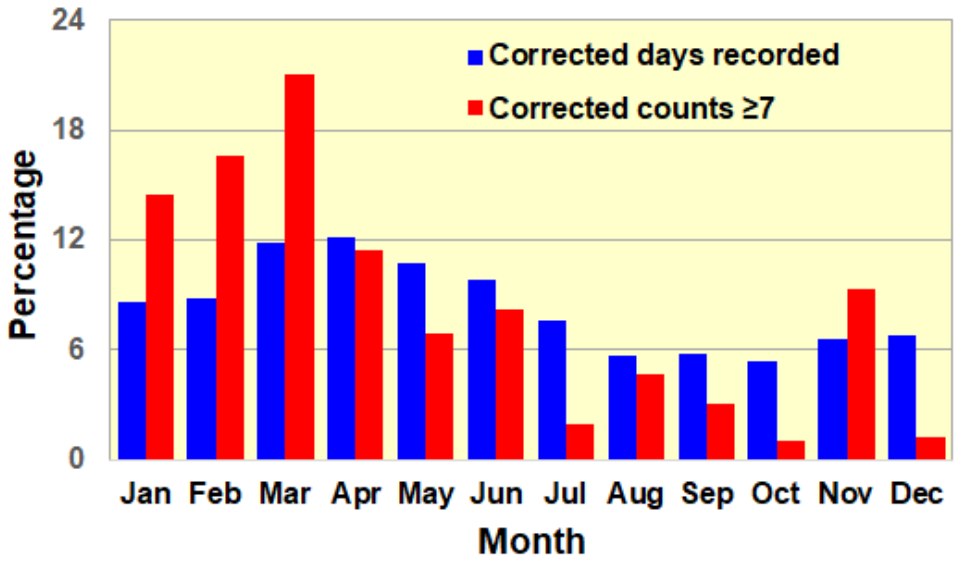


***Figure 215** Monthly distribution of percentage corrected days-recorded and significant counts(≥7) for Reed Bunting in the period 2004-23.*

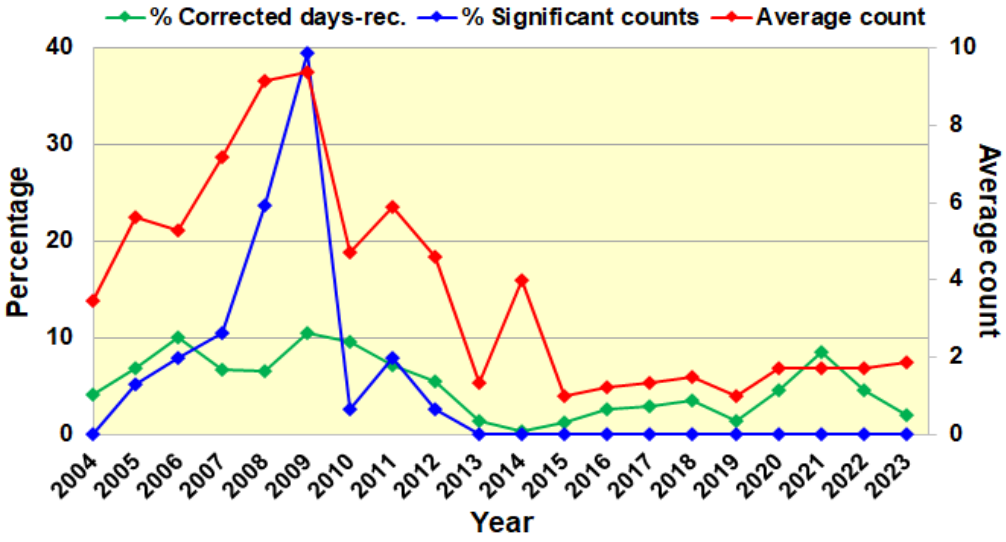


***Figure 216**. Percentage of corrected days-recorded and significant counts shown along with the average count (bird-days/days-recorded) for Yellowhammer at Tyttenhanger GPs in the period 2004-23.*

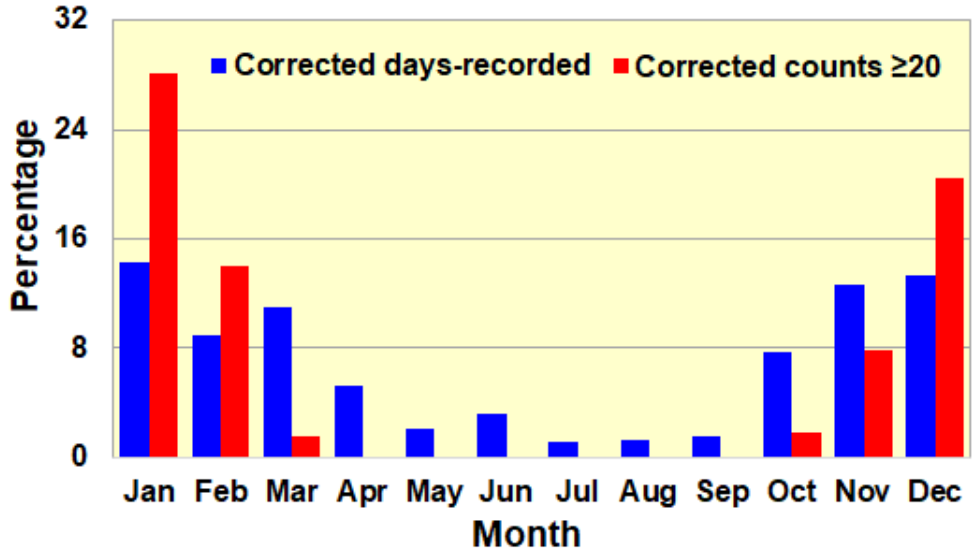


***Figure 217.** Monthly distribution of corrected days-recorded and significant counts (≥20) for Yellowhammer at Tyttenhanger GPs in the period 2004-23.*

Yellowhammer *Emberiza citrinella* (5, 20, 80) [≥20] [All]

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

2023. The slight improvement of the last few years seems to have come to an end and with just 8 days recorded, corrected days-recorded are back to what they have been for most of the last decade (*Figure 216*). The maximum count for the year was just four birds on the 13th January and there were just two days-recorded after the end of April (one in each of August and November).

Pre-2004. While the first record for the site is of 15 birds on the 9th April 1982, there are subsequent records for most years through to 2003 - albeit there were still only 118 days-recorded. The overall record in the Tyttenhanger GPs dB is patchy and skewed towards higher counts and breeding records[141]., with significant counts (≥20 birds) in 11 of the 22 years between 1982 and 2003. The maximum count was 80 birds on the 10th December 1983 (still a site record) and there were counts of 50 birds in four other years i.e. 1983, 1984, 1986 and 1998.

Table 129. *Monthly maxima for Yellowhammer in the periods 2004-23 and 1983-2003.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum 2004-23	50	30	20	10	3	5	6	3	3	20	20	30
Maximum 1983-2003	50	50	15	30	2	3	2	3	4	20	25	80

2004-23. After 2003 this species increased in abundance to reach a peak in 2008-09 albeit with relatively small changes in the rate of occurrence i.e. indicating birds turned up at similar frequency but in higher numbers (*Figure 216*). The highest count since 1998 was made at this time when 50 birds were noted on the 9th January 2009 – the winter of 2008/09 producing 23 significant counts (60.5% of the total 38 between 2004 and 2023). After this the species declined quite quickly on-site (as seen in *Figure 216*) and since the winter of 2008/09 has produced just five significant counts – the last being on the 10th March 2012 (20 birds). Although there were a good number of records in 2021 many of these are attributable to between one and three birds that were regularly observed through the summer months - unusual in its own right (*Figure 217*) and something many observers clearly found notable. It remains to be seen if this species can recover on-site, but with both national and regional populations continuing to decline it would seem to be unlikely in the near future.

Breeding. The only confirmed breeding records in the Tyttenhanger GPs dB before 2004 are from 1996 (FL from "Colney Heath"), 1997 (FF and FL), with the 1988-92 Hertfordshire Bird Atlas also showing confirmed breeding.

Additional Information: *The First Gravel Pits; Appendix 4* – Year Lists.

Corn Bunting *Miliaria calandra* (0, 2, 33) [All]

Previously a reasonably common resident in the Upper Colne Valley it declined rapidly at the end of last century and is now considered to be a scarce visitor on-site.

2023. Not recorded.

Summary. With entries[142] in the Tyttenhanger GPs dB in all years from 1983 until 2000, with the exception of 1991 and 1999, it was clearly not an unusual species in the area at the time. Counts in excess of 5 birds are not uncommon i.e. can be found from 1983, 1986, 1988, 1992 and 1996, and the maximum count was of 33 birds on the 19th February described as a "*pre-roost gathering*". In addition, there is a confirmed breeding record from 1985 (a family party) and singing males are mentioned in a number of years between 1985 and 1998. The Hertfordshire Bird Report in 2000 contains the last record prior to 2004 ("*Territories were reported from …Tyttenhanger GP*") after which the next record was of three birds on the 13th January 2005. With just one further record - two birds at Willows Farm on the 30th October 2017 - it is likely this species will remain a blocker for some newer Tyttenhanger Birders, although recent records just a little to the north (Stanborough GPs) do offer some glimmer of hope …

Additional Information: *Appendix 4* – Year Lists.

[141] This is true of most of the records that have come through the Herts Bird Club data capture process. Other records from regular observes at this time tend to record the presence-only of this species – a fair indication it was not considered an unusual bird at the time.

[142] Some entries from the mid-1980s specifically refer to this species occurring over Coursers Road opposite the entrance to Willows farm (Bowmansgreen Farm as it was then) and there is a high likelihood that some of the records at this time refer to these birds. Later in the 1990s there are several records in the dB that while originally assigned to Tyttenhanger GPs, mention Coursers Road in the comments. All records that can be attributed to the latter have subsequently been corrected and are not included in the current analysis.

Escapes, Birds of Uncertain Origin/Identity and Hybrids

The following sections provides lists (and in some cases further details) of birds that are clearly escapes and/or of uncertain origin, hybrids and birds of uncertain identity. These lists are by no means exhaustive and there are undoubtedly records that have been missed. All entries are from the Tyttenhanger GPs dB and if there are data you can add then please feel free to contact the editors.

Escapes and birds of uncertain origin/identity.

2023. There was just a single record this year with an Emperor Goose on the 5th November; which is the only occasion this species has been recorded at Tyttenhanger GPs.

1983-2023. The format below provides a summary of the years in which the species is recorded with numbers of days-recorded shown in brackets. Any additional information e.g. larger counts, follow the summary.

Anser sp. The Tyttenhanger GPs dB contains many entries under this taxon. While many of them also contain notes to indicate they refer to the group of *Domestic White Geese* that have made their home around the Fishing Lakes, many of the entries do not include this additional information and so have not been assigned elsewhere. These entries were all made for the years 2013 to 2020.

Black Swan; *Cygnus atratus.* 1997 (10), 1998 (1), 2004 (1), 2017 (1) and 2022 (1).

Bar-headed Goose *Anser indicus*. 1987 (1), 1994 (1) 1995 (1), 1996 (5) 1997 (7) , 1998 (4), 2000 (1), 2009 (2), 2011, (2) and 2012 (1). Three birds on the 9th May 1998 and two on the 9th May 1997 and 27th August 1998 are the only records of multiple birds. The 1996 Hertfordshire Bird Reported estimated that there "*were probably 14 birds in the county*" during the course of the year.

Snow Goose; *Anser caerulescens.* 1987 (1), 1993 (3). There were two birds on the 23rd October 1993 followed by three on the 25th December and four on the 28th December of the same year.

Ross's Goose *Anser rossii* 2015 (3). A single bird on three dates in September 2015.

Emperor Goose *Anser canagius* 2023 (1).

Lesser White-fronted Goose *Anser erythropus* 1993 (3). A juvenile of presumed captive origin was present on the 15th November and the 25th and 28th December.

Pink-footed Goose *Anser brachyrhnchus* – 1988 (1), 1989 (2), 1991 (1), 1993 (3) and 2011(1). All records are of single birds and were considered of domestic origin. The 2011 Tyttenhanger GPs Bird Report suggested this record would be submitted to the Herts RBP "*This will be the first record for the site if accepted by the Herts RBP".* However, there is no evidence the record was ever submitted (let alone accepted) and it also failed to appear with escapes in the 2011 report.

Cackling Goose *Branta hutchinsii.* 2006 (5). A small bird showing the characteristics of Small Cackling Goose *B. h. minima* was present between the 16th and 25th September with Canada Geese described as *"… not much larger than a Mallard, dark breasted, with a very short stubby bill and a small white collar*". A similar bird had been seen at Hilfield Reservoir at other times in the year.

Australian Wood Duck *Chenonetta jubata.* 1986 (1).

Cape Shelduck; *Tadorna cana*. 1988 (1), 1996 (1).

Ruddy Shelduck *Tadorna ferruginea* 1991 (4), 1992 (3). 2011 (11) and 2017 (16). Records of three and four birds on the 25th and 26th July 1992 appeared at the time of a seeming influx to the UK (see British Birds 92, p232). The bird in 2011 was seen between the 12th January and 2nd April; the 2017 bird was seen between the 14th August and 1st September.

Muscovy Duck *Cairina moschata*. 2013 (5) and 2016 (1).

Baikal Teal *Anas formosa.* 2001 (4); male from the 8th to 27th December 2001.

Ringed Teal *Callonetta leucophrys* 2010 (1) and 2021 (2). The 2010 record involved two female-type birds on the 12th June.

Argentine Blue-Bill; *Oxyura vittata.* 2002 (1). A male on the 19th May 2002.;

Lanner Falcon *Falco biarmicus*. 2007 (1) and 2009 (1). Both birds were considered escapes from Willows Farm.

Falco sp.: 2007 (1) in the 2007 Hertfordshire Bird Report as "*tentatively thought to be a Saker*".

Southern Lapwing *Vanellus chilensis.* 2002 (9) and 2003 (6). A bird was seen with Lapwing flocks between the 27th September 2002 and 8th February 2003.

Grey-headed Gull *Chroicocephalus cirrocephalus*. 2001 (22), 2002 (1). A long-staying bird from the 27th May 2001 until the 28th April 2002 was recorded on more days than suggested by the 2001 Hertfordshire Bird Report. Also seen at Hilfield a few times and at Beddington SF in May 2001 one does wonder where else it may have gone when not reported from Tyttenhanger GPs?
Maybe back to its mates at Regent's Park Zoo where they have been kept in the Snowden aviary since the early 1990s (Birdguides, 2014 – which provides additional information on what is presumably the same bird).

Western Rosella *Platycercus icterotis*. 2019 (1)

Monk Parakeet *Myiopsitta monachus* 1996 (1), five birds flying through on 21st July 1996. The small(ish) colony that established at Borehamwood in 1993, disappeared around 2017/18 and so it is unlikely to become a regular visitor to Tyttenhanger GPs in the near future, like the other exotic psittacine , *Ring-necked Parakeet.*

Cockatiel; *Nymphicus hollandicus*. 1996 (1), 1998 (2) and 2007 (1).

Indian Peafowl; *Pavo cristatus.* 1998 (1), 2006 (1), 2009 (1), 2010 (2) and 2011 (7).

Common Crane *Grus grus*. 2008 (2). Three birds that arrived late on the evening of the 22nd April and landed near Willows Farm caused an initial stir in the failing light. However, the discovery of small rings on the legs of these birds was probably no surprise as they came within 50 metres of the assembled crowd and indicated their released-origin.

The three Common Cranes that appeared on the evening of the 22nd April 2008 – but subsequently proved to be of captive origin. Photo courtesy of Steve Blake.

Orange-cheeked Waxbill *Estrilda melpoda*. 1992 (1).

Atlantic Canary *Serinus canaria*. 2019 (19) and 2020 (2). A first-winter male between the 25th October 2019 and 4th January 2020 spent most of its time around the car park at Willows Farm.

Hybrids

Aythya Hybrids

Summary. Over the years there have been 21 days-recorded for birds considered to be hybrids between various *Aythya* species. Many of the dB entries do not provide a description and/or the putative parentage and so these are not listed below. For ease we have treated the hybrids on the basis of their presumed parentage/appearance -although there may be several birds involved in each presumed cross.

Ring-necked Duck-like. A bird described as such was reported on the 25th March and 7th April 1996.

Ferruginous x *Tufted Duck*. A bird of this description was noted on the 20th February 1998.

Ferruginous Duck x *Pochard*. Birds described thus were reported over quite a number of dates between the 2nd January 2016 and the 9th February 2020. After the initial record in 2016 the next record was not until 6th December 2017 with further dates through until the 10th February 2018. There was then a third group of records from the 15th January 2019 until the 9th February 2020 - described at one point as "*the regular hybrid male*".

> **Postscript**. Interestingly the winter of 2024/25 produced a string of records of Ferruginous Duck from the lower Colne Valley. Several Ferruginous Ducks were involved, along with an adult male hybrid with the same presumed parentage as the above Tyttenhanger GPs bird i.e., Ferruginous Duck x Pochard.

Hybrid Geese

Summary. Geese commonly hybridise and are capable of producing a range of strange phenotypes, for many of which it is impossible to postulate a presumed parentage. For this reason, many of the entries in the Tyttenhanger GPs dB are simply indicated as "Hybrid Goose". As above, we have not listed below anyof these birds of uncertain parentage and have concentrated on those birds with a postulated parentage.

Barnacle* x *Brent Goose. A bird of this description was reported on five dates in May/June 2016.

Canada x Barnacle Goose. A bird described as such was noted on two occasions in the winter of 2016/17 and again in April 2017.

Canada* x *Greylag. A bird of this type was reported in April 2016 and April 2020.

Egyptian Goose. A bird described as a hybrid (but with no consensus on a second parent) was present on ten dates between the 18th April and 25th August 2010; it was only recorded in the presence of a second bird.

Greylag* x *Greylag (Domestic) Goose. Despite the presence of the *Domestic White Geese* on-site from 2005 onwards and the regular breeding amongst themselves it was not until 2024 the first hybridisation with Greylags was recorded on-site (see *Domestic White Goose*). So, any hybrids of this type prior to 2024 would have been reared off-site with the first record of a hybrid noted in August 2014. There are further entries in the database from August 2015 to February 2017 and then a gap to September 2019/January 2020.

***Greylag* x Swan Goose**. A bird of this presumed parentage was reported on a number of dates between the 21st May 2019 and 31st May 2020.

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Records not Accepted or Assessed

Summary. Since 2007 the Hertfordshire Bird Reports have included a summary of records concluded by the Herts Rare Bird Panel to be "Not Proven" (Not Accepted) or for which there was no description submitted (Not Assessed). Many of these are in the Tyttenhanger GPs dB and we have decided to include them in the following sections to help harmonize the report and the dB. Within the dB these records are highlighted and reference provided to the outcome or presumed action i.e., "*Not submitted*".

Records not Accepted

1993. Great White Egret on the 26th September.

2012; Caspian Gull on the 10th March. *"Tyttenhanger GPs … A near adult showing some influence of argentatus Herring Gull and therefore considered to be an intergrade from Poland or Estonia".* This also listed on the 2012 page of the HBC's Rare Bird Decisions as "*Observer suspected hybrid influence*"

2015; Caspian Gull Tyttenhanger GPs on 25th December. Shown as Not Proven on the 2015 page of the HBC's Rare Bird Decisions.

2016; Ferruginous Duck Tyttenhanger GPs 2nd January. Shown as Not Proven on the 2016 page of the HBC's Rare Bird Decisions.

2017; Ferruginous Duck Tyttenhanger GPs 6th December. Shown as Not Proven in the 2017 Hertfordshire Bird Report (Not shown on the 2017 page of the HBC's Rare Bird Decisions).

2017; Hooded Crow Tyttenhanger GPs 17th April. Shown as Not Proven in the 2017 Hertfordshire Bird Report (Not shown on the 2017 page of the HBC's Rare Bird Decisions).

2018; Black Kite Tyttenhanger GPs 18th September. Shown as Not Proven on the 2018 page of the HBC's Rare Bird Decisions.

2023. Red-footed Falcon – Tyttenhanger GPs 30th Apr. Shown as Not Proven in the 2023 Hertfordshire Bird Report. The image to the right was that taken on the 30th April of the putative Red-footed Falcon. The image has been modified from using the original using an "Auto Levels" function in an image processing program to provide slightly better contrast for the current report. We'll let you readers themselves decide what they think this image indicates – but please, don't bother sending your answers to us.

Possible Red-footed Falcon photographed on the 30th April 2023. Photo courtesy Rupert Evershed.

Records not Assessed

The Tyttenhanger GPs dB contains a number of entries of descriptions-species (see *Description Species and Other Notable Records*) for which there are no supporting records in the Hertfordshire Bird Reports. The assumption with these entries is descriptions were never submitted to the HRBP.

1988; Skua sp. 20th November.

2006. *Red-backed Shrike* – 7th May (Tyttenhanger GPs dB).

2008. *Shag* on the 13th February (Tyttenhanger GPs dB).

2011. Pink-footed Goose, a single on the 9th April 2011 with a flock of Greylag (see under *Escapes and Birds of Uncertain Origin*).

2017; Red-necked Grebe 21st October (Tyttenhanger GPs dB).

2017; Spotted Crake 20th October (Tyttenhanger GPs dB)

2018; Glaucous Gull 3rd January – listed in the relevant section of the 2018 Hertfordshire Bird Report.

2019; *Yellow-browed Warbler* Tyttenhanger GPs 28th January and 11th February – both records were after the last accepted records (11th to 17th January 2019).

2020; Ferruginous Duck Tyttenhanger GPs 9th February - listed in the relevant section of the 2020 Hertfordshire Bird Report.

2020; Gannet 27th September. Interestingly the 2020 Hertfordshire Bird Report shows two records for this species – both on the 27th September. One went west over Rickmansworth at around 4 pm, while a second bird (a juvenile) was seen heading north-east over Wormley at 4.10 pm. The Tyttenhanger GPs record is listed in the relevant section of the 2020 Hertfordshire Bird Report but although submitted to the Website went no further.

Remembering Steve Blake (1949-2025)

Tyttenhanger GPs stalwart and great friend to many, Steve Blake, passed away on the 29th May 2025 after a long battle with illness. While the Herts Bird Club will be including an article in the 2024 Hertfordshire Bird Report about Steve's contribution to the Hertfordshire birding community, we'd like to focus on Steve's contribution to birding at Tyttenhanger GPs. While the first visit Steve made to Tyttenhanger was in 2005 it wasn't long before he became a regular on-site and by 2006 was starting to find some good birds. As soon as Steve became a regular – so did his faithful companion Alfie, a larger-than-life Springer Spaniel with a knack for finding Woodcock (and anything dead and rotting). Steve and Alfie became firm favourites with the Tyttehanger GPs faithful in a very short space of time and his understated birding-knowledge and tenacity were to pay dividends with the array of excellent finds over the next decade. Starting with the **Glossy Ibis** Steve found in September 2009 (the first in Hertfordshire for 120 years) the highlights include the following:

2011. *Bean Goose* on the 26th November – a first for Tyttenhanger GPs.

2012. *White Stork* on the 12th May– the second Tyttenhanger record.

2013. *Hoopoe* on the 15th April – chased down after being reported by a visiting birder.

2014. *Temminck's Stint* found on the 22nd May.

2017. *White-winged Black Tern* on the 12th September; a Tyttenhanger GPs first.

2018. *Spoonbill* 22nd May; another first for Tyttenhanger GPs.

2018. Penduline Tit 16th April – a first for Hertfordshire. The image below is of a watercolour by Helen Wood to celebrate his finding of the Penduline Tit which hangs proudly in his home.

2018. *Red-breasted Merganser* on the 17th November – another Tyttenhanger GPs first.

2019. *Common Crane* 1st April – a long-awaited first for Tyttenhanger GPs.

2019. *Yellow-browed Warbler* 11th January (Tyttenhanger Birders) – a Tyttenhanger first.

2019. *Cattle Egret* 20th September (Tyttenhanger Birders) – a first for Tyttenhanger GPs.

2022. *Bearded Tit* 11th March – another first for Tyttenhanger GPs.

Photo courtesy of Brendon Fagan from a painting by Helen Wood.

While retirement was an obvious benefit to Steve's birding at Tyttenhanger GPs it is still astounding to see that in most of the years between 2009 and 2019 he racked-up over 100 visits per year reaching a peak between 2017 and 2019 when each of the three years had just over 150 days-visited. Such dedication is apparent in the above list, but it is also worth noting there were a number of Hertfordshire rarities alongside the above as well as a large array of "good Tyttenhanger GPs/Hertfordshire birds". However, one of the things that characterised a lot of Steve's finds was he was often with others, which reflected the co-operative and social element to Steve's birding … the birds were important, but so was the *craic*. In the more recent past this sociability also saw him one of the founders and regulars of the Tyttenhanger Birders, with ill health and holidays seeming to be the only thing that kept him away from the regular Friday jaunts "*around the pits*". The social side of Steve's nature further manifest in his involvement with the Herts Bird Club and his initiatives focussed around making information and data available to the rest of the birding community as quickly and effectively as possible; first with the @hertsbirds Twitter/X account and latterly with the BlueSky accounts. His interest in disseminating information also saw him join the editorial group for the Tyttenhanger GPs Bird Reports - which was just

as well as so many of his records were included. He was involved with the reports for the years between 2007 and 2014, and besides the great input he made to their collation, the observant amongst you will notice the number of images Steve contributed over the years – many of which can be found in this report. After his direct involvement with the Tyttenhanger Bird Report (although he still continued to be a major contributor of records for the site) he went on to join the Herts Bird club records team, continuing to play an active role right up until 2025.

While Steve's birding accomplishments were substantial the following tributes from fellow Tyttenhanger GPs-birders emphasise his enduring humanity and willingness to help others. While he will be sorely missed, our memories of Steve will be with us forever, as will his legacy at Tyttenhanger GPs and in the Hertfordshire birding-community. Farewell Steve, it has been a pleasure and an honour knowing you.

Photo courtesy of Ricky Flesher.

I met Steve many years ago over Tyttenhanger GPs. We had a regular group of keen birdwatchers and after getting to know us Steve soon slotted in. Saturday mornings was usually the day most of us met up. We soon discovered that Steve had taken early retirement and began to spend a lot of time over at the pits. Naturally we were all envious and Steve built up quite a bird list! He was a nice and friendly guy and always a pleasure to bird alongside. I often smile when I remember his dog Alfie and the two of them strolling around. Birding locally won't be the same without the possibility of bumping into such a fine gentleman.

Terry Smith

One of my first memories of meeting Steve and Alfie was when Terry Smith and I were walking around the Fishing Lakes in February 2008. We started to talk to Steve about what we had seen when suddenly Alfie appears with a Mallard egg in his mouth that he started to eat… you could see the embarrassment on Steve's face and that was the start of an 18-year friendship. In that 18-years I must have met him over Tyttenhanger around 500 times, went out birding in other counties 100+ times and birding abroad with him a few times (Extremadura, Spain) (Texas, USA) and 3 or 4 times to the Isles of Scilly. Some of the best Tyttenhanger memories I have are when we found White Stork (2012) and Red-breasted Merganser (2018) and when Steve and Rupert found the Bearded Tit. I was there at 04.30 am the next morning with no luck until Steve walked up at about 07.30 am said "Any luck?" I replied "No". Then within 5 minutes of Steve turning up the bird showed really well for 5 minutes - which just shows what a great mate Steve was. He was more worried about me seeing the bird than checking the site for anything else. All in all, Steve was a great mate and true gentleman, he has also done so much for birding in Hertfordshire that he will be greatly missed by all. R.I.P Steve.

Ricky Flesher

I first met Steve in May 2008 at Amwell, it wasn't long before we met again at Tyttenhanger, and the rest as they say is history. Despite not getting into birding until quite late in his life, Steve made Tyttenhanger his second home. I was fortunate to be living in London Colney at the time, and would regularly meet up with Steve on my day off, wandering round the pits or heading to the coast to chase a few year ticks. Steve was passionate about his Tyttenhanger list, even when he mistakenly added Swift during January. This became the topic of much discussion and laughter, at our annual Christmas get together with some of the regulars of Tyttenhanger. Over the years that followed, Steve would add several species to the Tyttenhanger list. In 2017 he hit silver in the form of a White Winged Black Tern, which was enjoyed by many Herts Birders. But in April 2018 he struck patch gold with a first record for Hertfordshire with an excellent find of a male Penduline Tit [A watercolour of the swelled gathering of local birders shown to the left].He was never someone who sought publicity and often played down those scarce and rare birds instead he just wanted others to enjoy what he was fortunate to find.

Brendon Fagan

Photo courtesy of Pete Christian

The first time I met Steve was a disappointing one! Not because of him and his faithful dog but because it was one of my worst Hertfordshire dips. We were both sat in the hide at Amwell waiting for the Great Reed Warbler to show. We were there about an hour before I said I'll go for a wander to see if it was elsewhere. In the time I was gone it popped up, sang for 10 minutes then vanished and was never seen again! Back in 2015 he joined me on a twitch to Aberdeen which got off to a bad start when he was parking his daughter's car in my drive and scraped the rear bumper on a low brick wall (I'm hoping if his daughter is reading this he told you?!). The initial plan was head up see our target and stay over then come back the next day. As it was the Harlequin

Duck was seen before 8 am and as there was a Black Scoter in Northumberland we decided to go for it and maybe stay over there. We made good progress and got the bird within 20 minutes so we said sod it and headed for home arriving about 23 hours after we set off! My final memory is the one I almost finished him off on Scilly. We'd been over to Bryher and dipped a Common Rosefinch so got the early boat back but halfway back news broke of a Red-eyed Vireo at Carreg Dhu garden. I told him we'll have to have a power walk! Some 20 minutes later we arrived beating Ricky and Terry who'd got a taxi there from our accommodation and laid eyes on it for 5 minutes before it flitted off. With that we then headed back home for a well-deserved cuppa and Steve then was so knackered he didn't leave the house the next day (sorry Steve!). But the Vireo was my 450th UK bird so it was a pleasure to achieve that milestone with him. A truly lovely man who will be missed.

Ian Bennell

Photo courtesy of Steve Blake.

I first met Steve back in 2007– he was twitching a Stone Curlew that had been found at Tyttenhanger. We quickly became good friends and have remained so ever since. Steve quickly became a good person to go birding with – his regular visits to Tyttenhanger turned up rarities including Glossy Ibis, White-winged Black Tern and of course a first for Hertfordshire, Penduline Tit. Steve and I worked together closely, first by moderating the Herts Birding Yahoo email group (quite a challenge with some of the characters involved), and then as part of the Bird Club records team, something that Steve played a part in right up until 2025. However Steve's biggest contribution to the local birding scene was single-handedly running the Herts Birding Twitter account, something he did for many years, and his commitment to sharing Herts birding news was second to none. I will remember our many walks with his beloved dog Alfie and the other Tyttenhanger regulars, as well as trips further afield for rarities to places like Norfolk, Wales and Dorset and our annual Christmas get-togethers. I think most of all I will remember the kindness and friendship he has shown over the years.

Graham Knight

Photo courtesy of Pete Christian

After six years of happy birding at Tyttenhanger GPs, the family and I moved back to Australia in the latter half of 2008. Somehow however, I still managed to get drawn into putting together the Tyttenhanger Bird Reports, Steve was still helping with the reports at this time and despite the distance Steve, Ricky and I still managed to get everything organised at a reasonable speed over the coming years. Besides the work of summarising the data, Steve was always first to volunteer photos for the reports, kept the edits flowing and made sure Ricky and I stayed on-track. Then in October 2012 I got to come back to the UK for a visit, ostensibly to go to a work-friend's wedding but also to make sure that Tyttenhanger GPs was as I remembered. There aren't many occasions that all four of us that have edited the Tyttenhanger Bird Report have been in the field together – but the 20th October that year was one of them. My notebook shows it was a reasonably good day for Tyttenhanger GPs in October; there'd been a steady stream of Redwing overhead , we'd logged a count of 15 Jays and there was also a Peregrine on the Pylon near the hide. Birding aside it had been a great morning catching up with Steve and Graham (I was staying with Ricky) and we'd just about given up and were heading back to the cars when Steve nonchalantly pointed out a Lesser Spotted Woodpecker in the trees behind The Mound [Image to the left is from that day]. Classic! Other memories? Attempting to flush Woodcock in Garden Wood - with Alfie leading the way - local twitches and also a trip to Norfolk on my 2012 visit. Thanks for all the great birds and the great times - just wished there'd been more of them. Vale Blakey.

Pete Christian

As we were both regulars at Tyttenhanger Steve and I would often meet there and walk round the site, accompanied by Alfie and often joined by Ricky, Terry, Rupert and others. He was a top-notch birder but also great company, being laid back, sensible, intelligent and good humoured. Some of my most pleasant birding memories are whilst in his company - often when looking at birds that he'd found, most notably the Penduline Tit and White Winged Black Tern. The latter turning up when I was wandering round the Main Pit for a quick look during my lunch break whilst working from home. That lunch hour quickly turning into an "extended lunch" when a passing birder passed on the news of the tern at Willows Farm Lake (I didn't have a mobile at the time) and I zoomed down there on my bike to find Steve there, bemused but pleased at his discovery! If the birding was quiet there was always Alfie to liven things up: if there was anything dead

lying around he would find it - and, no matter how decayed or putrid it was, would insist on eating it, despite Steve's remonstrations and attempts to take it from him (Alfie was a good tempered, friendly dog, but would growl if Steve tried to stop him chewing something that was so decomposed that it was impossible to pin down it's phylum). I miss Steve and his company a lot.

Steven Pearce

Photo courtesy of Rupert Evershed

Having first birded Tyttenhanger in the late 1980s, I began to regularly visit from about 2010 onwards. Of course, I soon met Steve on his, almost daily, rounds. It was a great reintroduction to a site that I had previously loved visiting and the start of a good friendship with Steve. Steve was immediately amenable and enjoyed sharing any bird news local or otherwise that he had. His passion for finding birds and enjoyment of working his local patch meant that I had found a kindred spirit. Along with a couple of others we dubbed ourselves the 'Tyttenhanger Birders' although this really included anyone on site at the time. We shared some great birding moments together including Steve's find of Herts first Penduline Tit but also great 'local patch' moments when we discovered annual migrant birds such as Redstart or Wheatear along with new birds for the site such as a Bearded Tit. Steve loved birding and was always ready for more – even willing to start on site at 3.00 am for various patch challenges! His company is already missed along with his generosity of spirit and kindness. Never one to seek the limelight Steve was unfussy and practical to the core making him easy-going and, despite his own health struggles, always thoughtful of how the rest of us were doing. It's very sad the shared birding adventures are over and I will greatly miss him.

Rupert Evershed

I first met Steve, and Alfie, at Tyttenhanger in about 2008. We were both recently retired and met frequently during the week when most regulars had to work. Although Steve was quite new to birding, you'd never know as he had learned quickly, He was always quick to put news out but always making sure of his identifications. If I received a call saying "I think I've got a …" I knew that he was probably only 99% certain after brief views and was always right. Not only was he a good birder but a good man too.

David Booth

MIGRANT ARRIVAL AND DEPARTURE DATES

APPENDIX 1

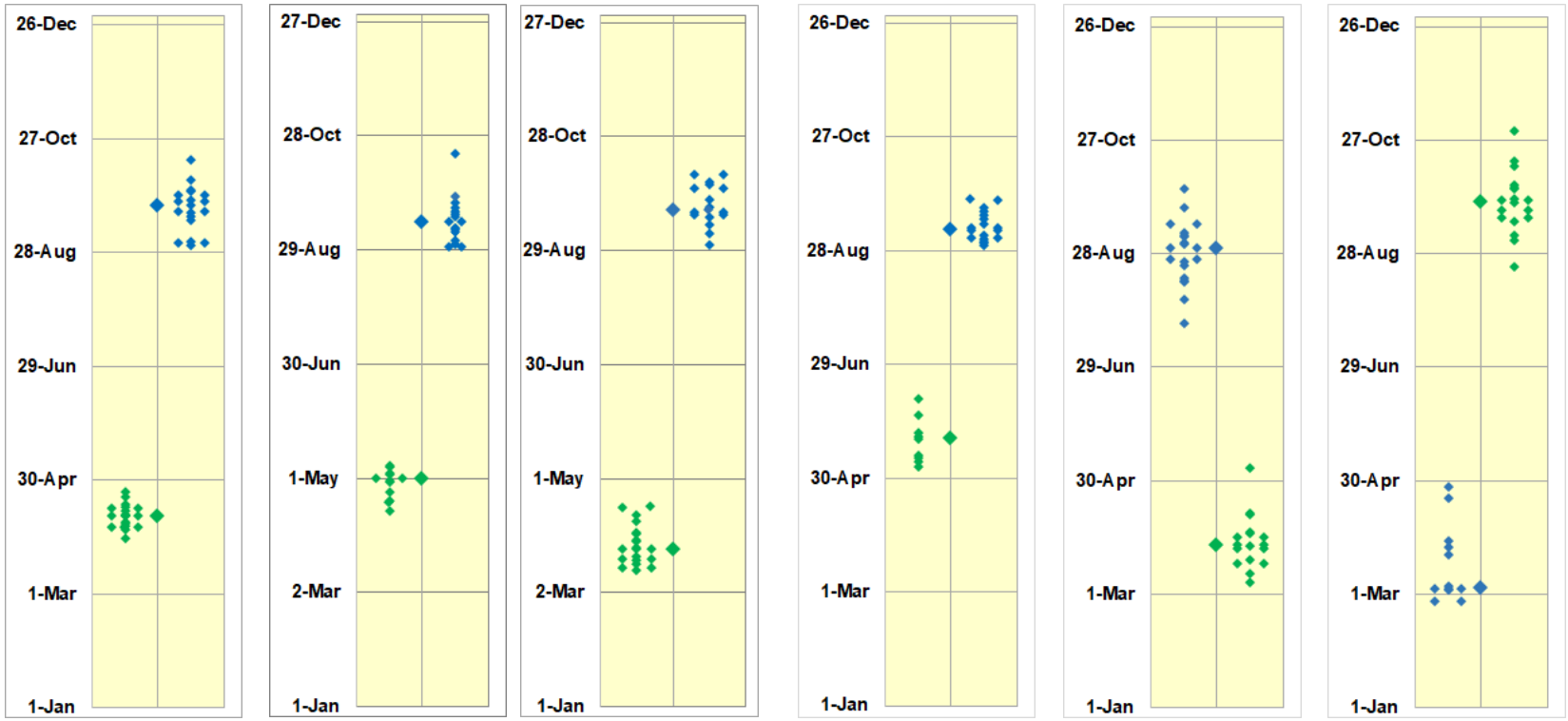
Appendix 1A – Summary of spring arrival dates and autumn departure dates for common migrants and breeding visitors at Tyttenhanger GP covering the period 2004-2023. The earliest spring (E) and latest autumn (L) dates recorded on site are shown in the column labelled E/L –median dates are calculated from the data in the table. Where no dates (ND) are available these are indicated by the grey shaded boxes. Median dates are all linked to the graphic summary of the arrival and departure dates.

Species	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	E/L	Median 2004-23
Hobby	1st Apr	26th Apr	28th Apr	5th May	30th Apr	28th Apr	6th May	24th Apr	5th May	8th May	21st Apr	2nd May	1st May	18th May	29th Apr	29th Apr	26th Apr	26th Apr	23rd Apr	29th Apr	27th Mar	***29th Apr***
	11th Sep	17th Sep	24th Sep	23rd Sep	25th Sep	29th Sep	7th Oct	2nd Oct	21st Sep	7th Oct	15th Oct	11th Oct	3rd Oct	11th Sep	28th Sep	15th Oct	26th Sep	27th Sep	27th Sep	27th Sep	23rd Oct	***27th Sep***
Ringed Plover	24th Jan	16th Jan	7th Feb	24th Feb	23rd Feb	23rd Feb	5th Mar	8th Feb	19th Feb	10th May	30th Mar	2nd Apr	3rd Apr	8th Feb	22nd Apr	ND	ND	ND	ND	ND	16th Jan	***23rd Feb***
	1st Oct	18th Sep	17th Sep	6th Oct	8th Oct	29th Aug	5th Aug	30th Jul	19th Aug	29th Aug	22nd Nov	23rd Aug	19th Aug	6th Sep	8th Sep	ND	ND	ND	ND	ND	11th Oct	***6th Sep***
Little Ringed Plover	16th Mar	19th Mar	21st Mar	30th Mar	3rd Apr	20th Mar	30th Mar	29th Mar	2nd Apr	15th Apr	8th Apr	9th Apr	3rd Apr	20th Mar	9th Mar	1st Apr	ND	ND	ND	ND	1st Mar	***30th Mar***
	1st Oct	1st Aug	28th Aug	1st Aug	8th Jul	4th Sep	24th Jul	10th Aug	30th Aug	17th Aug	17th Aug	9th Aug	30th Jul	12th Jul	14th Aug	6th Jul	18th Jul	ND	ND	13th Aug	1st Oct	***9th Aug***
Redshank(2)	3rd Mar	15th Mar	12th Mar	2nd Mar	28th Feb	23rd Feb	2nd Mar	26th Feb	1st Mar	7th Mar	8th Mar	13th Mar	19th Mar	12th Mar	12th Mar	17th Mar	14th Mar	8th Mar	2nd Mar	ND	11th Feb	***8th Mar***
	13th Aug	29th Oct	25th Jun	15th Sep	20th Jul	28th Aug	22nd Aug	24th Sep	12th Jul	10th Sep	25th Jun	9th Jul	4th Aug	25th Sep	27th Jul	18th Jul	ND	ND	ND	ND	6th Nov	***26th Jul***
Common Sandpiper	17th Apr	10th Apr	15th Apr	28th Mar	13th Apr	14th Apr	23rd Apr	23rd Apr	11th Apr	16th Apr	30th Mar	12th Apr	19th Apr	17th Apr	16th Apr	19th Apr	22nd Apr	30th Apr	29th Apr	6th May	28th Mar	***16th Apr***
	10th Oct	29th Sep	5th Sep	16th Sep	25th Sep	9th Sep	24th Sep	8th Nov	28th Sep	7th Oct	27th Oct	14th Sep	13th Nov	15th Sep	7th Oct	29th Sep	15th Sep	12th Sep	16th Oct	1st Sep	13th Nov	***26th Sep***
Common Tern	4th Apr	9th Apr	3rd Apr	16th Apr	13th Apr	8th Apr	19th Apr	8th Apr	11th Apr	7th Apr	9th Apr	16th Apr	11th Apr	15th Apr	19th Apr	20th Apr	24th Apr	23rd Apr	23rd Apr	15th Apr	30th Mar	***12th Apr***
	30th Aug	14th Sep	21st Aug	2nd Sep	12th Sep	14th Sep	4th Sep	4th Sep	3rd Sep	26th Aug	22nd Sep	15th Sep	24th Sep	22nd Aug	14th Sep	14th Aug	24th Aug	3rd Sep	21st Aug	9th Aug	12th Oct	***3rd Sep***
Cuckoo	11th Apr	16th Apr	16th Apr	22nd Apr	17th Apr	12th Apr	24th Apr	12th Apr	19th Apr	24th Apr	19th Apr	16th Apr	19th Apr	22nd Apr	24th April	1st May	24th Apr	30th Apr	18th Apr	28th Apr	25th Mar	***19th Apr***
	28th Jul	8th Jun	28th Aug	21st Jul	4th Aug	14th Aug	15th May	1st Aug	ND	16th Aug	19th Sep	5th Jul	4th Jun	2nd Jun	ND	5th Aug	18th Aug	ND	ND	3rd Jun	25th Sep	***9th Aug***
Swift	27th Apr	23rd Apr	2nd May	23rd Apr	28th Apr	28th Apr	30th Apr	30th Apr	26th Apr	27th Apr	3rd May	6th May	18th Apr	29th Apr	21st Apr	24th Apr	22nd Apr	25th Apr	1st May	28th Apr	18th Apr	***26th Apr***
	22nd Aug	19th Jul	1st Aug	13th May	13th Aug	1st Aug	20th Aug	30th Jul	21st Jul	28th Jul	26th Aug	29th Aug	10th Aug	9th Sep	18th Aug	12th Sep	29th Aug	13th Aug	29th Aug	23rd Jul	20th Sep	***13th Aug***
Spotted Flycat'r(1)	1st Aug	10th Sep	3rd Sep	15th Sep	25th Sep	4th Sep	19th Sep	9th Sep	5th Sep	17th Sep	10th Sep	2nd Sep	5th Sep	12th Sep	21st Sep	25th Sep	1st Sep	6th Sep	9th Sep	ND	25th Sep	***9th Sep***

(1) Spring arrival dates are not provided for this species as there is no spring passage usually noted; available dates along with three dates from pre-2004 are shown in the plot in Figure A1-1. (2) 99% of all occurrences are between the E/L dates.

Species	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	E/L	Median
Sand Martin	2nd Apr	3rd Apr	27th Mar	30th Mar	16th Mar	15th Mar	22nd Mar	23rd Mar	17th Mar	13th Apr	20th Mar	18th Mar	25th Mar	11th Mar	16th Mar	17th Mar	15th Mar	18th Mar	8th Apr	18th Mar	8th Mar	***19th Mar***
	22nd Sep	7th Oct	3rd Sep	8th Sep	7th Sep	12th Sep	17th Sep	20th Sep	1st Sep	15th Sep	4th Sep	14th Sep	23rd Sep	23rd Sep	16th Sep	10th Sep	2nd Oct	29th Sep	19th Sep	20th Sep	7th Oct	***15th Sep***
Swallow	5th Apr	3rd Apr	25th Mar	6th Apr	3rd Apr	25th Mar	29th Mar	26th Mar	31st Mar	13th Apr	29th Mar	3rd Apr	26th Mar	29th Mar	3rd Apr	31st Mar	1st Apr	1st Apr	17th Mar	1st Apr	22nd Mar	***31st Mar***
	10th Oct	14th Oct	8th Oct	2nd Oct	11th Oct	9th Oct	11th Oct	15th Oct	20th Oct	6th Oct	12th Oct	19th Oct	14th Oct	20th Oct	7th Oct	27th Oct	24th Oct	8th Oct	7th Oct	4th Oct	27th Oct	***11th Oct***
House Martin	5th Apr	16th Apr	14th Apr	13th Apr	11th Apr	31st Mar	3rd Apr	5th Apr	17th Apr	13th Apr	10th Apr	11th Apr	8th Apr	1st Apr	6th Apr	2nd Apr	10th Apr	31st Mar	10th Apr	1st Apr	31st Mar	***9th Apr***
	3rd Oct	5th Nov	7th Oct	23rd Sep	6th Oct	11th Oct	6th Oct	8th Oct	2nd Oct	22nd Sep	24th Sep	24th Sep	1st Oct	5th Oct	23rd Sep	5th Oct	11th Oct	8th Oct	9th Oct	29th Sep	5th Nov	***5th Oct***
Yellow Wagtail	4th Apr	11th Apr	6th Apr	11th Apr	24th Apr	7th Apr	30th Mar	5th Apr	17th Apr	15th Apr	11th Apr	11th Apr	5th Apr	14th Apr	5th Apr	8th Apr	16th Apr	12th Apr	15th Apr	21st Apr	29th Mar	***11th Apr***
	2nd Sep	19th Aug	3rd Sep	22nd Sep	25th Sep	24th Sep	5th Oct	27th Sep	19th Sep	14th Sep	1st Sep	19th Sep	30th Sep	16th Sep	27th Sep	18th Sep	16th Oct	24th Sep	2nd Sep	29th Sep	16th Oct	***20th Sep***
Whinchat	3rd May	30th Apr	ND	14th Apr	1st May	ND	24th Apr	8th May	ND	19th Apr	ND	1st May	ND	29th Apr	18th Apr	7th May	ND	ND	4th May	ND	14th Apr	***30th Apr***
	ND	7th Sep	10th Sep	23rd Sep	20th Sep	18th Sep	1st Sep	9th Sep	26th Sep	31st Aug	19th Oct	13th Sep	13th Sep	16th Sep	8th Sep	17th Sep	31st Aug	ND	3rd Sep	ND	19th Oct	***13th Sep***
Wheatear	28th Mar	25th Mar	25th Mar	12th Apr	15th Mar	14th Mar	20th Mar	25th Mar	17th Mar	30th Mar	19th Mar	9th Apr	2nd Apr	3rd Apr	16th Apr	19th Mar	16th Apr	26th Mar	15th Mar	21st Mar	12th Mar	***25th Mar***
	ND	1st May	3rd Oct	7th Sep	8th Oct	1st Oct	12th Sep	8th Oct	4th Oct	18th Sep	25th Sep	1st Sep	21st Sep	17th Sep	19th Sep	17th Sep	18th Sep	1st Oct	16th Sep	29th Apr	8th Oct	***20th Sep***
Sedge Warbler	17th Apr	16th Apr	14th Apr	16th Apr	12th Apr	11th Apr	7th Apr	8th Apr	13th Apr	15th Apr	19th Apr	11th Apr	12th Apr	14th Apr	10th Apr	18th Apr	23rd Apr	16th Apr	14th Apr	3rd Apr	3rd Apr	***14th Apr***
	7th Aug	10th Sep	11th Aug	19th Aug	6th Sep	12th Sep	31st Aug	29th Aug	21st Aug	17th Sep	6th Sep	25th Aug	ND	21st Aug	31st Aug	14th Sep	30th Aug	10th Sep	20th Aug	8th Jul	21st Sep	***31st Aug***
Reed Warbler	3rd May	6th May	19th Apr	23rd Apr	26th Apr	29th Apr	24th Apr	10th Apr	20th Apr	16th Apr	18th Apr	15th Apr	19th Apr	15th Apr	20th Apr	18th Apr	16th Apr	16th Apr	15th Apr	7th Apr	7th Apr	***19th Apr***
	14th Aug	19th Aug	12th Sep	9th Sep	15th Aug	5th Sep	7th Aug	19th Sep	28th Sep	6th Aug	19th Sep	17th Aug	12th Sep	6th Sep	16th Sep	1st Oct	9th Sep	10th Sep	3rd Oct	17th Sep	3rd Oct	***9th Sep***
Blackcap	11th Apr	28th Mar	28th Mar	12th Apr	10th Apr	3rd Apr	1st Apr	30th Mar	30th Mar	14th Apr	2nd Apr	7th Apr	1st Apr	30th Mar	5th Apr	22nd Mar	12th Mar	18th Mar	25th Mar	3rd Apr	12th Mar	***1st Apr***
	4th Sep	3rd Oct	17th Sep	9th Sep	6th Oct	1st Oct	30th Sep	2nd Oct	30th Oct	6th Oct	18th Oct	27th Sep	14th Sep	7th Oct	30th Sep	1st Oct	10th Oct	8th Oct	17th Sep	30th Sep	30th Oct	***1st Oct***
Garden Warbler	15th May	30th Apr	5th May	29th Apr	26th Apr	25th Apr	25th Apr	17th Apr	5th May	23rd Apr	22nd Apr	24th Apr	23rd Apr	20th Apr	21st Apr	4th May	19th Apt	23rd Apr	15th Apr	27th Apr	7th Apr	***24th Apr***
	13th Aug	16th Aug	22nd Aug	1st May	30th May	2nd Sep	17th Sep	13th Aug	25th Aug	28th Jul	14th Aug	21st Aug	4th Sep	5th Aug	31st Jul	25th Aug	17th Aug	12th Sep	20th Aug	10th Sep	17th Sep	***19th Aug***

Species	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	E/L	Median
Whiteth't	17th Apr	10th Apr	15th Apr	15th Apr	17th Apr	4th Apr	17th Apr	8th Apr	16th Apr	15th Apr	11th Apr	15th Apr	7th Apr	10th Apr	13th Apr	12th Apr	12th Apr	11th Apr	14th Apr	9th Apr	4th Apr	***12th Apr***
	19th Sep	3rd Sep	8th Sep	2nd Oct	25th Sep	18th Sep	4th Sep	4th Sep	30th Aug	24th Sep	19th Sep	6th Sep	29th Aug	16th Sep	26th Sep	14th Sep	6th Sep	3rd Sep	16th Sep	15th Sep	2nd Oct	***12th Sep***
Lesser Whiteth't	24th Apr	29th Apr	23rd Apr	23rd Apr	26th Apr	15th Apr	3rd May	21st Apr	2nd May	21st Apr	18th Apr	22nd Apr	23rd Apr	23rd Apr	16th Apr	19th Apr	19th Apr	23rd Apr	29th Apr	29th Apr	8th Apr	***21st Apr***
	NR	14th Aug	7th Jul	14th Sep	29th Aug	22nd Aug	1st Sep	24th Jul	25th Aug	NR	9th Sep	27th Sep	7th July	14th Sep	2nd Sep	10th Sep	5th Sep	ND	22nd Sep	15th Sep	28th Sep	***5th Sep***
Willow Warbler	9th Apr	28th Mar	2nd Apr	6th Apr	10th Apr	3rd Apr	30th Mar	26th Mar	12th Apr	15th Apr	5th Apr	10th Apr	3rd Apr	2nd Ape	1st Apr	9th Apr	20th Mar	30th Mar	8th Apr	30th Mar	18th Mar	***3rd Apr***
	29th Sep	11th Sep	25th Sep	9th Sep	21st Sep	18th Sep	8th Sep	5th Sep	3rd Sep	28th Aug	4th Oct	26th Sep	24th Sep	23rd Sep	12th Sep	1st Oct	29th Sep	11th Sep	7th Sep	18th Aug	12th Oct	***19th Sep***
Chiffchaff[1]	17th Mar	19th Mar	31st Mar	17th Mar	15th Mar	15th Mar	17th Mar	13th Mar	12th Mar	28th Mar	4th Mar	13th Mar	4th Mar	4th Mar	14th Mar	8th Mar	2nd Mar	3rd Mar	2nd Mar	17th Mar	ND	***13th Mar***
	30th Oct	14th Oct	12th Oct	7th Oct	15th Oct	21st Oct	6th Oct	9th Oct	30th Oct	19th Oct	20th Oct	25th Oct	17th Oct	17th Oct	27th Oct	27th Oct	30th Oct	22nd Oct	31st Oct	23rd Oct	ND	***20th Oct***



Yellow Wagtail *Whinchat* *Wheatear* *Spotted Flycatcher* *Wigeon* *Stonechat*

[1]Overwintering birds may confuse arrival/departures (E/L) dates and so are not provided.

Figure A1-1. *Plots of spring arrival (♦) and autumn departure (♦) dates for Yellow Wagtail, Whinchat, Wheatear and Spotted Flycatcher shown along with spring departure (♦) and autumn arrival dates (♦) for Wigeon and Stonechat Median dates for each arrival/deprture are shown by the larger symbols on the centre line.*

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; median dates are shown for the period 2004-23. Where no dates (ND) are available these are indicated by the grey shaded boxes. Note, birds are infrequently recorded between the L/E dates for several of these migrants and these occurrences should be considered notable for all species in the table.

Species	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	L/E	Median
Wigeon	28th Mar	20th Mar	ND	1st Apr	28th Mar	26th Mar	13th Mar	14th Apr	18th Mar	ND	18th Mar	13th Apr	4th Apr	8th May	26th Mar	27th Mar	1st Apr	8th Mar	3rd Apr	ND	13th Apr	***27th Mar***
	7th Sep	1st Sep	23rd Aug	14th Sep	23rd Jul	9th Sep	5th Aug	25th Aug	1st Sep	16th Aug	3rd Sep	2nd Oct	14th Sep	22nd Sep	4th Sep	26th Aug	15th Aug	14th Aug	26th Aug	8th Sep	15th Aug	***31st Aug***
Water Rail	ND	1st Apr	ND	18th Feb	21st Apr	6th Apr	6th Mar	15th Mar	8th Apr	ND	16th Mar	12th Feb	18th Mar	22nd Mar	13th Apr	14th Apr	7th Apr	20th Mar	19th Apr	9th Apr	21st Apr	***21st Mar***
	19th Nov	18th Nov	ND	ND	31st Oct	11th Nov	1st Nov	25th Oct	27th Oct	11th Dec	26th Nov	22nd Nov	3rd Oct	14th Sep	24th Aug	2nd Sep	20th Sep	3rd Sep	10th Sep	5th Sep	1st Sep	***31st Oct***
Golden Plover	12th Apr	25th Mar	15th Apr	5th Apr	23rd Feb	29th Mar	23rd Mar	30th Mar	9th Apr	12th May	23rd Mar	2nd Feb	ND	31st Mar	ND	19th Apr	15th Mar	2nd Apr	2nd Mar	ND	22nd Apr	***30th Mar***
	9th Oct	29th Sep	1st Oct	13th Oct	14th Oct	5th Oct	10th Oct	16th Oct	26th Oct	11th Oct	28th Nov	3rd Oct	14th Nov	18th Nov	16th Sep	30th Sep	ND	ND	ND	ND	16th Sep	***10th Oct***
Green Sandpiper	20th Apr	24th Apr	15th Apr	7th Apr	20th Apr	18th Apr	9th Mar	4th May	20th Apr	20th Apr	22nd Apr	14th Apr	13th Apr	12th Apr	20th April	22nd Apr	16th Apr	25th Apr	ND	9th Apr	4th May	***20th Apr***
	19th Jun	8th Jun	10th Jun	8th Jun	14th Jun	13th Jun	29th Jun	27th Jun	4th Jul	18th Jun	13th Jun	15th Aug	2nd Jul	19th Jun	9th Jun	19th Jun	6th Jul	15th Aug	22nd Jun	11th Nov	8th Jun	***19th Jun***
Common Gull	11th Apr	10th Apr	2nd Apr	14th Apr	6th Apr	4th Apr	28th Apr	23rd Apr	15th Ape	13th Apr	5th Apr	11th Apr	26th Apr	1st Apr	18th Mar	27th Mar	21st Mar	39th Mar	25th Mar	3rd Apr	28th Apr	***5th Apr***
	17th Jul	9th Jul	4th Jul	14th Jul	20th Jul	9th Jul	11th Jul	4th Jul	10th Jul	10th Jul	6th Jul	6th Jul	9th Jul	4th Jul	23rd Jul	31st Jul	23rd Jul	29th Aug	2nd Sep	18th Aug	4th Jul	***10th Jul***
Stonechat	ND	5th Mar	ND	ND	28th Apr	ND	ND	5th Mar	ND	27th Mar	4th Mar	6th Mar	ND	ND	5th Mar	22nd Apr	23rd Mar	30th Mar	26th Feb	26th Feb	27th Apr	***4th Mar***
	3rd Oct	14th Oct	2nd Oct	5th Sep	21st Sep	27th Sep	17th Oct	ND	26th Sep	ND	8th Sep	4th Oct	21st Sep	26th Sep	15th Sep	22nd Aug	17th Sep	17th Sep	25th Sep	2nd Nov	22nd Aug	***24th Sep***
Fieldfare	12th Apr	20th Mar	8th Apr	8th Apr	6th April	7th Mar	27th Mar	8th Apr	9th Apr	12th May	31st Mar	30th Mar	12th Apr	16th Mar	7th Apr	22nd Apr	9th Apr	22nd Mar	1st Apr	1st Apr	28th April	***7th Apr***
	9th Oct	27th Oct	28th Oct	14th Oct	30th Oct	29th Oct	18th Sep	9th Oct	27th Oct	15th Oct	1st Nov	7th Nov	19th Oct	15th Oct	22nd Oct	21st Oct	9th Oct	5th Nov	19th Oct	22nd Oct	18th Sep	***21st Oct***
Redwing	13th Mar	12th Mar	14th Apr	5th Apr	12th Apr	17th Mar	29th Mar	26th Mar	10th Mar	13th Apr	23rd Mar	21st Mar	3rd Apr	15th Mar	3rd Apr	22nd Apr	3rd Apr	30th Mar	14th Apr	2nd Apr	28th Apr	***29th Mar***
	9th Oct	16th Oct	21st Oct	14th Oct	19th Oct	28th Oct	9th Oct	13th Oct	14th Oct	7th Oct	16th Oct	16th Oct	12th Oct	8th Oct	12th Oct	1st Oct	27th Sep	8th Oct	8th Oct	21st Oct	1st Oct	***12th Oct***
Siskin	23rd Feb	5th Mar	10th Apr	27th Jan	7th Mar	28th Mar	6th Mar	12th Mar	3rd Mar	27th Mar	ND	17th Jan	8th Apr	25th Mar	21st Apr	28th Mar	15th Mar	25th Apr	25th Mar	19th Mar	21st Apr	***16th Mar***
	28th Nov	14TH Sep	11th Nov	4th Oct	21st Sep	18th Oct	17th Oct	1st Oct	14th Oct	2nd Nov	ND	18th Sep	25th Nov	26th Sep	29th Sep	15th Oct	6th Sep	8th Oct	19th Oct	17th Sep	14th Sep	***14th Oct***
Lesser Redpoll	22nd Mar	25th Mar	2nd Apr	23rd Feb	16th Mar	21st Mar	31st Jan	20th Mar	18th Mar	23rd Apr	16th Mar	ND	30th Apr	1st Apr	4th May	15th Apr	23rd Jan	18th Apr	5th Mar	ND	4th May	***22nd Mar***
	ND	14th Oct	ND	27th Oct	ND	ND	12th Dec	14th Oct	19th Oct	19th Oct	8th Nov	2nd Oct	29th Oct	9th Oct	20th Oct	28th Oct	13th Sep	27th Oct	19th Oct	22nd Oct	13th Sep	***19th Oct***

Appendix 2

What Goes in the Notebook; the Evolution of the Tyttenhanger GPs dB and Recording Trends - 1983-2023

Introduction

Since the start of the Tyttenhanger GPs annual report series in 2004, there have been several significant changes in the way Hertfordshire's birders have generated and captured data. The rapid rise of electronic platforms, along with the continued development of the data capture portals on the Herts Bird Club website, has meant we have been handling increasingly large amounts of data. Furthermore, to make this report as complete as possible (and that of the *Breeding Birds of Tyttenhanger GPs 1967-2023*), we have also consolidated data from a wide variety of sources. All-in-all we've ended up looking at a lot of data from a lot of different sources. However, the process of constructing the Tyttenhanger GPs dB, has led us to the realisation that irrespective of where/when the data has been generated, there are still two basic questions that birders have to ask themselves:

- First, is that species worth recording?
- Second, should I count how many birds I see, or should I just record it as being present?

Answers to these two questions effectively dictate "what goes into the notebook" - or in more modern times "what goes into the birding app". That is the first, and probably most straightforward, stage in the overall process i.e., the data generation step. The next step is when data are captured and made more widely available – and that is the step we will look at first.

Data Capture

As we outlined above there have been some substantial changes to the ways data have been captured over the years. To best understand the impacts these changes have had it is probably best to start by describing the data-capture methods used and the constraints and limitations of each. Clearly the focus is on the methods that have been in place for Hertfordshire – which by extension apply to Tyttenhanger GPs as the vast majority of records have flowed to the latter through the Herts Bird Club.

1983 to 2003. While the start date is set at 1983, the processes in place at this time would have been reasonably unchanged for many years previous. At this time – and up until 1988 - the system would have been paper based. Data would have been submitted to the Herts Bird Club[143] on paper forms and then hand-copied onto filing cards (by species), which were then used for the generation of the annual Hertfordshire Bird Reports (Smith *et al*, 2015, see page 26). This would have remained the case up until 1988 when the Herts Bird Club got its first PC, at which stage data capture entered the electronic age. The process around this time is explained by Ken Smith (1989) - suffice to say data-submission to the Herts Bird Club was still in paper form with all records having to be manually entered into the Herts Bird Club database. The *Birds of Hertfordshire* (Smith *et al*, 2015, 26-27) provides a description of the evolution of the Herts Bird Club database (HBC dB) platforms up to 2013, so we will not discuss the HBC dB itself any further. The following provides a time-line summarising how data were submitted and captured into the HBC dB through the remainder of this period i.e. from 1988 through until 2003.

1988-98. Data submission and capture was effectively the same as described above i.e., paper-based with manual transfer to the HBC dB. A couple of things are worth remembering about the start of this period. First, email was still quite unusual – as were personal/home computers (PCs). Those with computers would have still been using 5¼ inch floppy discs (around 100 KB capacity) and probably changing and moving discs around to start programs and transfer data. Things improved with the advent of the 3½ inch floppy disc and the associated jump to 1440 KB capacity and the possibly an internal hard-drive. The internet also began its rise and although the latter would have invariably been accessed through a dial-up modem (remember that noise?), this was still a substantial improvement on the years previous.

1998-2002. The Herts Bird Club launched the first version of its website in November 1998 – which provided the first chance for observers to submit their data online. Unfortunately, the Internet Archive (see does not have copies of this early version of the website and so we can't comment on how data would have been submitted to the site at this time. Nevertheless, this was clearly a time of great change for the Herts Bird Club and the database. However, in retrospect, despite the advances the system was still very fragile and it is therefore no surprise that issues arose began arise. Probably the most significant of these was the loss, at some point, of most of the data from this period. There is a statement in Smith *et al.,* (2015, p27) as follows:

> *"Unfortunately in this period of transition between 1999 and 2002, the data had been made available to the writers of the bird reports but were subsequently lost so the database holds no records at all for 1999 and 2000[144] and limited ones for 2001 and 2002".*

[143] The Herts Bird Club did not come into existence under this name until 1988 – previously being managed and known as the Ornithological Section of the Hertfordshire Natural History Society. For convenience we have chosen to use the name Herts Bird Club rather than confuse matters with the use of two names.

[144] It was subsequently found this problem also extended to 1998 and so the database contains no records from 1998-2000 and only limited records from 2001 and 2002.

Clearly the records included in the Bird Reports of this period are still available and later versions of archived webpages (see 2002 below) provide links to the bi-monthly bulletins and detailed lists from this time (which have also been mined for records for the Tyttenhanger GPs dB). Finally, a note on the day-to-day workings of bird-recording in Hertfordshire - the following comes from the Herts Bird Club Bi-monthly Summary of November/December 2001:

> *"Finally, for many years Robin Smith has taken responsibility for the printing and distribution of the HBC bulletin, but unfortunately is no longer able to do so. On behalf of the Herts Bird Club I [Lee Marshall] would like to thank him for all of his hard work, and will accept those responsibilities myself. The changeover may cause some delays as a few minor problems have to be sorted out, but I look forward to licking 240 stamps and envelopes bimonthly with relish."*

So, while the records-submission page on the website was asking for an email address (which is a logical request given the data was being entered online), contact details for the Recorder, Bulletin Editor and the Webmaster still gave postal addresses. Even a year later the Bird Report of 2000 (published in November 2002) contains the following.

> *Bird records for inclusion in the Bulletin and on the website should be sent to the Bulletin Editor at 199 Watford Road, St Albans, Herts AL2 3HH, or by email to bird.bulletin@ntlworld.com, otherwise please forward them to the County Bird Recorder. Records can also be submitted on the Internet by visiting the Bird Club's web site at http://www.hertsbirdclub.org.uk.*

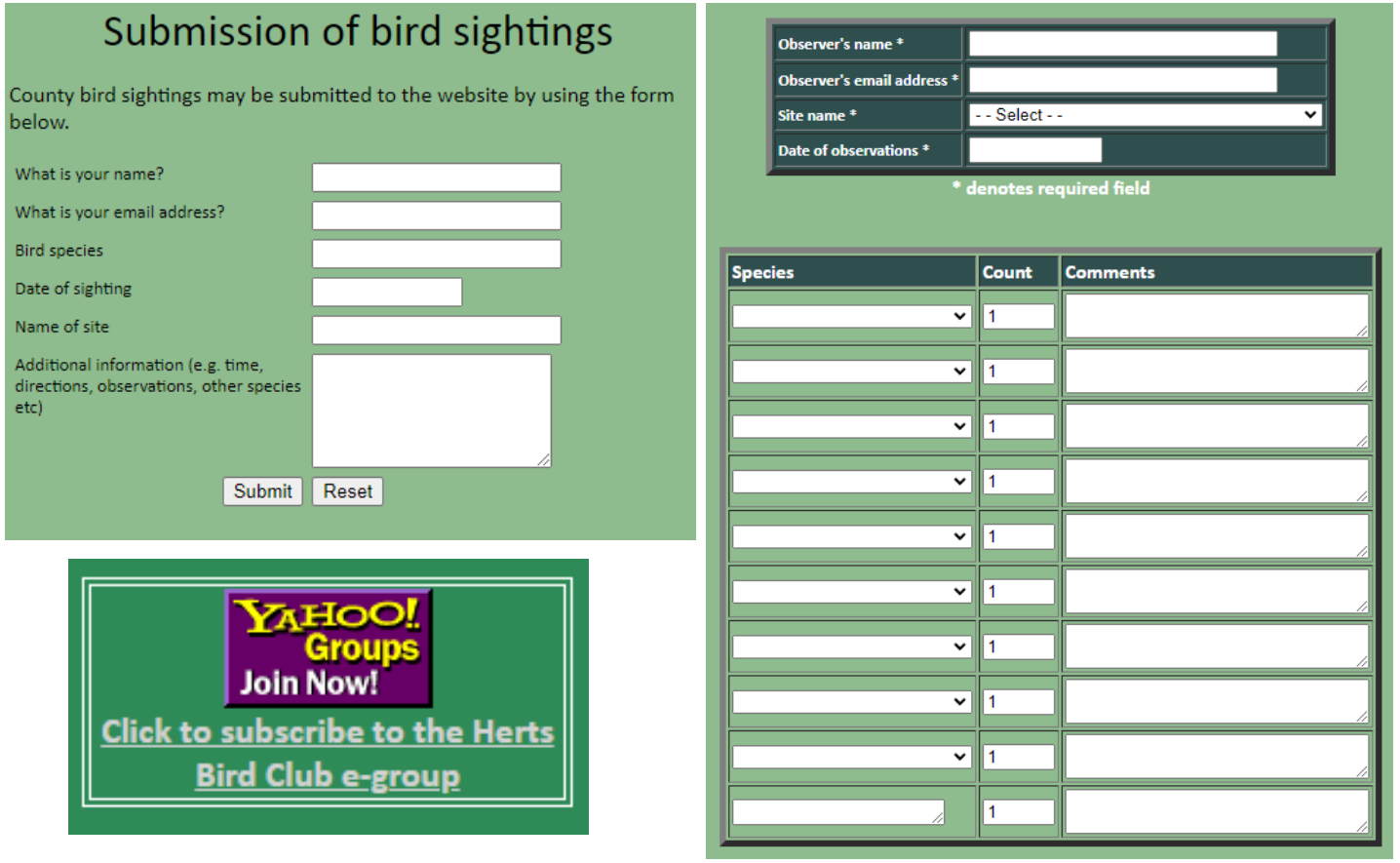


***Figure A2-1**. Snips from archived versions of the Herts Bird Club website showing the record-submissions pages from the period up to early 2004 (top left) and from 2004 to mid-2009 (top right).Tthe updated website after mid-2009 is very much the same in functionaility (if not appearance) to that on the website at the current time. The final snip(bottom left) is the banner for the now defunct Yahoo group*

Clearly the more traditional methods of communication and information dissemination were still well entrenched in the day-to-day machinations of the Herts Bird Club – reflecting a more e-centric world was yet to come.

2002-2003. There was an upgrade to the website in early 2002 and the first archived version of the new site can be seen on the Internet Archive's Wayback Machine. The Record Submission page allows for just a single species to be reported at a time (see *Figure A2-1*). Nevertheless, it is clear from the entries in the HBC dB the "Additional information" box was frequently used to capture further records. Much of this additional; information was transcribed into the Herts Bird Club dB at the time and so is still available.

2004-2023. By the start of 2004 things were clearly moving quickly in the e-domain and more things were becoming possible while some were even becoming routine. The first capture of the new Herts Bird Club website on the Wayback Machine shows the record submission page had been updated to allow for submission of records for up to 10 species at a time (see *Figure A2-*

1). An email address was now a required-field on the online submission form and there was drop-down menu for the site-name while the species name had a predictive text function and a drop-down function that could be sorted in Voous or alphabetical order. The website was also advertising the Herts Bird Club Yahoo group (*Figure A2-1*) - a sign of birders becoming more connected and mobile phones becoming a *de rigueur* piece of birding equipment. Outside of the Herts Bird Club website, the BTO's Birdtrack was fully operational by 2005 and was making data available to the HBC for integration into the HBC dB. The Herts Bird Club website was upgraded in mid-2009 which allowed the direct capture of records submitted to the website into the Herts Bird Club dB, as well as providing a more user-friendly submission page. Interestingly, in the period up until 2011 data from Birdtrack was filtered prior to integration into the HBC dB to match the reporting thresholds of the Herts Bird Club website. However, this filtering happened after records were downloaded and made available for the Tyttenhanger Bird Reports which meant the Tyttenhanger GPs dB contains all of the records from Birdtrack rather than just the filtered records. The next major impact on the capture of data into the HBC dB was probably the incorporation of eBird records in 2018. While eBird had been in existence since 2002 it was not launched in the UK until 2011 with the next major innovation being the introduction of the mobile app in 2016. At around the same time the BTO had also launched the latest version of their Birdtrack app (which had been available in earlier versions from around 2012 onwards) – although it is not clear how popular this app has been with birders. The Birdtrack and eBird apps mean it is now possible for birders to enter data in the field that is then automatically uploaded into the relevant databases and so by 2018 when the Herts Bird Club started downloading data from eBird, it was already possible for data to be recorded in the field and eventually integrated into the Herts Bird Club dB – a far-cry from the situation just several years before where all data was handled at least twice before getting into the Herts Bird Club dB.

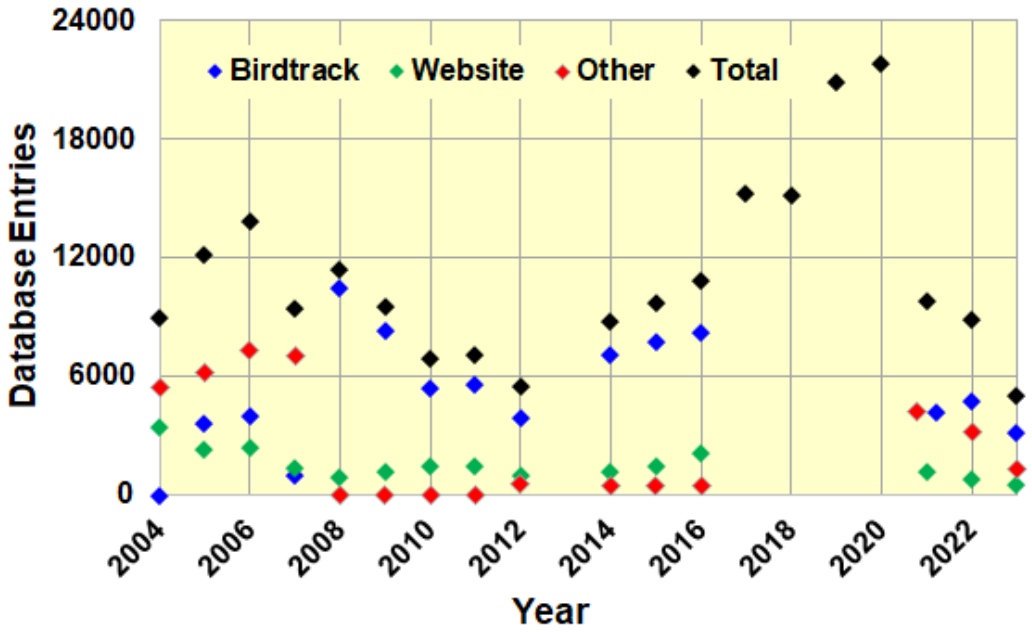


Figure A2-2 *Number of database (dB) entries from various sources in the period 2004-2016. There are no data available for the source of dB entries from 2013 and 2017*[145].

Evolution of the Tyttenhanger GPs dB

While the above provides the background for how data may have been generated and then captured, a further layer of complexity arises from how those data have then been migrated into what we have come to term the Tyttenhanger GPs dB. The overall process of generating the dB has taken several years, and many of the components have been integrated into the dB on an "*needs basis*". The following is by no means exhaustive but gives an idea of the way the Tyttenhanger GPs dB come into being and evolved into the single entity it is today.

Part 1 – 2004 – 2023. The backbone of the dB is undoubtedly the records provided each year by the Herts Bird Club for our annual reports and have generally been provided around the time the Bird Club prepare for the next Hertfordshire Bird Report. The following is a potted history of what was happening around the provision of these data and some of the actions that surrounded the editing, harmonisation and capture of additional data.

2004. Data were only provided from the Website for the first Tyttenhanger Bird Report -although the editors made use of their own records as the report was written. These were not digitised at the time and did not become part of the Tyttenhanger GPs dB until a much later stage (see 2017-20 below).

2005. This year is notable as the first in which we received Birdtrack records from the Herts Bird Club along with those from the website. It is worth noting that at this time data from the Bird Club and Birdtrack were provided in separate workbooks which remained the case until relatively recently (albeit in most years the data were worksheets rather than separate workbooks.

2006-2017. Not much changed in this period; at some point we decided to digitize all records from 2004 to 2007 (shown as "Other" in *Figure A2-2*) and introduce these into the overarching

[145] *Figure A2-2* shows the source of Tyttenhanger GPs dB entries for the period 2004-23. Birdtrack was the primary source of dB entries in years from 2008-2016 but unfortunately data are not available for the period 2017-20 to indicate the source of dB entries. However, by 2021 it is clear the total number of Birdtrack-derived entries has declined to about 50% of the 2016 level and that eBird contributes roughly the same number of records as Birdtrack.

database[146]. By 2007 the editors had moved to entering all their own records into either Birdtrack and/or the Herts Bird Club Website and so these were not referenced separately in writing the annual report, and more importantly did not have to be retrospectively captured.

2017-20. Personal records from the editors – especially for the period 2004-2007 – were eventually digitized and incorporated into the spreadsheets for the relevant years.

2018. This was the first year eBird data became available for direct importation by the Herts Bird Club into their dB and the first year data for the Tyttenhanger GPs dB were received from this source. It is worth noting that from 2018 to 2020 while the data was made available from this source it was not possible to identify those records which came from each of the different sources.

Part 2 – 1958-2003. This part of the database was much more laborious to construct than Part 1 and required a variety of approaches and sources to reach where it is today. Various aspects of the data-mining were undertaken at different times and the following provides a rough timescale for when these activities were undertaken and brief descriptions of why they were undertaken.

2013. As part of the research for the 10th Anniversary Report all records were extracted from the Hertfordshire Bird Reports (1983-2003) that referred to "Tyttenhanger GP(s)". Originally In Word™-format these were later moved across to spreadsheet-format.

2022. The bulk of the records in the dB for 1983-2003 came from the Herts Bird Club dB and were made available in the latter part of this year. The records covered the period from 1988 through until 2003 – but there were virtually no records from 1998,1999 and 2000 (see above in *Data Capture 1998-2002*). While some records had been recovered for this period in the initial data-sweep in 2013, a substantial addition to the dB was made from the personal records of Ricky Flesher. Retrospectively entered in Birdtrack, Ricky made all of his records from 1993 through until 2003 available to the dB[147].

2023. Further data were extracted from the London Bird Report and the Herts Bird Club bi-monthly bulletin/detailed lists and Herts Bird Club records archives[148], and we also extracted a number of records from eBird that had been added retrospectively. The focus in both activities was on 1983-1987 and 1998-2000, but other data were extracted as seemed appropriate i.e. no other coverage for a particular day or records not in the dB.

2023-present. The lack of records from the period 1983-1987 and 1998-2000 (inclusive) led us to approach long-term Tyttenhanger birder Steven Pearce with a request to digitise all of his records from these periods. Thankfully he agreed and the record capture was completed in the first quarter of this year.

Part 3 – Additional Groups. While a long time in coming we eventually got around to constructing the lists for *Mammals, Amphibians and Reptiles of Tyttenhanger GPs* (*Appendix 5*) and the Butterflies and Dragonflies/Damselflies (*Appendix 6*). As part of our on-going policy to only use records that have been through some form of verification process we did track down the relevant records for these groups from a number of sources and these have also been edited and included as additions to the current Tyttenhanger GPs dB. It is worth noting that a large number of records were extracted for this from the National Biodiversity Network Atlas dB and includes many entries representing groups other than those mentioned above (and the birds). If anybody is interested in these groups then feel free to contact the editors to discuss sharing this information.

Features of the Database. There are several features of the Tyttenhanger GPs dB that need to be highlighted as these can affect the interpretation of extracted data:

- **1983-87**. Days of coverage between 1983 and 1987 are relatively low (all 80 days or less) and most records come from a single recorder.
- **1988-1993**. This period primarily contains records captured into the Herts Bird Club dB. As the capture in this period was quite selective (see *Data Capture* above), there are a number of species, especially common residents, for which there are just a few or no entries at all. (see below - *Is This Species Worth Recording*).
- Likewise, days of coverage in 1999 (113) and 2000 (106) are low (due partly to the known gap in the HBC dB - see *Data Capture - 1998-2002*) and again draw heavily on the records of a single recorder (albeit a different one from 1983 to 1986). Surprisingly the other years in the HBC dB gap i.e. 1998 (182 days covered) and 2001 (164 days-covered) are much better

[146] The database still existed as individual spreadsheets for each year until recently when it was integrated into the single spreadsheet that is now the Tyttenhanger GPs dB.

[147] Data for the annual reports have been made available from Birdtrack via the Herts Bird Club from 2005 onwards and so data from that source have bene routinely included as part of the data provided for the annual reports. However, data that have been retrospectively entered into Birdtrack – or eBird – will not have been captured through the annual reporting process. Data from eBird was not routinely captured by the Herts Bird Club until 2018. Therefore, any data in BirdTrack from before 2005 and from eBird before 2018 will not have been captured; the same is also true for any data entered into these portals retrospectively after March of the following year i.e. after the Herts Bird Club have extracted data for the annual report. Finally, eBird has an outward facing element to all of the checklists and so the extraction of older records is relatively straightforward – albeit needs to be done "manually" for each entry. This means all retrospective entries in eBird can be integrated into the Tyttenhanger GPs dB with relative ease. However, while users can readily download their own records from Birdtrack, there is currently no outward-facing access to those records. If people wish to make older records available to the Tyttenhanger GPs dB these will be most gratefully received.

[148] The detailed lists from the bi-monthly bulletins and records archives for the period 1998 to 2003 can be accessed through the Internet Archive's Wayback machine.

– due in part to better data recovery from other sources, including some retrospective eBird lists.

- Most of the days-covered in the period 1988-2003 are not comprised of complete lists and so records of the more common species are still relatively uncommon.
- Prior to the introduction of Birdtrack (2005 for the Herts Bird Club and the Tyttenhanger GPs dB) there was no facility for entering a species as "present" rather than having to enter a count. Re-coding of some data (especially "summary" records from the Hertfordshire Bird Reports) in the period through until 2003 does mean there are entries of "Present" in the Tyttenhanger GPs dB from before 2003 when no count was available during data-capture.

Recording Trends, or, What Goes into the Notebook?

It is obvious from the above points there is a fair degree of heterogeneity in the database that has arisen from the various capture mechanisms used for both the Herts Bird Club dB and the Tyttenhanger GPs dB. So, given this background can we use the Tyttenhanger GPs dB to answer either of the questions we posed at the outset of this discussion namely, what species are recorded and what species attract more information?

Is This Species Worth Recording?

Common Species. We have noticed over the years that reporting of particular species appear to have "trends" and that perceptions of how common a species may be can affect the way in which it is recorded. In 2020 record numbers of days-recorded were produced for many species and allowed a preliminary analysis of this phenomenon – which can be found in the Tyttenhanger GPs 2021 Report (see *"How Good Was 2020…Really ?*", p57). Part of that analysis involved asking several Tyttenhanger birders to nominate ten species they considered would be present on all visits and we then looked at the patterns of reporting through the period 2012-20. We've extended that analysis to the period 2009-2023 for the same ten species and the results are shown in *Figure A2-3*. While the choice of species may be subjective there is no doubt most of these species fit the criteria of being "*common Tyttenhanger birds"* – at least in 2021. Immediately obvious and despite the presumed presence of these species on-site during every visit, the overall recording-rate from the dB is low – indicating many observers are either not recording these species or, heterogeneity in capture platforms has produced the trends observed. When a subset of these data was used, i.e. just those from BirdTrack[150] where there is an option to enter all species recorded but to not include counts, we found the recording rate across the ten species shown in *Figure A2-3* generally increased. The range rose to 43.9%% (Wren) to 63.53% (Cormorant) from the original 34.7% (Wren) to 46.8% (Lesser Black-backed Gull), Clearly, the latter shows users of Birdtrack are more likely to record all species observed, and that differences between reporting platforms (and the relative ease of capturing a full list of species) undoubtedly plays a substantial role in recording "common" species.

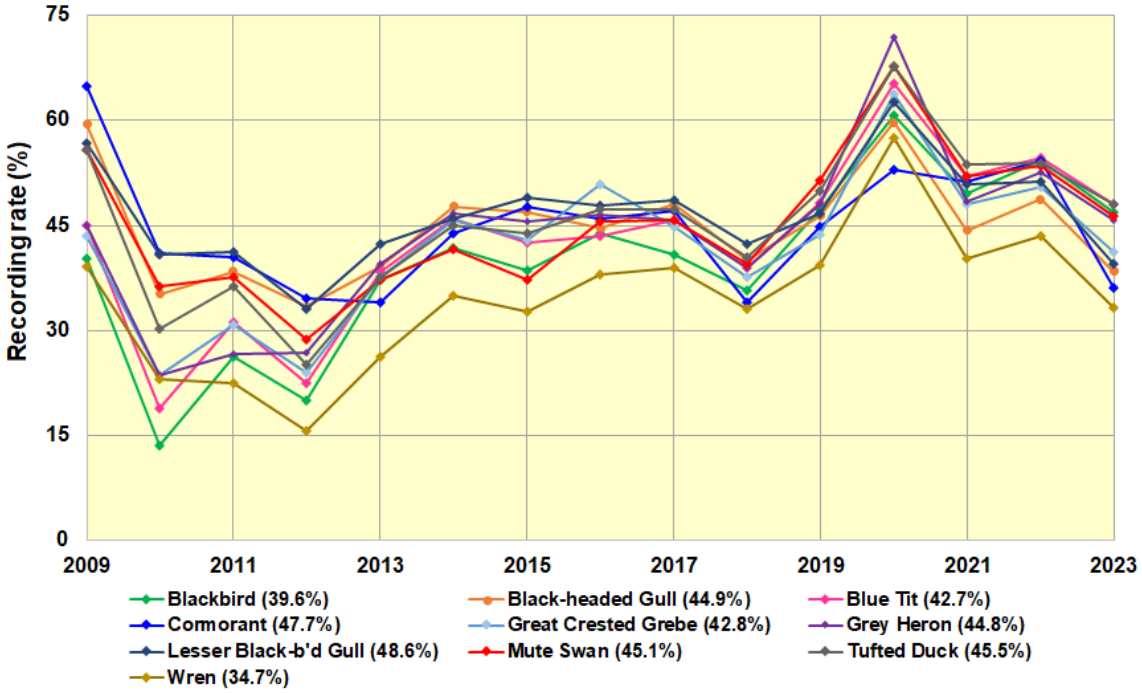


***Figure A2-3**. Recording rate in the period 2009-23 for ten species considered by several regular observers to be present on most visits to Tyttenhanger GPs (as assessed in 2020). Links[149]*

[149] Links for species in the figure: *Blackbird, Black-headed Gull, Blue Tit, Cormorant, Great Crested Grebe, Grey Heron, Lesser Black-backed Gull, Mute Swan, Tufted Duck and Wren.*

[150] There are still a number of limitations with the Tyttenhanger GPs dB and so we were only able to use a subset of records that came from BirdTrack for the years i.e., 2008-12, 2014-16 and 2021-23, and carried out in the initial analysis for just the 10 species shown in *Figure A2-3*, but was later extended to include all species. The latter data comprised a total of 58347 dB entries from a 1703 days-visited.

Prior to 2004, factors outlined above (see *Features of the Database*) had a significant impact on data-capture into the dB and for common species this manifest in several ways and the following are some general observations made over the years. First, in those periods where dB entry numbers are strongly driven by a few observers, the recording bias of those observers is very noticeable. In many instances this factor also generates a tendency for common birds to be recorded as "present" rather than any count being provided. Second, records captured by the Herts Bird Club website tend to be the more unusual records and so for common species this tends to be skewed to what are considered high-counts. It is worth remembering the Hertfordshire Bird Report did not include the more extensive version of the Guidelines for Authors (including minimum counts for some species) until 1993 and so it is still unclear how records for capture into the Herts Bird Club dB were determined before this time. Third, when data capture was more manual i.e. paper records submitted and then entered onto cards (initially) and/or into the dB, there is some evidence to suggest the original record submission was also probably subject to selectivity – again favouring high-counts for common species and records of notable species.

Notable species. Given some species are more likely to be recorded and/or reported than others, is it possible to identify these species i.e. the "notable" species? Many species are invariably noted (and reported) due to their intrinsic rarity either nationally, but more especially, locally. Obvious examples of this would be most passing wader species such as Spotted Redshank, Little Stint, Ruff, Whimbrel and Curlew, along with other locally uncommon species such as Redstart, Pied Flycatcher and Ring Ouzel. Even some species we now consider to be relatively common such as Buzzard, Red Kite and Ring-necked Parakeet have significantly changed status in the last 20 or so years and would once have been considered highly notable . Generally, and almost by definition, virtually all records of notable species are captured. Changing status and perceptions of notability can affect data-capture but familiarity with a birding site leads to the rapid development of an observer's personal list of notable species. However, this list is not the same for everybody or necessarily consistent through time and so has led us to consider a group of species that are best described as in-betweeners.

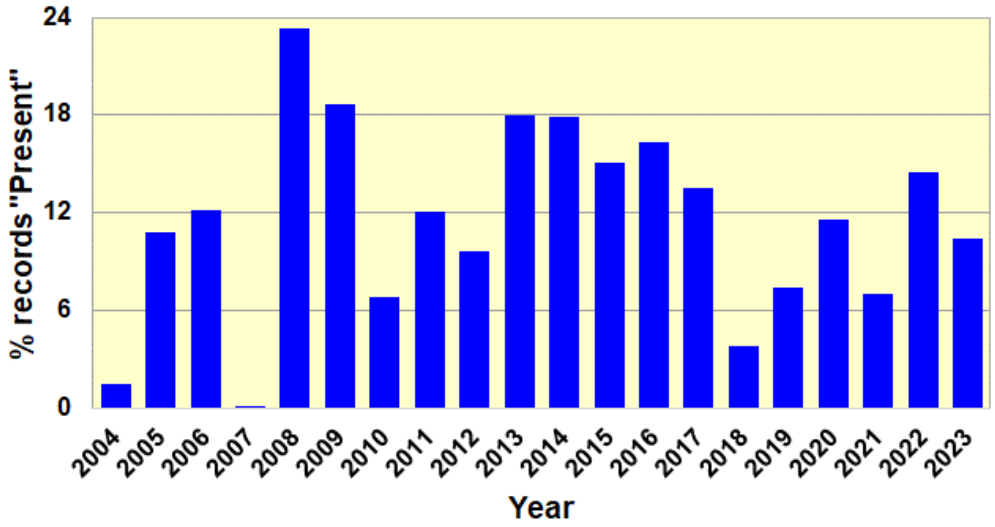


***Figure A2-4**. Percentage of entries in the Tyttenhanger GPs dB that did not provide a count (no-count rate) and only indicated the presence of a species.*

In-betweeners. While notable species are usually obvious to most observers and common species can be defined by consensus across a group of observers (see below), the in-betweeners are those species that fit into neither of the above categories i.e. they fail to draw consensus between observers. Hence, by default they are defined by what they are not and if we cannot define them, is it possible to identify them from the data, or how does lack of consensus manifest in the data captured into the dB? As we see below in the section *Indicators of Under-Recording*, relatively low recording-rates coupled with relatively high no-count rates are a useful starting point for looking at this group of species. So, following the logic from above, in-betweeners are clearly not notable species and if they are not common species, what may be the indicators of their status? First, recording rates would be relatively low when compared to species with a similar phenology i.e. residents would be expected to have the highest recording rates - as they are present all year around. However, it needs to be remembered that species only present for part of the year i.e. summer and winter visitors, need to have this accounted for when looking at recording-rates. In addition, recording rates may be low because a species has cryptic habits and/or naturally low abundance. Species that immediately spring to mind in the latter instance would be Treecreeper and Nuthatch. Other possible clues to inbetweener-status come from the no-count rate – which we predict would be low and/or subject to noticeable changes between years and between observers (when the latter data are available). In the case of no-count rate we can see that changing status has demonstrable effects on observers' perceptions and recording-habits. Changing status is likely to lead to the lack of consensus that defines the group and a couple of examples are discussed in the Section *Changing Status and Recording Habits*. Effectively, as species become more frequently observed/occur in greater numbers there is a greater tendency for no-counts to be made that is also coupled with tendency for the species to not be recorded at all – irrespective of the data-capture platform being used.

Should I count how many birds there are - or just record a species as "present"?

In many respects this question has only arisen since the advent of recording platforms such as Birdtrack and eBird. On these platforms, recording the presence of a species is offered as an option rather than having to insert a count. While the presence of a species at a particular location is probably adequate for mapping at a larger scale, and may provide additional information not available from not recording it at all, we continue to strongly encourage observers to include a count for all species.

No-counts. While our own perspective encourages observers to include a count, we are looking here at what observers have done rather than what we would like them to do. A preliminary analysis is shown in *Figure A2-4* and plots the frequency of present-only/no-count records through the period 2004-23. There is clearly considerable variation between years and when we have looked more closely at some species we even see differences that appear to be due to seasonality and abundance. No-counts works better on larger scales and with greater numbers of contributors[151] and at the scale of this report the lack of a count has always appeared to us to be a missed opportunity. So, from. 2008[152] onwards when we started to receive all Birdtrack we can see there is considerable variation between years in the percentage of database entries that do not include a count. These results show no relationship to days-covered, number of recorders or total number of records (see *Table 2* for these data) and are suggestive of changes in recording behaviour and/or differences in recording behaviour between observers. It should be noted the results from 2007 are anomalous and probably relate to the relatively low number of Birdtrack records from that year (see *Figure A2-2*). This feature in the data did not become apparent until well after the original data were received and so there has been no opportunity to correct any errors in the data provided at the time. As discussed below (*Indicators of Under-recording*), no-counts can be indicators of under-recording and can also tell us about how observers perceive the status of a species. However, more immediately given the number of these entries in the database we have still had to consider how best to use or manage them in our analyses – which is briefly outlined below.

***Table A2-1**. Recording rate for those species registering the highest values from the database for the periods 1987-2003 and 2004-23. The species that cross-reference to the ten common species used in the analysis for Figure A2-2 are highlighted in pale green.*

	Species	*Rec. rate. (%) 1987-2003[153]	Species	*Rec. rate (%) 2004-23	No-count rate (%)
1.	***Green Sandpiper***	44.37 (47.72)	***Mute Swan***	47.7 (57.60)	7.27
2.	***Redshank***	25.26 (36.30)	***Cormorant***	47.4 (66.94)	8.32
3.	***Ringed Plover***	25.38 (42.25)	***Black-headed Gull***	47.2 (61.36)	14.96
4.	***Common Sandpiper***	22.03 (41.84)	***Tufted Duck***	46.7 (61.07)	11.34
5.	***Little Ringed Plover***	21.03 (37.65)	***Lesser Black-backed Gull***	46.4 (62.30)	10.99
6.	***Lapwing***	18.32 (20.00)	***Grey Heron***	45.7 (52.85)	14.40
7.	***Teal***	17.12 (18.74)	***Mallard***	45.3 (54.67)	24.77
8.	***Greenshank***	15.36 (14.85)	***Gadwall***	45.0 (58.66)	6.05
9.	***Tufted Duck***	14.49 (17.40)	***Coot***	44.8 (55.08)	30.75
10.	***Snipe***	14.29 (21.41)	***Great Crested Grebe***	44.5 (52.67)	15.62
11.	***Mute Swan***	14.13 (13.67)	***Magpie***	43.7 (52.85)	35.24
12.	***Cormorant***	13.65 (12.03)	***Blue Tit***	43.4 (53.14)	33.60

** The recording rates for 1987-2003 have used total coverage and coverage for the period when a species is expected to be present – the rate calculated from the latter are shown in brackets (see also Footnote 150). The recording rates for the period 2004-23 are shown for the whole period and for just the Birdtrack records from the years 2008-23 (shown in brackets). As all of these species are considered resident, the same denominator was used for all.*

First, occurrence analyses. Clearly no-count data still show a species as present and so when days-recorded are calculated they are still included in the statistic. While included with days-recorded there are a number of instances when they then have to be removed from this metric and once removed the value becomes daily maximum counts rather than days-recorded. The former has generally been used for calculating significant counts, bird-days and average count (bird-days/daily maximum counts) as these assume that a count has been made. As a slight aside, there is an argument that significant counts and average count should probably use all counts for a species not just the daily maximum count. However, we started using daily maximum count in our first Report in 2004 (when there were no records without a count) and have been reticent to go back and extract all of the counts for each analysis. This is not

[151] Additional meta-data collected on such platforms such as time and duration of the visit, whether a complete list was submitted and even the distance covered, all allow for additional information to be compiled from the overall body of data. A good example of this can be seen on eBird when the distribution maps for a species are zoomed-in and individual locations can be seen rather than the broader-scale summary. It is also worth remembering that when complete lists are submitted on these platforms that the absence of a species can also be considered. Take home message? Full lists and full counts make for the greatest utility in the data you have spent all those hours capturing.

[152] Birdtrack records were available from 2005 onwards and although the number of records in 2007 were relatively small from this source (just 1006 from a total of 9,469), it is difficult to explain why this year failed to produce any records without a count apart from the possibility that these records were filtered out at some stage. It should also be noted that while the records from 2004 would be expected to all contain counts i.e. the only external source of records was from the HBC website, retrospective capture of records from some sources included records that indicated “present” and so where coded as such.

[153] Resident species such as Mute Swan, Lapwing and Tufted Duck would be expected to be present throughout the year and so the total days of coverage would be used as the denominator. However, many of the species in the table from the period 1987-2003 are only present at certain times of the year e.g. Green Sandpipers are generally absent through May and June and so these month are not included in the coverage used as the denominator. Likewise. Redshank are only generally present between March and August and so the coverage is only calculated for these months. See also *Footnote 150* for years excluded from this analysis.

as trivial as it sounds as the calculation of daily maximum counts required editing of all dB entries for each species requiring the manual removal of all duplicates – a task that has become increasingly more difficult as observers have started to use multiple platforms for entering data for a single day and in some cases multiple locations within the site for a single day. Further complications arise when there are insufficient additional data to ascertain if counts from a single day are duplicates or separate counts – this is especially true when observer names are not available (and for species where counts themselves do not differentiate between dB entries/records). There have been a couple of occasions when we have used all counts rather than just daily maxima to calculate a significant count and found it made no substantive difference e.g. for Long-tailed Tit the significant counts calculated were 20 and 17 when using daily maxima and all counts respectively.

***Table A2-2**. Lowest no count rates recorded from Birdtrack data in the period 2008-23,*

	Species	No-count rate 2008-23 (%)
1.	***Hobby***	0.28
2.	***Common Sandpiper***	0.34
3.	***Oystercatcher***	0.42
4.	***Wigeon***	0.42
5.	***Little Owl***	0.46
6.	***Green Sandpiper***	0.47
7.	***Shelduck***	0.53
8.	***Yellow Wagtail***	0.61
9.	***Little Ringed Plover***	0.61
10.	***Ringed Plover***	0.70
11.	***Redshank***	0.83
12.	***Water Rail***	0.84

Second, abundance data. With no-count being there is clearly no direct impact on abundance data. However, once again on a related issue, if we consider whether measures of abundance may be impacted by using daily maximum counts rather than all counts, we again find the difference is minimal e.g., in the case of Long-tailed Tit mentioned above average count for the whole period 2004-23 was 6.5 and 6.0 using daily maxima and all counts respectively.

Indicators of Under-recording.

Differences in data capture over the years has meant common species have generally been under-recorded i.e. limitations on the number of records that could be (readily) entered on the Herts Bird Club website and the tendency for partial lists to be entered on other platforms, all mitigate against the capture of records of common species. For most species the default position is therefore that of under-recording i.e., all species not in the category of notable species detailed above would suffer from under-recording. However, are there are instances where the level of recording and data-captured is probably at odds with the status of the species on-site? As we've already seen (*Figure A2-2*) even for species considered common on-site, if not omnipresent, recording rates varies dramatically even between years and overall are well below a predicted level of 90% i.e., an arbitrary cut-off for which for the species analysed in *Figure A2-2* would go un-recorded in one out of every ten visits.

Without any *a priori* assumptions we calculated the recording rate for all species in the two focus-periods for this report i.e. 1983-2003 and 2004-23. The top 12 species from this analysis for each period re shown in *Table A2-1.* The first point to note is the recording rate is generally much lower in the period 1983-2003 (with the exception of Green Sandpiper) – despite three of these species being considered in the previous analysis as common Tyttenhanger birds (Tufted Duck, Mute Swan and Cormorant). Most of the top 12 in the period 1983-2003 are species not present all year around, but even when we correct for expected coverage and using just those years with coverage over 130 days[154], recording rates are still relatively low i.e., the numbers in brackets. So, once we know there are issues with the data source/capture, recording rate *a priori* is clearly a poor indicator of under-recording.

Moving to the period from 2004-2023 where there are less issues with selective data-capture we still see that recording rates barely reach half of the expected 90% Even if we use data from Birdtrack only (where the option for inputting a full list - with or without counts is available) we still see that numbers while better, are still below the expected. Even more surprising though, amongst these species there is still a hierarchy of perceived value in making a count i.e. no-count rates amongst these species ranged from 4.0% (Gadwall) up to over 44.0% (Blue Tit and Magpie) (*Table A2-1*). This offers some evidence to what we'd frequently observed previously, under-recording is probably the norm for most species and even when offered the opportunity to capture all observations from a given visit, a large proportion of observers choose not to. So, with little prospect of finding quantitative indicators of under-recording, does 20 years of handling data from Tyttenhanger GPs provide us with any insights into what might constitute "unusual" under-recording?

The short answer to the above question is "probably not"…in most instances. Nevertheless, there are a few observations that provide pointers… in some instances. First, a single observer that is known to make complete lists and makes regular visits is invaluable. *Figure A2-5* provides an example of how data from such an observer may be used. In this case it provides a reference against which recording rate can be compared and shows that for these species (the four common birds-of-prey), as recording rate increases there is a greater tendency for under-recording/reporting i.e. the recording frequency is proportionally greater (*see Recording Rate vs Recording Frequency* below for further discussion).

Second, now the majority of records come through platforms that allow for the recording of no-counts (see *Figure A2-2*) we have continued to interrogate this feature to see whether it may offer any further insights. Examples in the section on *Changing Status and Recording Habits* show that as species occur more frequently there is a greater tendency for no-counts to be used – in

[154] This cut-off is again rather arbitrary but does exclude those years (years before 1988, 1999 and 2000) where we know most of dB entries came from a limited number of sources and so may be more subject to individual observer-biases

line with previous observations that common birds that occur in good numbers tend to draw no-counts i.e., the top five species for no counts from the Birdtrack data used for *Table A2-2* are Feral Pigeon (39.4%), Carrion Crow (37.3%), Woodpigeon (37.2%), Magpie (35.2%) and Great Tit (34.1%). Conversely, we have also previously observed that notable species show a low-no-count rate as demonstrated in *Table A2-2*.

Third, the above cases are drawn primarily from the Tyttenhanger GPs dB in the period 2004-23 – and specifically from 2008 onwards when we know that data-capture at least had the potential for being more complete. However, the very "patchy" nature of the dB prior to 2004 also offers some further pointers to what under-recording/capture may look like. First, an apparent bias towards higher counts and a lack of low-counts – especially when compared to the data from the later period. There is of course a subjective element to this as the occurrence and abundance of species can change through time, but to compare across longer time-spans with known heterogeneity in data capture appears to offer an unexpected advantage in some cases.

***Table A2-3**. The most frequently recorded species from one observer in the period 2022-24. Indicative reporting rate from Birdtrack data (2008-23) are shown in brackets. NC= not calculated*

	Species	Recording frequency 2022-24 (%)
1.	***Coot***	95.43 (55.08)
2.	***Woodpigeon***	93.71 (51.67)
3.	***Blackbird***	93.14 (49.44)
4.	***Magpie***	93.14 (55.74)
5.	***Blue Tit***	90.86 (54.99)
6.	***Carrion Crow***	90.29 (50.62)
7.	***Jackdaw***	90.29 (43.57)
8.	***Mallard***	90.29 (55.16)
9.	***Robin***	89.14 (50.62)
10.	***Moorhen***	87.43 (51.97)
11.	***Tufted Duck***	86.86 (58.80)
12.	***Ring-necked Parakeet***	85.71 (NC)

In summary, under-recording is very much the norm for most species that occur at Tyttenhanger GPs, the obvious exception to this generalization being those species that can be considered "Notable." Notable species are generally characterised by low no-count rates and would be recorded by the large majority of observers when encountered - a definite to go "straight in the notebook". All other species show aspects of under-recording such as high no-count rates, lower than expected recording rates, skewing towards an excess of higher counts and combinations of these factors.

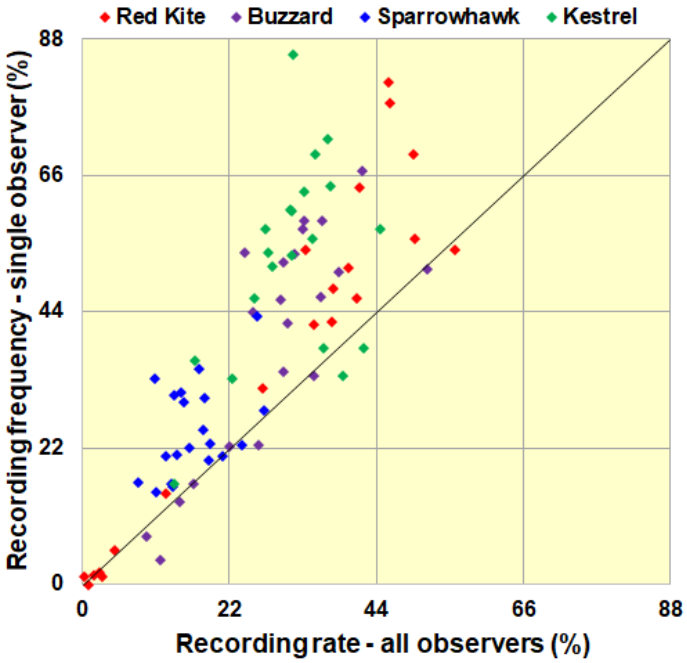


***Figure A2-5**. Plot of recording rate (all observes) vs recording frequency (single observer) for the four common birds of prey from all relevant years in the period 2004-23. The black diagonal shows where the two values would lie if equivalent.*

Recording Trends - Case Studies

The analyses used in this report have explored a number of ways in which data can be treated to give a consistent view of occurrence and abundance through time. It is probably clear from the rest of this Appendix that none of these treatments are without their limitations - and the biggest variables are probably the ones impossible for us to control. The latter include personal choices observers make during data collection and capture, closely followed by the choices and policies around what is captured into the relevant databases The latter has certainly become less of an issue as electronic storage has become cheaper and other sources of data have come to predominate (see *Figure A2-2*). However, the former is still an important consideration to the present day and despite the ease of data collection in the current age, it is still obvious that a full-list of species is not the norm for most observers. The following case studies are a few of the examples we have noted over the years that give a little more insight into the analyses we have used; and even indicate some approaches that may be used in future studies.

The Early Years

When we first started thinking about this report we had little data from the period from 1983-2003 and it wasn't digitised in an accessible format. The history of subsequent data-capture is detailed above in the section *Evolution of the Tyttenhanger GPs dB*, and makes for interesting reading. However, the over-riding picture that emerges for this period is of a database comprised of a heterogenous collection of entries which in many respects can be viewed as a record of what was notable-and-should-be-captured rather than a reflection of what might have been present.

This is immediately obvious when we look at the table-leaders for recording rate in the period 1987-2003[155] (see *Table A2-1*). Even when correction is made for expected occurrence, most of the table-leaders are waders and therefore would fall into the category of *Notable* species as detailed above. At first glance the numbers look quite low when compared to the values for the table leaders from 2004-23, and even when corrected for the expected periods although the rate is slightly better result, the resident species, i.e., Tufted Duck and Mute Swan do not approach those of the later period[156].

Recording Rate and Recording Frequency

We have used these two parameters to describe the rate at which a species is recorded by all of the observers in a given period i.e. days-recorded divided by the days of coverage (recording rate – expressed as a percentage) as opposed to the days-recorded by a single-observer divided by the number of visits by that observer (recording frequency – expressed as a percentage). *Figure A2-5* gives an example of how these parameters are related for the four common species of raptor across the years 2004-23. The most notable feature of this plot is recording frequency (Single observer) is invariably higher than recording rate (all observers). In this instance we know that the single observer records (and counts) all four species and the record-capture used allows for all species on a visit to be entered with ease. However, perhaps the most interesting feature of this plot lies in the observation that as recording rate increases then recording frequency becomes relatively greater i.e. the distance of each point above the diagonal increases as the recording rate increases – again illustrating that as birds are perceived becoming more common the tendency is for them to be less frequently recorded.

We have only used recording frequency in previous reports for a few species we know were always recorded by a given single observer. We have noted over the last few years and in the early stages of constructing this report that while absolute values for these two parameters are different, the overall patterns through time are generally the same. Initially based on the latter observation we have shifted in this report to using recording rate in many instances rather than days-recorded/corrected days-recorded, but have also found that it has other advantages. The latter is especially true for those species that would clearly be defined as "Notable" for the period 1983-2003 (see *Table A2-1* for some of these species) as it has allowed for plots to be made for the whole period 1983-2023 e.g. see *Figure 71, Figure 82* and *Figure 99*, despite the relatively low coverage through much of this period.

Finally, previous parts of this discussion have referred to the expected recording rate for common species i.e., if all lists included all species, then recording rates would be expected to reach 90% and above in most cases. *Table A2-3* shows the 12 highest recording frequencies generated from the records of one frequent visitor in the period 2022-24. This period was chosen as we know the observer was careful about recording and capturing observations of all species in these years. Variations in parts of the site covered in each visit and the timing and duration of each visit probably explain why some of these values are slightly lower than the predicted 90%. Obviously, with multiple observers on a given day many more species would be able to record rates above or approaching the 90% level.

Changing Status and Recording Habits

If asked, we could all probably name several species whose status we view as substantially changed over the course of the last 40 plus years. Most recent would be the colonisation by Cettis Warblers and the decline of many wader species – both intimately linked to the habitat changes around the Main Pit, itself an admirable example of the old adage the "*things never stay the same"*. However, what is of interest in this section is whether there are any signals in what observers record and capture that indicate a change in status, perceived or otherwise. A few examples are provided below to illustrate the analyses available from data in the Tyttenhanger GPs dB and how these may be viewed.

***Table A2-4**. No-count rate (%) for Red Kite and Ring-necked Parakeet in the period 2014-23,*

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Red Kite	0.0	0.6	0.6	1.6	1.8	5.0	0.8	0.0	11.2	7.1
Ring-necked Parakeet	0.0	0.0	8.3	0.0	1.4	6.8	5.0	7.3	15.9	10.8

Red Kite. Certainly, one of the local success stories of the last 20 years and because of the timing, one for which we have a complete record of its recording/data-capture history at Tyttenhanger GPs. Recording-rate for this species climbed dramatically from 2007 onwards and although plateauing somewhat after 2013 has still averaged 44.0% in the last decade. No-counts were rare up until the first in 2015 and have remained below 2.0% in most years since then – with two notable exceptions, 2019 and 2022. When we look more closely at the data from these two years

[155] The original database from this period provided by the Herts Bird Club was almost devoid of entries from the years 1983-87. Subsequent population of the dB was very targeted and effectively came from the notebooks of a single observer. For the purposes of this analysis, we didn't use the data from these years as we didn't want such an obvious bias in the data. The same logic applied to the removal of the data for 1998-200, which is a known gap in the database and again, for which we actively sought records – this time using data from a couple of observers.

[156] Cormorant is an interesting case because in this instance there is good evidence that in the period 1983-2003 it occurred less frequently and in smaller number than in the last 20 years – a feature reflected by the data in *Table A2-1* but not really obvious until all the data are examined i.e. see *Cormorant.*

we see in 2019 the no-counts came through BirdTrack and in 2022 through eBird, but the important thing is that there was nothing else unusual about these years and they look fairly typical of the last several years (see *Table 37*).

Ring-necked Parakeet. This is a species that showed an explosion in database entries from 2017 through until a peak in 2020 since when records and recording rate have both declined slightly but it still a much more frequent occurrence at Tyttenhanger GPs than it was 10 years ago (see *Table 75*). In contrast to the above example however no-counts appear relatively soon after records began to accumulate i.e. in this case the first is the 46th entry whereas for the species above there were over 700 records before the first no-count was logged. Also, no-counts have continued to increase as a proportion of all records. Interestingly, the winters of 2017/18 and 2018/19 were the peak period in terms of numbers for this species – since when no-counts appear to have increased in inverse proportion to larger counts! Obviously, the feral status of this species explains some of the increase in no-count rates but there is also the effect a couple of very good years may have on subsequent reporting – especially for a species that goes from notable to abundant in a very short space of time.

The February Depression

One interesting observation made in recent years has been a fall in occurrence in February across a relatively wide range of species – several of which are illustrated in *Figure A2-6*. Initially identified when examining days-recorded we thought this was a reflection of lower coverage in February especially with it being the shortest day of the year (see *Table 3*). However, once we corrected for coverage, we saw the drop was still very apparent. Given the range of species from which the observation has been made there are probably a range of explanations for the

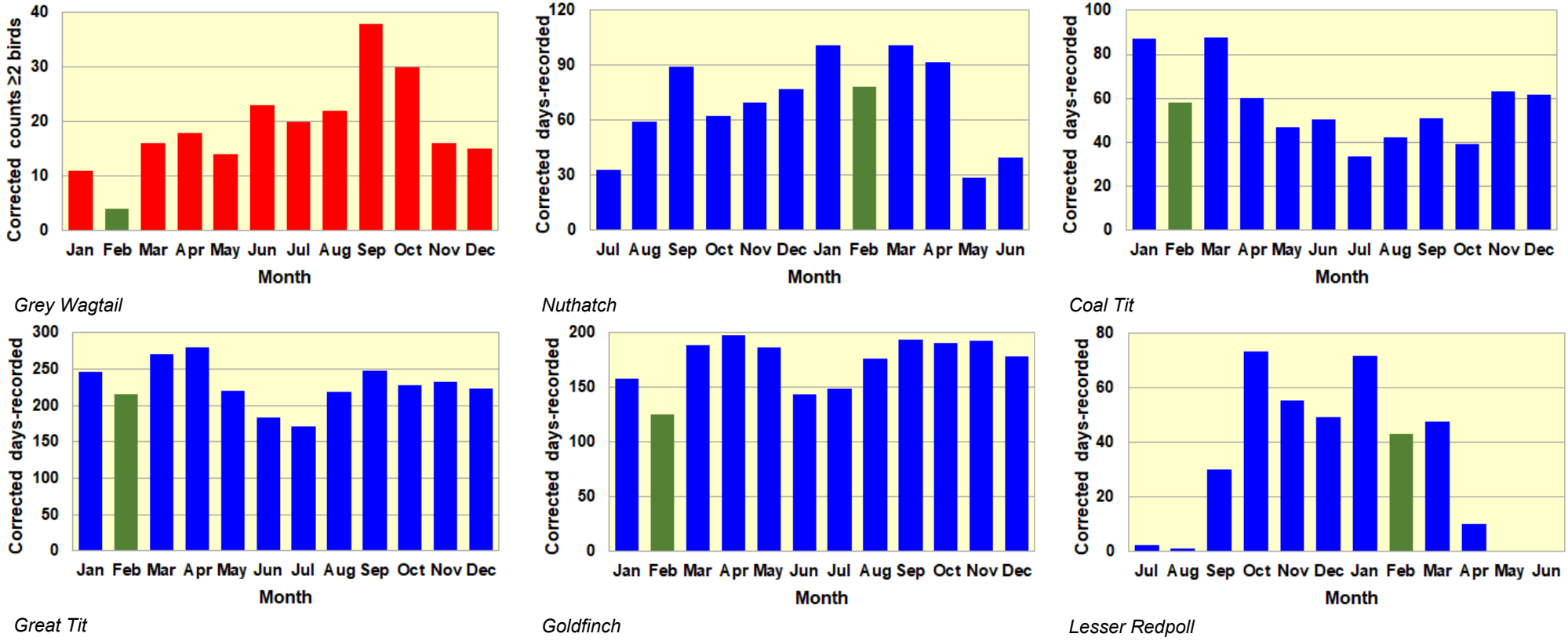


Figure A2-6. *Month-by-month plots of corrected days-recorded (counts of ≥2 birds for Grey Wagtail) for a range of species that appear to show a deficit of days-recorded in February (bars shown in green).*

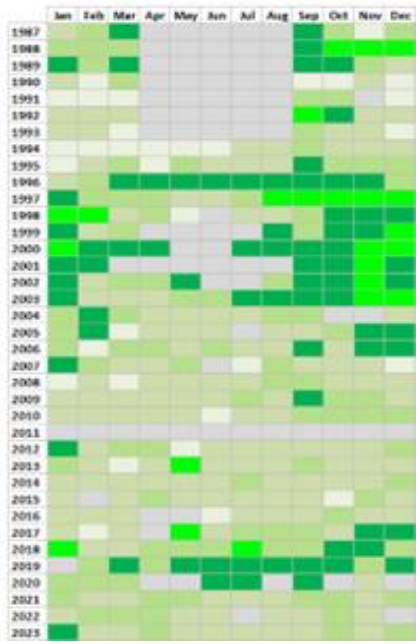
phenomenon[157]. However, a couple that immediately come to mind are; one, the phenomenon is actually a peak in January rather than a drop in February. This would fit with a model that sees observers searching more assiduously in January for species to kick-start their years-lists. However, when the plots are examined more closely we see this doesn't work in all cases. Nevertheless, there are some examples where this might account (at least in part) for the observation e.g. Nuthatch and Coal Tit. Second, for some species populations are still falling at the end of the coldest winter months and it is the result of natural attrition before passage birds arrive e.g., Lesser Redpoll. Another possibility is that local residents become more visible/vocal in March and so the winter decline is halted e.g., Grey Wagtail, Great Tit.

Summary

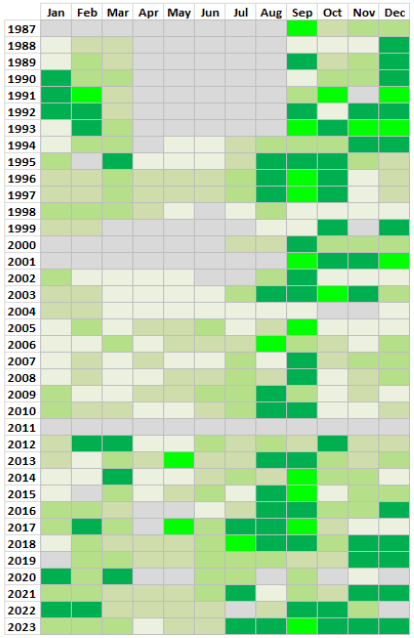
The Tyttenhanger GPs dB currently contains well over 250,000 individual database entries that cover 1945 through until the end of 2024 and includes entries for birds mammals, amphibians, reptiles, butterflies, dragonflies and damselflies and orchids. The database has evolved over a number of years with the primary focus until recently being on the birds and capturing as many records as we could find. The first systematic collection of data for the Tyttenhanger GPs general area would have been for the 1967-73 Hertfordshire Bird Atlas at which time gravel extraction would have been in the early stages (see *The First Pits*), but the current recording area would have been almost exclusively farmland. Unfortunately, we have been unable to trace the data used in those first surveys and the summaries in that first Bird Atlas form the majority of what is known from that time. The on-site features we know today, such as the Fishing Lakes and the Main Pit, had been formed by the early 1980s and the name Tyttenhanger GPs came into use around 1983. The first collection and digitization of data did not begin until 1988 and so records from before this have had to be garnered from a variety of sources including the Hertfordshire and London Bird Reports, eBird (some hardy souls have been back and retrospectively entered onto this site) and from the notebooks of one of the early pioneers of Tyttenhanger GPs birding, Steven Pearce. This means that this early record is fragmentary and way from complete but does still provide a picture of the birds that were occurring. Even after 1988, data-capture was still rather long-winded and idiosyncratic and to a great extent limited by the amount of electronic storage space available. Nevertheless, these data were made available for this report and form the backbone of the data for the period through until the end of 2003. The latter has also been supplemented with data from Bird Reports (including the 1996 Tyttenhanger GPs report), Bird Club Bulletins, archived websites, retrospective eBird entries and personal records from several observers. From 2004 onwards the landscape changed dramatically as we were provided with data from the Herts Bird Club database on an annual basis to compile what was to become the current, twenty-year, report series. Even over the last 20 years we have seen some massive changes in the way data is captured with the introduction of BirdTrack, modifications to the Herts Bird Club website records-submissions and latterly in the rise of eBird. While data-capture has become more effective, the database is still a reflection of what individual observers have and haven't considered notable and reveals some interesting fluctuations and nuances over the years, several of which we have looked at in this section. As incomplete and flawed as the Tyttenhanger GPs dB may be still provides a resource for examining how the birds, birding fashions/habits may have changed over the years in this little corner of Hertfordshire. Like all things in life, nothing ever stays the same, and while the last eighty years has seen the Tyttenhanger GPs landscape change and its birding kudos wax and wane, there are still many changes to come. While this may be the end of the current bird report series, there are still plans to continue to grow the database and to extend its coverage to other aspects of the site flora and fauna. We hope you'll be involved, and hope you submit your records through whatever channels you can find; after all, who knows what may be interesting in the future.

Photo courtesy of David Steele

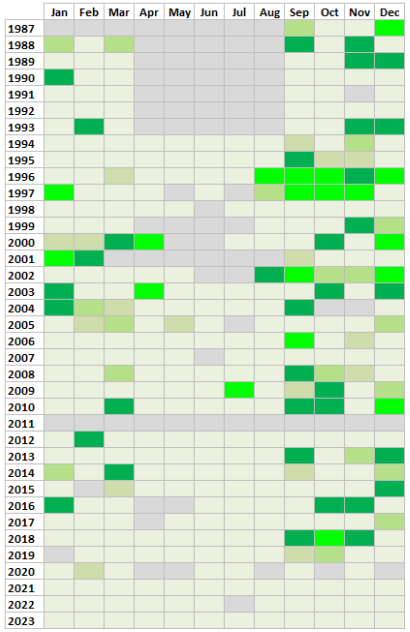
[157] Although the species illustrated in *Figure A2-6* are all passerines, the range of species is much broader and includes (to name a few); Gadwall, Grey Heron, Common Gull, Kingfisher as well as a number of other passerines e.g. Mistle Thrush, Blackbird and Wren.



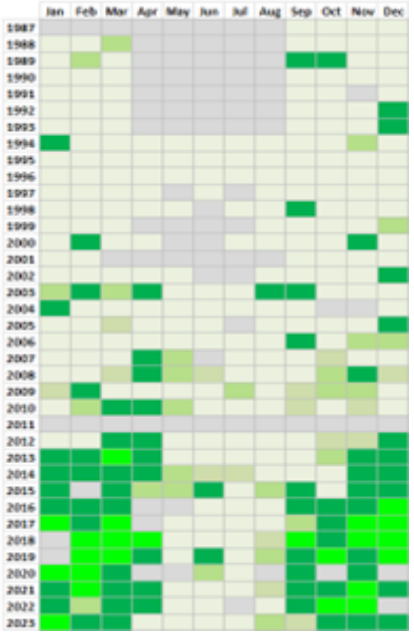
A. *Mute Swan*



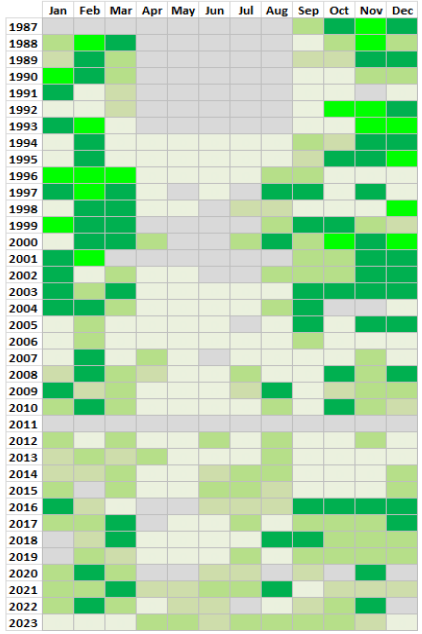
B. *Canada Goose*



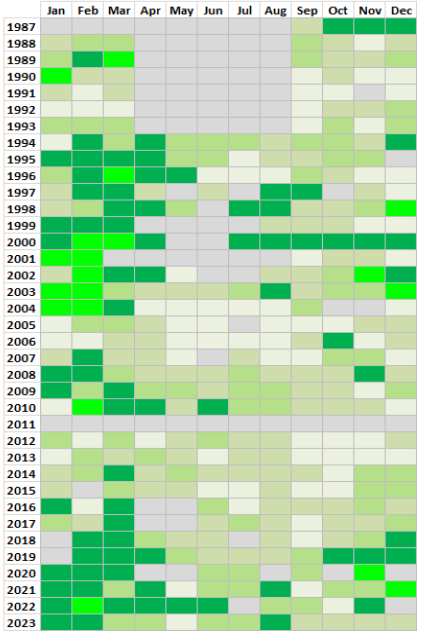
C. *Wigeon*



D. *Shoveler*



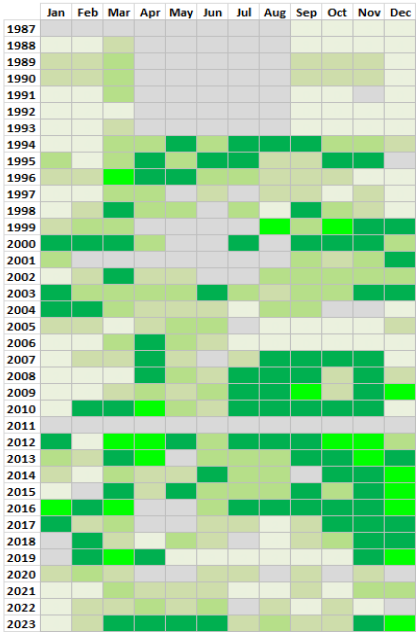
E. *Pochard*



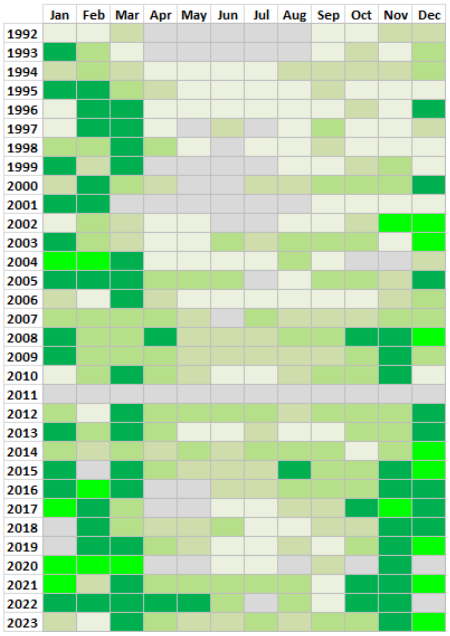
F. *Tufted Duck*

Appendix 3A. Plots of WeBS data for the periods indicated in the individual plots. The key for the plots is shown below. Comparable plots for *Mallard*, *Gadwall* and *Teal* are to be found in the main-body of the text in *Figure 14*.

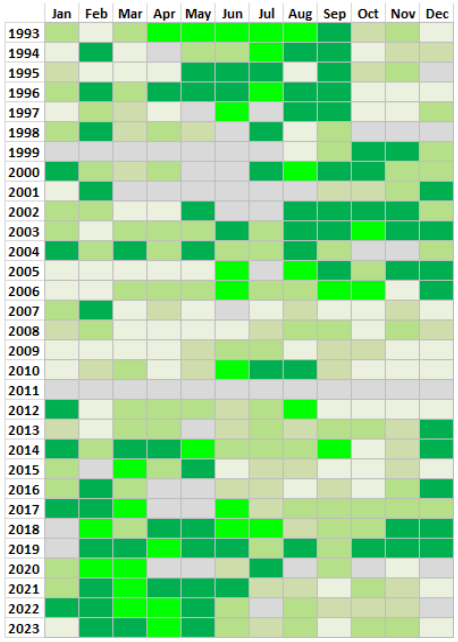
Mute Swan	Canada Goose	Wigeon	Shoveler	Pochard	Tufted Duck	
No count						
0	0	0	0	0	0 to 5	
1 to 5	1 to 10	1	1	1	6 to 13	
6 to 11	11 to 29	2	2	2 to 5	14 to 24	
12 to 26	68 to 192	3 to 9	3 to 15	6 to 27	25 t0 47	
≥27	≥193	≥10	≥16	≥16	≥48	



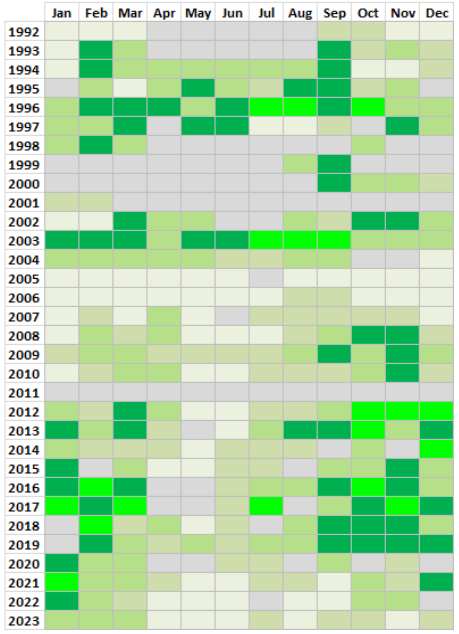
A. *Great Crested Grebe*



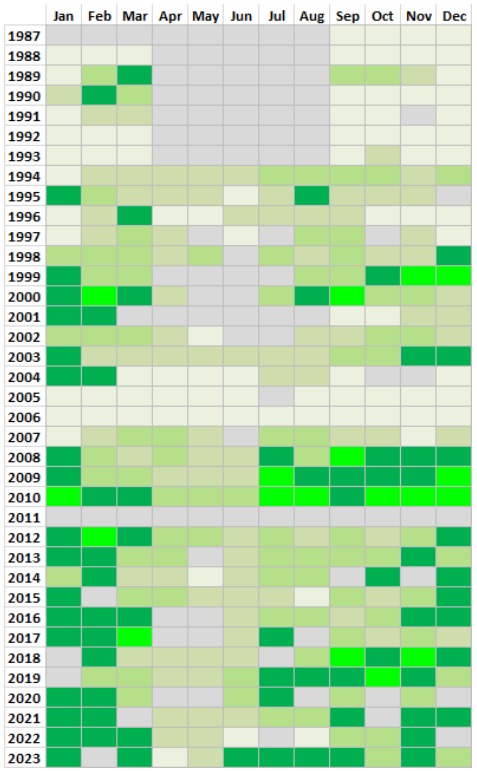
B. *Cormorant*



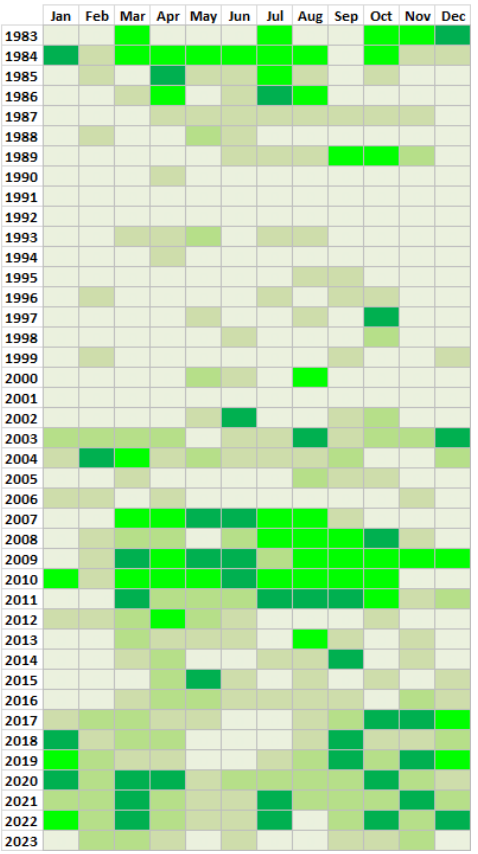
E. *Grey Heron*



F. *Moorhen*



C. *Coot*



D. *Little Grebe* (All counts)

Appendix 3B Plots of WeB data for the years shown in each of the plots. Data for Little Grebe include both WeBS data and other counts. The key for the plots is shown below.

Great C'd Grebe	Cormorant	Grey Heron	Moorhen	Coot	Little Grebe	
No count						
0 to 4	0	0 to 2	0 to 4	0 to 20	0	
5 to 8	1 to 2	3	5 to 9	21 to 42	1	
9 to 13	3 to 8	4 to 5	10 to 17	43-69	2	
14 to 21	9 to 27	6 t0 9	18 to 25	70 to 111	3	
≥22	≥28	≥10	≥26	≥112	≥4	

Table A3-1. *Monthly maxima data for species included in WeBS counts calculated from data provided by the Herts Bird Club alongside the WeBS counts from the corresponding months.*

	Herts Bird Club data – Monthly Maxima												WeBS Count											
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Mute Swan	7	4	4	7	4	6	5	6	7	7	6	9	12	5	3	11	3	3	5	4	5	6	5	7
Canada Goose	40	80	23	22	14	40	80*	142	310	60	208	31	65	51	37	9	21	12	91	170	245	160	135	106
Wigeon	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gadwall	10	20	12	8	4	20	72	30	30	22	12	2	2	20	12	2	4	16	110	10	29	4	12	2
Mallard	12	12	10	20	16	10	43*	15	18	14	10	30	15	10	3	12	16	21	2	12	6	29	0	12
Teal	34	16	17	12	1	0	0	1	16	6	1	3	7	14	0	0	0	0	0	0	0	0	0	10
Shoveler	14	6	14	18	0	0	2	3	25	10	6	0	20	6	5	0	0	0	0	2	1	14	4	4
Tufted Duck	38	24	22	38	20	8	20	23*	21	16	10	18	32	44	24	19	5	15	22	26	8	10	13	7
Pochard	12	6	9	5	6	2	5	5	4	6	7	9	0	0	0	2	2	1	4	3	2	3	1	0
Great C'd Grebe	8	9	6	14	10	8	16*	3	8	5	24	14	4	8	16	14	15	15	7	10	7	5	18	24
Little Grebe	0	2	2	1	0	1	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Cormorant	16	16	25	10	8	1	3	12	9	15	18	47	2	0	19	5	2	2	3	1	4	8	24	27
Grey Heron	6	12	10	15	20*	5	8	2	6	5	5	4	1	8	8	10	6	4	3	5	2	5	4	2
Coot	84	77	40	65	50*	40*	64*	56	74	52	88	50	106	77	90	8	25	70	80	90	95	66	70	58
Moorhen	21	10	6	6	6	4	10	4	8	6	13	20	15	11	12	4	4	3	5	2	8	6	3	7

Date for the WeBS counts was not included with the original data provided by the Herts Bird Club, which was not apparent until quite late in the preparation of this report. Monthly maxima for the above species have been updated in the tables provided in the systematic list. No recalculations were made of days-recorded or other statistics as the WeBS count only provided an additional three days of coverage for the year. The data from all WeBS counts is yet to be added to the current version of the Tyttenhanger GPs dB (v1.0).

APPENDIX 4

SPECIES YEAR-LISTS FOR TYTTENHANGER GRAVEL PITS

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 2023. Species shaded in yellow have not been seen in the period 2004-23 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 with a dated record (First Rec.) and in the Pre-1983 column species only recorded in TL10X during the 1976-73 Hertfordshire Bird Atlas are highlighted in darker green. The column "Sig. count" indicates the number of birds that constitute a statistically significant count (the 95th percentile of counts); "All" indicates all counts/occurrences of this species are notable and/or there are insufficient records to determine a value for this parameter.

Species	First Rec.	Sig. count	Pre-1983	1983-2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Mute Swan	1983	≥14	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bewick's Swan	1985	All	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Whooper Swan [1]	2004	All	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
White-fronted Goose	1993	All	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Bean Goose	2011	All	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Greylag Goose	1986	≥29	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Canada Goose	1983	≥156	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Barnacle Goose [2]	2006	All	0	1	1	0	1	1	1	0	1	1	0	0	1	1	1	1	1	1	0	0	1	1
Brent Goose	1996	All	0	1	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0
Egyptian Goose	1993	All	0	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1
Shelduck	1986	All	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1
Mandarin	1988	All	0	1	1	0	1	0	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1
Wigeon	1983	≥11	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gadwall	1985	≥40	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Teal	1983	≥39	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mallard	1983	≥80	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pintail	1985	All	0	1	1	1	1	1	0	1	1	1	1	0	1	1	1	0	1	0	0	0	0	0
Garganey	1986	All	0	1	0	0	1	0	1	0	0	1	0	0	0	0	1	1	0	1	0	0	1	0
Shoveler	1986	≥30	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Red-crested Pochard	1988	≥All	0	1	1	0	0	0	0	1	1	1	0	0	0	0	1	1	1	1	1	1	0	0
Pochard	1986	≥12	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tufted Duck	1982	≥38	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Scaup	2007	All	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	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	0	0	0	0

[1] Records prior to 2004 were considered birds of presumed captive origin. [2] Records prior to 2006 were considered birds of presumed captive origin.

Species	First Rec	Sig. count	Pre-1983	1983-2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Common Scoter	2000	All	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Goldeneye	1983	All	0	1	1	1	1	0	1	1	1	1	1	1	0	1	1	0	1	1	1	0	1	0
Smew	1997	All	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
Goosander	1988	All	0	1	0	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	0	0	1
Red-b'd Merganser	2018	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Ruddy Duck	1993	All	0	1	1	0	1	1	1	1	1	1	1	0	0	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	1	1	1	1
Grey Partridge	1983	All	1	1	0	1	1	1	1	1	1	1	0	1	0	0	1	0	1	0	1	0	0	0
Pheasant	1983	≥15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Little Grebe	1982	≥4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Great Crested Grebe	1983	≥21	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Black-necked Grebe	2002	All	0	1	0	0	0	0	0	0	1	0	0	1	1	0	1	0	0	0	1	1	0	0
Cormorant	1989	≥28	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Shag	1988	All	0	1	0	0	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	0	0	1	0	0	0	0	0
Bittern	1996	All	0	1	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0
Great White Egret	2013	All	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1	1
Little Egret	1999	≥7	0	1	1	1	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	0	0	1	0	0	1	0
Grey Heron	1983	≥12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Black Stork	1990	All	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
White Stork	2006	All	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Glossy Ibis	2009	All	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Osprey	1988	All	0	1	0	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	0	1	0	0
Honey-Buzzard	1987	All	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Kite	2002	≥4	0	1	1	1	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	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Marsh-Harrier	1991	All	0	1	1	0	0	1	0	1	1	1	0	0	0	1	1	0	1	1	1	1	1	1
Hen Harrier	2018	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Goshawk	1996	All	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sparrowhawk	1985	≥2	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Buzzard	1991	≥5	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Kestrel	1964	≥2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Species	First Rec	Sig. count	Pre-1983	1983-2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Merlin	1996	All	0	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Hobby	1983	≥3	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Peregrine	1994	All	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Water Rail	1994	≥3	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Moorhen	1983	≥20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Coot	1983	≥100	0	1	1	1	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	0	0	1	1	0	0	0
Oystercatcher	1985	≥4	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Avocet	1988	All	0	1	1	1	0	0	1	1	0	1	1	0	1	1	0	1	0	0	0	0	0	0
Stone Curlew	2002	All	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Little Ringed Plover	1971	≥7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1
Ringed Plover	1983	≥6	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0
Golden Plover	1985	≥210	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Grey Plover	1987	All	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Lapwing	1971	≥300	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Knot	1986	All	0	1	1	0	1	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0
Sanderling	1986	All	0	1	1	1	1	0	1	1	1	0	0	1	1	1	0	1	1	0	0	0	0	0
Little Stint	1987	All	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Temminck's Stint	1988	All	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
Curlew Sandpiper	1987	All	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
Dunlin	1983	≥4	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0
Ruff	1984	All	0	1	0	1	1	1	1	0	1	1	1	1	0	1	0	1	1	0	0	0	0	0
Jack Snipe	1982	All	1	1	1	1	1	1	1	1	0	1	0	1	0	0	1	0	1	0	0	0	0	0
Snipe	1982	≥15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Woodcock	1995	All	0	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Black-tailed Godwit	1987	All	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
Bar-tailed Godwit	1987	All	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	1	1	0	0	0	1	0
Whimbrel	1986	All	0	1	1	0	1	1	1	1	1	1	1	0	0	0	0	1	1	0	0	0	1	1
Curlew	1986	All	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	1	1	0
Spotted Redshank	1985	All	0	1	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
Redshank	1982	≥7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Greenshank	1983	≥3	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Green Sandpiper	1982	≥5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Species	First Rec	Sig. count	Pre-1983	1983-2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Wood Sandpiper	1985	All	0	1	0	0	0	1	0	1	0	0	0	0	1	1	1	0	1	0	1	0	0	0
Common Sandpiper	1983	≥4	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Turnstone	1991	All	0	1	1	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Mediterranean Gull	2001	All	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	0	1	0	0
Little Gull	1987	All	0	1	0	0	0	0	1	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0
Black-headed Gull	1983	≥400	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Common Gull	1983	≥73	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lesser Black-b'd Gull	1982	≥40	1	1	1	1	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	0	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
Caspian Gull	2006	All	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	1
Herring Gull	1983	≥24	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Iceland Gull	1998	All	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Great Black-b'd Gull	1982	≥2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Kittiwake	1993	All	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0
Sandwich Tern	1996	All	0	1	1	0	0	0	0	0	1	1	1	0	0	1	0	0	1	0	0	0	1	0
Common Tern	1984	≥13	0	1	1	1	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	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Little Tern	1988	All	0	1	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Black Tern	1987	All	0	1	1	1	0	0	1	1	0	1	1	0	0	1	0	1	0	1	0	0	0	0
White-w'd Black Tern	2017	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Feral Pigeon	1984	≥80	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Stock Dove	1984	≥15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Woodpigeon	1983	≥250	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Collared-Dove	1983	≥10	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Turtle-Dove	1983	All	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Ring-necked Parakeet	1993	≥71	0	1	0	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cuckoo	1983	≥2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Barn Owl	1945	All	1	1	0	0	1	0	1	0	0	0	1	1	0	1	1	1	1	1	1	1	1	0
Little Owl	1988	≥2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Tawny Owl	1985	All	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Long-eared Owl	1993	All	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Short-eared Owl	1988	All	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
Swift	1983	≥60	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Species	First Rec	Sig. count	Pre-1983	1983-2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Kingfisher	1983	≥2	0	1	1	1	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	0	0	1	0	0	0	0	0	0	0	0	0	0
Green Woodpecker	1983	≥4	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Great Spotted Wood'r	1983	≥3	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lesser Sp'd Wood'r	1958	All	1	1	1	1	1	1	0	1	1	1	1	1	0	0	0	0	1	0	1	1	0	0
Wryneck	2010	All	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Short-toed Lark	1991	All	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skylark	1983	≥25	1	1	1	1	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	1	1	1	1
Swallow	1983	≥50	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
House Martin	1983	≥60	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tree Pipit	1987	All	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0
Meadow Pipit	1983	≥40	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rock Pipit	1992	All	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
Water Pipit	1992	All	0	1	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Yellow Wagtail	1971	≥8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Grey Wagtail	1983	≥3	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pied Wagtail	1983	≥11	0	1	1	1	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	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0
Wren	1983	≥8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dunnock	1983	≥8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Robin	1983	≥10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1
Nightingale	1998	All	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Black Redstart	1988	All	0	1	1	0	0	0	1	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0
Redstart	1989	All	0	1	0	0	1	1	1	1	1	0	1	1	1	0	1	1	1	0	0	1	0	0
Whinchat	1989	All	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0
Stonechat	1985	≥3	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wheatear	1982	≥4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ring Ouzel	1987	All	0	1	0	0	0	1	1	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0
Blackbird	1964	≥11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Fieldfare	1983	≥120	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Song Thrush	1960	≥5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Redwing	1983	≥99	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Species f	First Rec	Sig. count	Pre-1983	1983-2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Mistle Thrush	1983	≥14	1	1	1	1	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	0	0	1	0	1	1	1	1
Grasshopper Warbler	1985	All	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Sedge Warbler	1983	≥4	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Reed Warbler	1989	≥8	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Blackcap	1983	≥8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Garden Warbler	1987	≥4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lesser Whitethroat	1983	≥3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Whitethroat	1961	≥12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dartford Warbler	2006	All	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wood Warbler	1994	All	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chiffchaff	1983	≥10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Willow Warbler	1983	≥4	1	1	1	1	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	0	0	1	0	0	0	0
Goldcrest	1983	≥5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Firecrest	1987	All	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	1	0	1
Spotted Flycatcher	1996	All	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Pied Flycatcher	1998	All	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1	0
Penduline Tit	2018	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Long-tailed Tit	1983	≥19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Blue Tit	1983	≥20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Great Tit	1983	≥18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Coal Tit	1983	≥3	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Willow Tit	1986	All	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marsh Tit	1983	All	1	1	1	1	1	1	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
Bearded Tit	2022	All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Nuthatch	1983	≥3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0
Treecreeper	1983	≥2	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Red-backed Shrike	1996	All	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Jay	1983	≥5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
Magpie	1983	≥20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Jackdaw	1983	≥120	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rook	*1971*	≥36	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Species	First Rec	Sig. count	Pre-1983	1983-2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Carrion Crow	1983	≥50	1	1	1	1	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	0	0	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1
Starling	1982	≥200	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
House Sparrow	1983	≥12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tree Sparrow	1982	≥14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chaffinch	1959	≥40	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Brambling	1991	All	0	1	1	1	1	1	1	1	1	1	0	0	1	0	0	1	1	1	1	1	1	1
Greenfinch	1964	≥15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Goldfinch	1982	≥25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Siskin	1983	≥56	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Linnet	1982	≥80	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lesser Redpoll	1983	≥20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Crossbill	1991	All	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Bullfinch	1983	≥4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
Hawfinch	2011	All	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	0	1	1
Snow Bunting	1988	All	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellowhammer	1982	≥20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
Reed Bunting	1983	≥7	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Corn Bunting	1983	All	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
TOTAL	**208**		**65**[1]	**183**	**137**	**136**	**142**	**132**	**137**	**135**	**139**	**140**	**138**	**133**	**132**	**129**	**139**	**144**	**144**	**133**	**132**	**125**	**128**	**115**

[1] Twenty-seven of these species (highlighted in paler green) have specific records in the database; other occurrences (highlighted in darker green) are from the 1967-73 Hertfordshire Bird Atlas.

Appendix 5

Mammals, Amphibia and Reptiles of Tyttenhanger GPs

Introduction

Tyttenhanger Gravel Pits is home to a number of mammal, amphibian and reptile species that may be encountered - albeit infrequently – during birding excursions. The following provides a list of species that have previous been recorded – or more precisely those species for which data have been captured. All specific records located for these groups have been incorporated into the Tyttenhanger GPs dB. We'd obviously encourage you to submit any records you have through the relevant websites – remembering that BirdTrack also allows you to enter data for all of the groups summarised here along with Damselflies and Dragonflies, Butterflies and Orchids.

References

Clark, M. (1979) The Survey of Mammals, Reptiles and Amphibia in Hertfordshire. Trans Herts Nat Hist. Soc, 28, 9-16.[158].

Clark, M. (2001) The Mammals, Amphibians and Reptiles Hertfordshire. Hertfordshire Natural History Society and Mainstream Publishing.

Resources

The following have proven useful in locating records for the groups discussed here:

Hertfordshire Natural History Society (HNHS). The HNHS is the peak natural history body in Hertfordshire and a primary resource for all things Natural History in Hertfordshire. Specific links for the vertebrate groups dealt with in this section are provided below.

> Hertfordshire Atlas of Mammals, Amphibians and Reptiles 2015-24. This webpage provides the latest distribution maps from the atlas surveys plotted in the same format as those from the Hertfordshire Bird Atlases.

National Biodiversity Network Atlas (NBN Atlas)**.** Specific records for Tyttenhanger GPs were extracted from the database using the Locations>Search by Polygon function and including the Tyttenhanger GPs recording area. Because of the formats in which locations have been recorded there is a certain degree of ambiguity in some instances of whether the record was from the recording site or close-by. When the latter may apply to less commonly record species we have tried to refine the location and/or find alternate sources of information to support the presence of a species at Tyttenhanger GPs.

> **Citations - Amphibians and Reptiles:** Records provided by Amphibian and Reptile Conservation, accessed through NBN Atlas website ; Records provided by Amphibian and Reptile Groups of the UK, accessed through NBN Atlas website; Biological Records Centre (2024). Reptiles and Amphibians Dataset. Occurrence dataset on the NBN Atlas.
>
> **Mammals:** The Road Lab UK (2024), UK Roadkill Records accessed through NBN Atlas website; Biological Records Centre (2024). Mammal records from Britain from the Atlas of Mammals (1993), with some subsequent records. Occurrence dataset on the NBN Atlas; National Mammal Atlas Project, online recording (2024).

Systematic List - Mammals

Grey Squirrel *Sciurus carolinensis*

The earliest record in the Tyttenhanger GPs dB is from the 2nd October 1966. There are a number of other records in the dB but most of these are from the last decade when Birdtrack and other online platforms started to capture records. This species is shown as present in TL10X in the current Hertfordshire Atlas and in Clarke (2001).

Bank Vole *Myodes glareolus*

There are four records of this species in the Tyttenhanger GPs dB from 1966 (1), 2020 (1) and 2023 (2). It has not been recorded in TL10X in the current Hertfordshire Atlas.

Field Vole *Microtus agrestis*

Currently showing a present in TL10X in the Hertfordshire Atlas we have been unable to locate any specific records for this species.

[158] This paper shows the results of surveys carried out between 1967 and 1977 using the standard tetrad layout that we have come to know and love. It is worth bearing in mind that at this time the gravel workings at Tyttenhanger were pretty much restricted to the area to the north of the Gravel Works and the rest of the recording area was farmland i.e. see *The First Gravel :Pits.*

Water Vole *Arvicola amphibius*
Shown as present in TL10X in the current Hertfordshire Atlas but we have found no specific records for this species at Tyttenhanger GPs and it is not shown in the TL10X in the 1967-77 survey. Interestingly, Clarke (2001) shows this species as present in TL10X both before and after 1990 (p118).

Brown Rat *Rattus norvegicus*
Shown as present in TL10X in the current Hertfordshire Atlas otherwise just four records in the Tyttenhanger GPs dB.

Rabbit *Oryctolagus cuniculus*
Commonly recorded in the last decade, records prior to 2014 are relatively scarce in the Tyttenhanger GPs dB. Currently shown as present in TL10X in the current Hertfordshire Atlas and as present in the 1967-77 survey and in Clarke (2001).

Brown Hare *Lepus europaeus*
Shown as present in TL10X in the current Hertfordshire Atlas, in the results of the 1967-77 survey and in Clarke (2001), the records in the Tyttenhanger GPs dB (4) are from 2005 (2), 2006 and 2007.

Hedgehog *Erinaceus europaeus*
A single record from Colney Heath in the Tyttenhanger GPs dB from the 19th June 2016, the only other record is from the 1967-77 survey results where it is shown as present in TL10X and summarised as such in Clarke (2001).

Mole *Talpa europea*
Shown as present in TL10X in the current Hertfordshire Atlas but absent from the 1967-77 survey. There are a number of records in the Tyttenhanger GPs dB from 2014-2016.

Common Shrew *Sorex araneus*
Shown as present in TL10X in the current Hertfordshire Atlas; there are no records in the Tyttenhanger GPs dB.

Fox *Vulpes vulpes*
Over 30 entries in the Tyttenhanger GPs dB range from 1998 through until 2025. Shown as present in TL10X in the current Hertfordshire Atlas it was surprisingly un-recorded in TL10X in the 1967-77 survey despite being also shown as present in the tetrad in Clarke (2001).

Badger *meles meles*
Shown as present in TL10X in the current Hertfordshire Atlas and in Clarke (2001), there are just three entries in the Tyttenhanger GPs dB from 2015 (1) and 2017 (2).

American Mink *Mustela vison*
A single record in the 2003-2005 HNHS recorder's report along with four records in the Tyttenhanger GPs dB between the 19th July 2004 (3-5 seen) and 25th November 2005.

Stoat *Mustela erminea*
Records in the Tyttenhanger GPs dB (13) range from the 13th August 1999 until the 11th April 2017 and includes a count of six on the 11th June 2011 comprising a family party of two adults with four young. Shown as present in TL10X in the current Hertfordshire Atlas and in Clarke (2001).

Weasel *Mustela nivalis*
Less commonly recorded than its larger cousin (just five days-recorded), observations range between 30th December 1997 and 31st August 2014. Shown as present in TL10X in the current Hertfordshire Atlas.

Polecat *Mustela putorius*
The only reference to this species at Tyttenhanger GPs is from the current Hertfordshire Atlas where it is shown as recorded in TL10X.

Reeves's Muntjac *Muntiacus reevesi*
The most commonly entered species in the Tyttenhanger GPs dB there is a single record from 1999 with remaining records (over 80) scattered across most years from 2005-25. Unsurprisingly this is shown as present in TL10X in the current Hertfordshire Atlas, but strangely absent from the tetrad in Clarke (2001).

Roe Deer *Capreolus capreolus*
Currently shown as present in TL10X in the Hertfordshire Atlas this species is still relatively sparsely distributed in Hertfordshire. There are no records in the Tyttenhanger GPs dB.

Noctule *Nyctalus noctule*
There are no specific records in the Tyttenhanger GPs dB but the current Hertfordshire Atlas shows this as present in TL10X.

Soprano Pipistrelle *Pipistrellus pygmaeus*
Shown as present in TL10X in the current Hertfordshire Atlas there is also a single record (23rd July 2019) in the Tyttenhanger GPs dB.

Common Pipistrelle *Pipistrellus pipistrellus*
Just 2 records from April 2007 in the Tyttenhanger GPs dB.

Systematic List – Amphibia and Reptiles

Common Frog *Rana temporaria*
Showing as present in TL10X in the current Hertfordshire Atlas there are three records from 1966 in the Tyttenhanger current Hertfordshire Atlas GPs dB along with one from 2018, also shown as present in TL10X in Clarke (2001).

Common Toad *Bufo bufo*
Just two records in the Tyttenhanger GPs dB one from 1966 and one from 2021; it is also shown as present in TL10X in the current Hertfordshire Atlas and in Clarke (2001).

Smooth Newt *Triturus vulgaris*
Shown as present in TL10X in Clarke (2001) we have been unable to locate any specific records for this species at Tyttenhanger GPs.

Palmate Newt *Triturus helveticus*
Less common in Hertfordshire than the above species but shown as present in TL10X in Clarke (2001) we have been unable to locate any specific records for this species at Tyttenhanger GPs.

Great Crested Newt *Triturus cristatus*
There are several records from 2017 that show this species present at TL202047 a location that maps very close to Coursers Road and without any further location data could be either side of the road. However, another record from TL198049 places this species close to Tyttenhanger House and so well within the site-boundary. None of these records appear to have been captured into the current Hertfordshire Atlas.

Bee Orchids are one of the regular highlights of the summer months and one of six species of orchid recorded at Tyttenhanger GPs. Photo courtesy of Rupert Evershed.

Grass Snake *Natrix natrix*
Shown as present in TL10X in the current Hertfordshire Atlas there are specific records from 1966 (1) and 2020 (4) in the Tyttenhanger GPs dB, also shown as present in TL10X in Clarke (2001).

Common Lizard *Lacerta vivipara*
A 1965 record from Colney Heath is entered with the map reference TL2005; it is possible this record is from the recording site but not unequivocally so. It does not appear in TL10X in the current Hertfordshire Atlas but is showing as present close-by in TL20D.

Records not Assessed/Verified

Most of the records used in this section have come *via* the relevant county recorders and/or been verified by the latter. There are however, several records of more unusual species that have not been down this pathway but deserve mention in this report; these are treated chronologically below.

2006. There is a record of an **Otter** *Lutra lutra* on the 10th May 2006 that was watched for several minutes below the high viewpoint on the Main Pit. The record was never submitted or recorded elsewhere and so is placed in this section. To put this record in context, Otters were re-introduced in Hertfordshire in the late 1980s after local extinction in the late 1970s. Although records in the Colne valley are scarce the mammal recorders report from 2003-2005 does mention "*There are also records of Otters…at Broad Colney Lakes*"…very close-by as the Otter swims.

Appendix 6

The Butterflies, Damselflies and Dragonflies of Tyttenhanger Grevel Pits.

Compiled by Ricky Flesher (November 2024)

Introduction

Tyttenhanger Gravel Pits is not just a great site for birds, but over the years has been a significant site in Hertfordshire for butterflies, damselflies and dragonflies and there have been 31 species of butterflies, nine species of Damselflies and 16 species of dragonflies recorded. Butterflies are seen all around the site from Willow's Farm to Colney Heath Common while the Damselflies and dragonflies tend to be in the wetter areas along the River Colne , the back scrape of the Main Pit and Moynihan's Field at the back of the stone mason in Church Lane. I must thank a few people who helped me with this list without whom it would not have been possible; Simon West and Terry Smith for information and dates, Pete Christian for his support with putting this together and Andrew Wood (The Hertfordshire County Recorder for Butterflies) for supplying records for Tyttenhanger GPs.

References

Reynolds, A., Gladwin, T. and Shepperson, C. (2008). Dragonflies and Damselflies of Hertfordshire. Hertfordshire Natural History Society, Welwyn Garden City.

Other Resources

Hertfordshire Natural History Society (HNHS). Links to a number of relevant websites can be found through the HNHS website. Notably there is the link for the Hertfordshire Dragonfly Atlas survey (2022-27) (including a link to recent updates), and links to Butterfly Conservation – Herts and Middlesex Branch**,** which includes species accounts for Herts and Middlesex. .

National Biodiversity Network Atlas (NBN Atlas). See the specific comments in *Appendix 5* under "*Resources*".

Citations: Butterflies – "*Records provided by Butterfly Conservation, accessed through NBN Atlas website*" and "*Records provided by UK Butterfly Monitoring Scheme, accessed through NBN Atlas website*s. Damselflies and Dragonflies – "Records provided by British Dragonfly Society Recording Scheme, accessed through NBN Atlas website".

Systematic List - Butterflies

Small Skipper *Thymelicus sylvestris*

Common resident, most frequently recorded between June and August, peaking in July.

Essex Skipper *Thymelicus lineola*

Uncommon resident, most frequently recorded in July and occasionally in large numbers.

Large Skipper *Ochlodes sylvanus*

Common resident, nearly all records from June and July although never recorded in large numbers.

Grizzled Skipper *Pyrgus malvae*

Rare. Just one record for this species of a single on the 30th April 1997.

Clouded Yellow *Colias croceus*

Scare migrant. Reported in 12 of the 28 years between 1996-2023 with a total of 38 days-recorded (22 in August). Most records involve just single butterflies but with a maximum count of four on the 28th August 2009.

Brimstone *Goneoteryx rhamni*

Common early-emerging resident with most records from April and May and never I large numbers.

Large White *Pieris brassicae*
Common resident frequently seen between May and September, peaking in occurrence in July but never in large numbers.

Small White *Pieris rapae*
Abundant resident generally on the wing between April and September with a peak of records in July.

Green-veined White *Pieris napi*
Common resident that has two emergences the first from pupae in April/May and then a second generation in July to September – peaking in August. June is between generations and records from this month are notable.

Orange-tip *Anthocaris cardamines*
Common early-season resident most often seen in April and May.

White Letter Hairstreak *Satyrium w-album*
Rare. We have found just three records for this species: five on 24th July 1998, one on 30th July 1998 and two on 5th August 2018.

Purple Hairstreak *Neozephyrus quercus*
Uncommon (or under-recorded) resident, most often seen in July and August. Some larger counts (more than ten) from the past does suggest it may be under-recorded due to its arboreal habits.

Holly Blue *Celastrina argiolus*
Common resident which has two generations a year that peak in May and then in July/August.

Brown Argus *Aricia agestis*
Less common resident with records from May to September but with a peak in August.

Common Blue *Polyommatus icarus*
Common resident that has been recorded on the wing from April through until October (mostly May to August) with a late season peak in August. Typically having two broods a year the first (May-June) is not obvious in the Tyttenhanger GPs records.

Small Copper *Lycaena phlaeas*
Reasonably common resident that usually has three broods per season and so has been recorded on the wing from April through until October.

Purple Emperor *Apatura iris*
Rare. Just three records of this species: a female on 3rd July 2005, another female on 12th July 2020 and a male on 17th July 2021.

Red Admiral *Vanessa atalanta*
A frequent migrant that may overwinter as adults and also breeds in some years. Records at Tyttenhanger GPs have come from every month of the year- except January - with a peak in July. Never abundant the largest count from Tyttenhanger was 20 on the 30th July 2011.

Painted Lady *Vanessa cardui*
Another migrant that is generally less common than the above species recorded between April and October with most Tyttenhanger GPs records in the window from June to August. Usually in single figures, the maximum count for the site was 78 on the 4th August 1996.

This very confiding Purple Emperor in July 2021 was just the third record for the site. Photo courtesy of Terry Smith.

Small Tortoiseshell *Aglais urticae*
Abundant resident with a early season peak in April and then a second generation that peaks in June/July. Has been recorded at Tyttenhanger in all months of the year apart from December and January. The maximum on-site count was of 85 on the 12th July 1997.

Peacock *Inachis io*
Abundant resident that has been recorded at Tyttenhanger GPs in every month of the year except November. There are two peaks in the years the first in April and the second in July. With the second tending to produce slightly larger numbers. The maximum count on-site was 60 on the 4th August 1996.



Three butterfly species that are frequently encountered at Tyttenhanger GPs in the summr months (l to r) – Painted Lady Small Heath and Small Tortoiseshell. Photos courtesy of (l to r) Rupert Evershed, Andrew Steele and Rupert Evershed.

Comma *Polygonia c-album*
Common resident hat has a first-generation peak at Tyttenhanger GPs in April with a second-generation peak in July. Adults can stay on the wing into early October and although usually noted in small numbers three figure counts have been made between June and August with a maximum of 20 on the 25th July 2009.

Marbled White *Melanargia galathea*
Widespread resident first reported on site in 2003 and recorded every year since – apart from 2005. Counts in excess of 20 are not uncommon and the largest count was of 200 on the 2nd July 2018. The peak of occurrence at Tyttenhanger GPs tends to be in June and July with occasional records into August.

Speckled Wood *Pararge aegeria*
Common resident that is on the wing from April through to September - peaking in August - with occasional records into October. Usually noted in small number (<10) the maximum count was of 35 on the 17th August 1997.

Wall *Lasiommata megera*
Rare. We have found only six records of this species: one on 28th April 1995, three on 6th May 1995, one on 29th May 1995, one on 8th June 1996, one on 14th April 1997 and one on 30th April 1997.

Gatekeeper *Pyronia tithonus*
Common and abundant resident that has frequently produced counts in excess of 50 adults. The peak of occurrence is in July and August with a smattering of records from June and September;

the maximum count was of 175 on the 29th July 1997.

Meadow Brown *Maniola jurtina*
Common resident most often recorded between June and August, peaking in July. Counts over 50 are not unusual and the largest count was of 400 on the 2nd July 2018.

Ringlet *Aphantopus hyperantus*
Reasonably common resident that is on the wing between June and August – peaking in July. Counts above 20 are not unusual and the maximum count was of 100 on the 2nd July 2018.

Small Heath *Coenonympha pamphilus*
Common resident that has been recorded on the wing between April and September. Typically having two distinct generations in the Hertfordshire, records at Tyttenhanger do not show an obvious division between generations. Counts in double-figures are not unusual with a maximum count of 64 on the 15th August 1997.

Silver-washed Fritillary *Argynnis paphia*
Rare. One record of a single seen in Garden Wood on 15th August 2021.

Systematic List - Damselflies and Dragonflies

Banded Demoiselle *Calopteryx splendens*
Common, with 20-40 regularly along the River Colne - one of the best places to see this species is by the overflow from the Main Pit into the river. Generally, on the wing between May and July.

Emerald Damselfly *Lestes sponsa*
Five days-recorded from the late 1990s onwards but the only record this century is from the 6th August 2022.

Willow Emerald Damselfly *Chalcolestes viridis*
A recent Hertfordshire colonist first recorded on site in 2019. Up to 15 have been seen in recent years scattered across the site; generally, on the wing between June and October.

Large Red Damselfly *Pyrrhosoma nymphula*
Common – usually seen on vegetation along the River Colne usually in May and June.

Azure Damselfly *Coenagrion puella*
Common and widespread across the site generally on the wing in May and June but has been recorded up until September. One record from the 21st June 2022 had around 100 copulating pairs and 70 ovipositing females.

Common Blue Damselfly *Enallagma cyathigerum*
Common and widespread across the site usually recorded between May and August, appearing to be most abundant in June. At times this species can be very abundant and there have been estimates from the recent past of over 1,000 individuals on-site.

Blue-tailed Damselfly *Ischnura elegans*
Common, widespread across the site. First recorded in 1980 ,counts in three-figures are occasionally made with adults usually on the wing between May and August.

Red-eyed Damselfly *Erythromma naja*
Recent reports are from around the Back Scrape and on the River Colne by Moynihan's Field. First recorded in 1992, records are relatively well scattered across the next 30-odd years. Typically recorded in May and June a record of 100 copulating pairs and 100 ovipositing females on the 11th June 2023 suggest it may be more common at times than records suggest.

Small Red-eyed Damselfly *Erythromma viridulum*
Only five days-recorded in the Tyttenhanger GPs dB all between July and September and from five separate years. Probably best looked for around the Back Scrape and on the River Colne by Moynihan's Field.

Hairy Dragonfly *Brachytron pratense.*
Scarce with just seven days-recorded (all in May and June and mostly since 2020); has been seen below the High View-point on the Main Pit.

Migrant Hawker *Aeshna mixta*
Reasonably common around the Main Pit it is usually recorded on the wing in August and September.

Southern Hawker *Aeshna cyanea*
Less common than the above species recent records are bit thin on the ground. Usually on the wing between July and September and likely to be found around the Main Pit and the Fishing Lakes.

Brown Hawker *Aeshna grandis*
Reasonably common and can be seen anywhere on site in small numbers usually between July and September.

Emperor Dragonfly *Anax imperator*
Frequently observed in small numbers usually between June and August around the Back Scrape and on the pond in the Moynihan's Field. Most commonly on the wing in June and July.

Lesser Emperor *Anax parthenope*
We have found only one record of a male seen from the causeway between the Main Pit and Back Scrape on the 31st July 2018.

Downy Emerald *Cordulia aenea*
Rare. We have only two records for this species in the Tyttenhanger GPs dB - on the 16th June 2016, and the 25th May 2020.

Broad-bodied Chaser (left), Four-spotted Chaser (middle) and Keeled Skimmer (right. The Keeled Skimmer was at Colney Heath Common in June 2022 and was just the third county record this century. Photos courtesy of (l to r) Rupert Evershed, Andrew Steel and Roy Woodwood.

Four-spotted Chaser *Libellula quadrimaculata*
Frequently seen around the Main Pit and elsewhere on site in small numbers. The best count was of 40 adults on the 22nd May 2022.

Broad-bodied Chaser *Libellula depressa*
Less frequently reported that the above species with most reports coming from June. Maximum count on-site was of just three adults on the 27th May 2017.

Black-tailed Skimmer *Orthetrum cancellatum*
Reasonably frequently reported in small numbers often seen around the Main Pit. Typically on the wing in June and July the best count was of 15 adults in the 21st June 2022.

Keeled Skimmer *Orthetrum coerulescens*
A record of this species on the 21st June 2022, a male holding territory on the River Colne at Colney Heath Common, was just the third record for the county this century (Trans Herts. Nat. Hist. Soc. **55** (1), p14) (see photo above).

Common Darter *Sympetrum striolatum*
A late season dragonfly that can be seen around the site between June and November with numbers peaking in September/October. The largest on-site count was of 50 adults on the 3rd October 2021.

Ruddy Darter *Sympetrum sanguineum*
Reasonably common can be seen almost anywhere on site between June and September with most record in August and September.

Red-veined Darter *Sympetrum fonscolombii*
Irregular. There are nine days-recorded scattered across the last 25 years: the 21st June 1998, 18th June 2000. 30th June 2002, 14th July 2002, 7th June 2017, a male on the 23rd June 2017 and then 22nd, 28th and 29th June 2019.

Yellow-winged Darter *Sympetrum flaveolum*
Rare. We have found just one record of a single adult on the 13th August 1995.

Vagrant Darter *Sympetrum vulgatum.*
Rare. Just a single record of one on the 13th August 1995.

Records not Assessed/Verified
Most of the records used in this section have come *via* the relevant county recorders and/or been verified by the latter. There are however, several records of more unusual species that have not been down this pathway but deserve mention in this report; these are treated chronologically below.

1981. **Common Hawker** - *Aeshna juncea* . The NBN-Atlas dB contains a record of this species at "*River Colne and Colney Heath Common*" in 1981, the record is not included in Reynolds *et a*l. (2008). It appears that records of this species were reconsidered at some point as noted in the 1997 HNHS Transactions - " *On re-examination it became evident … that some records of the Common Hawker* Aeshna juncea *… are the subject of mis-identification*".

2005. A record of a single **White Admiral** *Limenitis camilla* seen from Nettle Hill on the 18th August was mentioned in the Tyttenhanger Gravel Pits Bird Report for that year but does not appear to have been submitted elsewhere.