
Tyttenhanger Gravel Pits Bird Report for 2018



**Edited and produced by
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Introduction

This report is the fourteenth we have produced for the site known locally as Tyttenhanger Gravel Pits and follows the combined report we produced for 2016 and 2017. The current series of reports for the site started in 2004 and, as many of you are aware, followed-on from the first Tyttenhanger Report produced for 1996 (Brew, 1997). Since taking up the reins we have tried to follow the same general format as that used in that original 1996 report, but as more data become available then additional analyses and insights have also become possible. Nevertheless, we still hope that by maintaining a similar layout and content, that comparisons can be made more readily across the span of years and the previous reports.

Before going much further it would be remiss of us not to mention that during the latter stages of the preparation of this report, the world was thrown into turmoil by the COVID-19 pandemic. Shutdowns at both ends of the globe have afforded us the opportunity to spend a bit more time on this report – despite the uncertainty that the situation brings. At the moment it is impossible to say what the future holds – even with such a simple exercise as producing future reports! Needless to say, we hope that you are all managing to stay safe in these difficult times and continue to do so into the future.

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

As around 10 years is the upper limit for effectively presenting much of the available data we have also continued a transition - begun with the 2013-10th Anniversary report – across to different ways of summarising the data; an outline and explanation of which can be found in more detail in the section “Data Collection, Analysis and Presentation”. In addition, we have also trialled the use of several different ways to present the available data through the usual tables, but have also used a greater number of charts and figures this year. The latter has given the report a slightly different appearance than past reports – on which we'd appreciate any feedback – hopefully without breaking the link to previous reports. As in previous years we hope you enjoy reading the report and if you do, then we encourage you to let us know either *via* the email addresses below or even directly if you bump into us in the field! Likewise, if you did not enjoy reading it, or can think of ways of improving your enjoyment, then please also let us know.

Finally, as we continue to accumulate what is becoming an increasingly large body of data on the birds of Tyttenhanger, we leave you with the hope that you are encouraged to venture on-site (when it becomes possible again) and to submit your records through the available channels for inclusion in what will hopefully, be a long line of future reports. Happy and safe birding until we bring you the next chapter of the Tyttenhanger story!

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Recording Area and Access

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

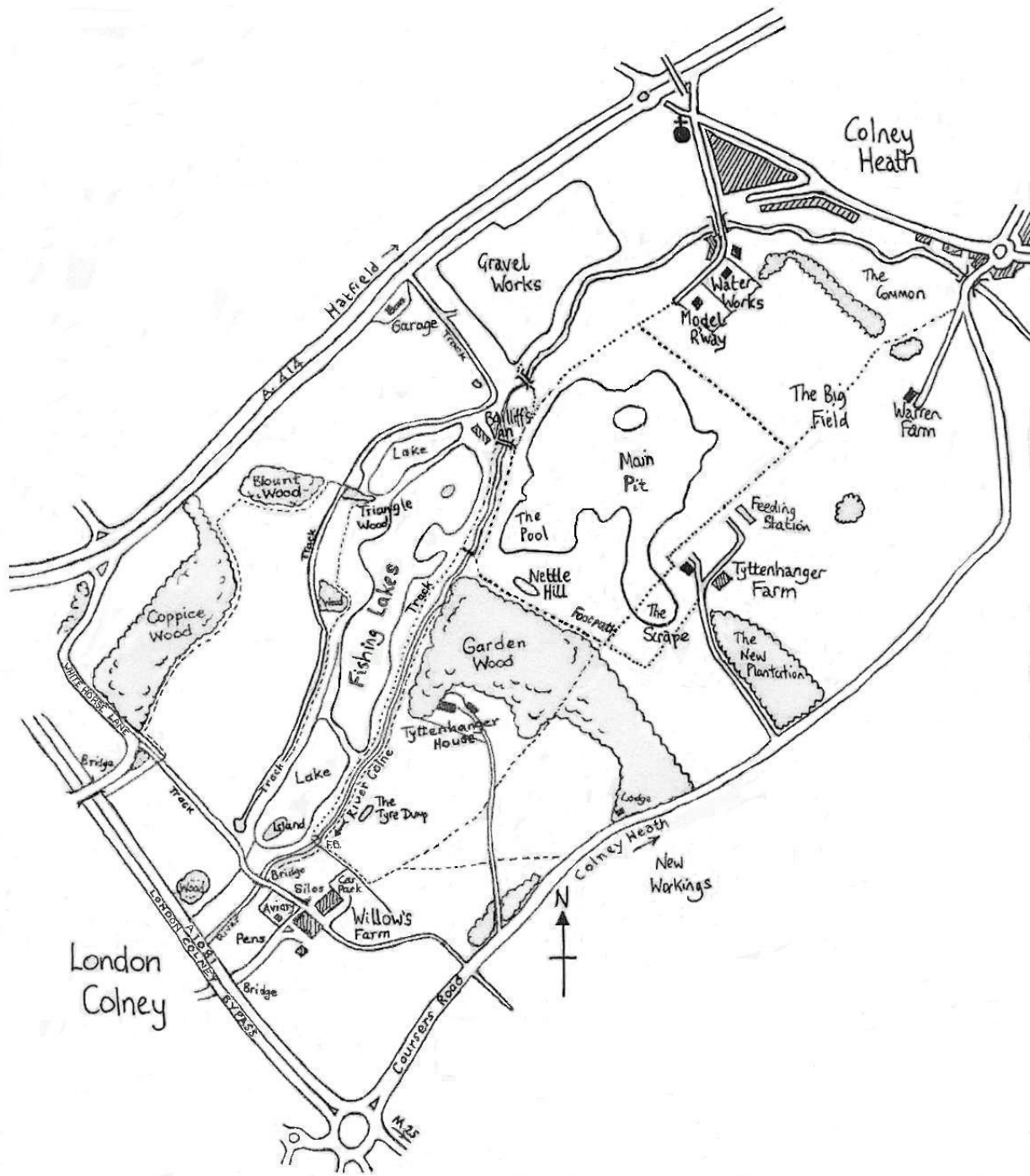


Figure 1. Map of the recording area covered in the current report. This map is a revised version of that shown in Brew (1997) and is the best representation of the situation in 2013, since when, relatively little has changed. A previous version of the map with a superimposed grid is available in earlier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

Access can be gained from a number of public footpaths that lead onto the site (see OS Explorer Map No. 182). For those arriving by car a number of access options are available. One option is to enter via Church Lane in Colney Heath – parking around the entrance to the Water Works. The model railway club usually meets on Sunday mornings and space can be restricted at this time. Alternatively, park at St Peter's Church in London Colney and walk along the Colne, under the

London Colney by-pass and on past the Fishing Lakes and Willows Farm. The third option is to enter on the access road for the Gravel Quarry just before the Garage on the A414 (coming from the Hatfield direction) and park at the end of this road before the entrance to the fishing lakes. The car park next to the Bailiff's van and parking elsewhere around the fishing lakes is subject to a charge of £2.00 for those not holding fishing permits. The tickets can be obtained from the machine on the toilet block wall next to the "The Reel Café". The access tracks that run each side of the fishing lakes are now gated, but not locked, and providing birders obtain a parking ticket, they can go through these gates and park sensibly anywhere along the tracks. Once on-site there is an extensive network of footpaths and tracks which cover the majority of the recording area. Observers are requested to keep to the marked footpaths to minimise disturbance to the birds, the land-owners and the quarrying operations. This is particularly so around the Main Pit and it should be noted that the workings access track is not a public right of way and that there are a number of remotely controlled security cameras along the conveyor belt with speaker's that will tell you that you are in a restricted area! We have also been informed that if people are seen on the access track that security will notify the police. The current OS map (OS Explorer Map No. 182) should be consulted for some of the older paths that may not be shown on the map presented in Figure 1. However, please bear in mind that due to the active mineral extraction operations - on and around the site - there are frequent changes to the footpaths and rights of way.

Review of the Year - 2018

Most of the major physical features on-site remained much the same as they were at the end of 2017. The sand-spit in the Main Pit continues to be a significant feature and apart from the growth of much of the vegetation around the site, things have been relatively stable, in a physical sense, for several years now. Overall, the weather in 2018 was fairly typical of the period 2001-17 - both in terms of rainfall and air frost-days (see Table below). However, February and March were particularly wet - producing almost twice the median rainfall for those months for the period 2001-18, while June was especially dry i.e. produced less than 10% of the 2001-18 median for the month.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Median 2001-18 ¹
Annual Rainfall (mm)	821.7	689.9	629.8	1004.0	805.7	1014.7	740.1	727.7	726.5	776.3	782.4
Air frost Durat'n (days)	49.9	80.1	29.0	46.6	55.6	24.4	29.5	43.0	40.0	37.1	43.3

Coverage of the site in 2018 came to a total of 324 days (88.8% of the available days) - the third time in the period 2004-18 that it broke the 300 day-mark and currently a record - beating the 321 days of 2017. The peak coverage was in the usual months of March/April and August/September - although no month achieved full coverage this year, including April. In the case of the latter this was the first year since 2013 that the month was not fully covered. Coverage (days per month), median number of records for the month (2004-2018) and the proportion - as a % of total records from the period 2004-18 - that fall in each month are shown in the table below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2018	25	21	26	29	28	26	30	30	29	28	27	25	324
Median ⁽¹⁾	23	20	25	28	24	22	25	27	24	24	21	20	274
% Total ⁽²⁾	7.75	7.18	9.09	9.96	8.76	7.30	8.97	9.59	8.41	8.13	7.63	7.23	100.0

⁽¹⁾ Median is calculated from the period 2004-2018. ⁽²⁾ Proportion of total days coverage in the period 2004-18 for the relevant month

The site also continues to have up-to-date information through its web presence. Apart from the Herts Bird Club website (<http://www.hnhs.org/birds/index.php>) there are now other sources of recent information on Tyttenhanger's birds most notably the Tyttenhanger Twitter account at @TytGP and the Friends of Tyttenhanger website at (<http://friendsofthgp.wixsite.com/ornithology>). We urge you to check all of these resources for up to date information and further site-information.

Birding Highlights of 2018

January; Twelve **Ring-necked Parakeet** on the 1st was a good start to the year and were well supported by a single **Green Sandpiper** - (seen on 9 other dates throughout the month) and 68 **Teal**. The 5th produced a number of good birds with a single **Barnacle Goose** (noted on 5 dates this month), a **Stonechat** in the maize field, **Brambling**, **Lesser Redpoll**, 8+ **Tree Sparrow**, a **Water Rail**, a 2nd winter **Caspian Gull** (also seen on 6th, 19th and 28th), 30+ **Siskin** on Colney Heath Common, and a **Peregrine**. The 5th also produced 10+ **Hawfinch** in Garden Wood - the start of the "second wave" from the autumn 2017 influx. This second wave was to see this species present in good numbers through much of January, February and into March and provided one of the undoubted highlights of the year. Following on from the above there were 2 **Peregrine** on the 7th along with a **Great Black-backed Gull** - the latter also recorded on the 12th and 29th. The 12th saw a count of 48 **Snipe** - a new site record - and there was a **Little Grebe** on 13th and 18th with 3 counted on the 19th. The 13th also produced a count of 30 **Hawfinch** from Garden Wood - which proved to be the highest count of this influx for

¹ Data have been extracted for the period 2001-2015 from <https://www.metoffice.gov.uk/climate/uk/summaries>.

Tyttenhanger. Towards the end of the month there was another **Stonechat** on 26th and 27th, a female **Blackcap** on Colney Heath Common on 26th, 3 **Water Rail** on the 28th, 2 **Egyptian Geese** on the 27th and finally 5 **Golden Plover** on the 29th.

February; the second winter year **Caspian Gull** was seen on the 2nd and then on a further 6 dates up until the 12th. The 2nd also produced 100+ **Fieldfare** along with 20 **Hawfinches** in Garden Wood, the latter being seen on a further 8 dates in the month with another count of 20 birds on the 11th. A **Stonechat** was seen on 6 dates between the 2nd and 18th, a **Green Sandpiper** was present on the 2nd and 6th with three seen on the 17th. Other notable records included a **Little Grebe** on the 3rd, 10th and 11th, 2 **Mandarin** on the 11th, **Water Rail** on the 6th, 9th and 20th and a **Barnacle Goose** on the 7th, 8th, 10th, 21st and 23rd and a site-record count of 120 **Teal** on the 10th. The first signs of spring were noted with the appearance of an **Oystercatcher** on the 9th, 17th, 18th, 21st, 24th and 26th, while winter visitors were noted with 2 **Siskin** on the 17th, 6 **Lesser Redpoll** on the 18th and a **Woodcock** on the 23rd – both of the latter being in Garden Wood.

March; the 2nd saw an adult winter **Mediterranean Gull** on Willow's Farm Lake and 100 **Skylark** in the Maize Field. A **Caspian Gull** was seen on the 2nd and then on the 3rd, 4th and 5th; continuing the gull-theme there was a **Great Black-backed Gull** on the 2nd, 9th, 13th with two on 30th. The 2nd of the month also produced a candidate for Bird of the Month with a **Rock Pipit** seen briefly at the top end of the causeway. **Hawfinch** were still noted in Garden Wood this month, with a maximum of 20 on 4th and records until the 25th. The **Oystercatcher** was present all month being joined by a second bird on the 16th. There was a **Dunlin** seen on the 3rd and 5th, a **Stonechat** present on the 5th and a **Curlew** was seen flying over north on the 7th – the same date that the only **Ruff** of the year was recorded. The first **Little Ringed Plover** was seen on the 9th – but further birds did not appear until much later on the 30th and 31st. A **Woodcock** was found on the 9th and the first **Redshank** of the season was seen on the 12th and was present off-and-on before being joined by a second bird on the 25th and 31st. The first **Sand Martin** of the year appeared on 16th when there were also five **Chiffchaff** present. Also notable this month were **Siskins** seen on three dates and a single **Yellowhammer** recorded on three dates with two present on the 26th. The month came to a close with a **Peregrine** on the 25th, and the second candidate for Bird of the Month - a 1st winter **Kittiwake** on the 31st.

April; this is usually the month when the bulk of the summer visitors and passage migrants make their first appearances and this year was no exception with **Hobby** (29th), **Ringed Plover** (22nd), **Common Sandpiper** (16th), **Greenshank** (20th), **Common Tern** (19th), **Swift** (21st), **House Martin** (6th), **Swallow** (3rd), **Yellow Wagtail** (5th), **White Wagtail** (17th), **Whitethroat** (13th), **Blackcap** (26th), **Lesser Whitethroat** (16th), **Willow Warbler**, **Sedge Warbler** (10th), **Reed Warbler** (20th), **Garden Warbler** (21st), **Whinchat** (18th), and **Wheatear** (16th) all turning up as expected. Winter visitors also lingered through the earlier part of the month with a **Woodcock** on the 3rd, 10 **Siskin** on Colney Heath Common on the 3rd, 4 **Lesser Redpoll** on the 6th and a **Water Rail** on the 13th. April is also probably the peak month of the year for "good birds" and this year provided some real quality with a **Grey Partridge** (now quite a rare bird in the area) on the 4th, a **Great White Egret** flew over SE at 09.45am on the 7th and a good count of 7 **Great Black-backed Gulls** on the 8th. However, the 8th had much more in store when a male **Common Scoter** was found on the main pit and stayed around from 07.45am until 16.15pm. The last, and only, previous record was of a female-type bird on the remarkably similar date of the 7th May back in 2000. There were then 2 **Bar-tailed Godwits** on 11th, a **Mandarin** on the 13th, a fly-over **Curlew** on the 14th and a **Caspian Gull** briefly on the 15th. Then on the 16th things really took-off when a first for Hertfordshire - a male **Penduline Tit** - was found on the back scrape of the Main Pit by Steve Blake. The full story of the find can be found in the 2018 Hertfordshire Bird Report (HNHS, 2018) and the condensed version on page 50. However, as if this was not enough, while the **Penduline Tit** was being watched a female **Marsh Harrier** flew over – the only record for the year! The **Penduline Tit** was seen to go to roost on the 16th and was seen briefly the following day before heading off NE just after 06.45 am. The excitement died-down a little after this with a **Whimbrel** seen on the sand spit on the 18th but then on the 25th a **Grasshopper Warbler** was found, which fortunately for many hung around until the 29th. This is only the second record since 1998 and the only bird to have spent a few days on-site since 1987. However, the month was not yet done and the morning of the 28th provided a real spectacle when at 05.45am 96 **Black-tailed Godwit** were found on the sand spit. They stayed until 06.17am when they left bringing an excellent month to a conclusion.



This superb male Penduline Tit Remiz pendulinus was found on the 16th May being not only a first for Tyttenhanger, but also a first for Hertfordshire. Photo courtesy of David Hutchinson.

May; is generally a little slower than April and is usually when breeding species settle-in for the season. Nevertheless, despite the seeming slower pace it can still produce some good birds. The month started with a **Cuckoo** on the 1st, there

were 2 **Wheatear** present on the 2nd, 3rd and a single on the 4th. The 4th also produced a very late **Lesser Redpoll** followed by a **Greenshank** on the 6th – with another present later in the month on the 22nd. A **Wood Sandpiper** flew onto the sand spit for 3 minutes on 19th and a 3rd calendar year **Yellow-legged Gull** was seen on the 20th. However, Bird-of-the-Month was undoubtedly a summer plumage **Spoonbill** that landed on the sand spit at 09.50am on the 22nd and stayed until just 10.08am before it flew off high to the SW. The full story of this prescient Steve Blake find can be found on page 57. A **Ringed Plover** and two **Sanderling** were then present on the 23rd, there was an unusual count of five **Redshank** on 24th along with **Mandarin** on the 24th and 28th. Regulars and potential breeding species were also in evidence through the month with the solitary **Oystercatcher** seen all month, the 3rd year **Caspian Gull** present on the 13th, 21st, 22nd, 23rd and 24th and non-breeding **Little Ringed Plover** and **White Wagtail** seen on 7 and 6 dates respectively. In addition, **Yellow Wagtails** were noted throughout the month and **Hobbies** were seen on five dates - with two on the 19th.

June; the month started with an unexpected **Meadow Pipit** on the 2nd while the list of other “possible” breeders also provided **Yellowhammer** sightings on eight dates with a maximum of 3 on 11th and **Yellow Wagtail** throughout the month. As far as non-breeding species were concerned **Little Ringed Plover**, **Oystercatcher**, **Little Egret** and **Green Sandpiper** were seen throughout the month. There were also **Egyptian Geese** on four dates, **Hobby** on six dates, and a **Ringed Plover** on the 6th. A female **Mandarin** was found on 10th and an adult **Yellow-legged Gull** was seen briefly on the 12th followed by a 2nd summer bird on the 13th. An adult **Mediterranean Gull** on the 15th was a nice find and male **Pochard** on the 22nd and 23rd was slightly out-of-season. **Common Sandpiper** on the 25th and 29th, then the first returning **Common Gull** of the autumn on 28th brought the month to a close.

July; **Little Egrets** continued to be seen throughout the month with a maximum of 11 on the 25th, well supported by a cast of two **Egyptian Geese** - also seen all month – and returning **Green Sandpipers** that reached a maximum of 5 on the 30th. A female **Mandarin** on the 2nd and 3rd added to the good string of records for this species and there was a **Black-tailed Godwit** also present on the 3rd followed by further records on the 10th and 11th. Between 1 and 2 **Redshanks** were seen from the 3rd through to the 11th and a single **Yellowhammer** seen on the 8th and 21st. A solitary **Common Sandpiper** was present from the 9th until 24th (with two observed on the 31st) and there was a single **Yellow Wagtail** seen on 6 dates through the month. A **Hobby** was present on the 18th and 20th, a 2nd calendar year **Yellow-legged Gull** on the 19th, and finally a **Peregrine** on the 21st.

August; a slow start to the month, with the first notable bird being a **Black-tailed Godwit** on the 5th – although subsequent singles on the 11th and 12th and three on the 10th made this a good month for this species. August often produces records of passage/returning waders and, further to the above, the first returning **Snipe** were seen on the 2nd and 8th, 2 **Dunlin** were on the main pit for 10 minutes on the 10th - before being flushed by a Buzzard - a **Little Ringed Plover** was present on the 14th, a juvenile **Ringed Plover** showed on the 23rd, 24th, 25th and 28th, 29th; 2 **Whimbrel** flew over on the 24th and the first autumn **Greenshank** appeared on the 31st. Waders-aside, other notables this month included a **Yellowhammer** on the 19th, a **Wheatear** on the 23rd, a **Raven** and a **Water Rail** on the 24th a juvenile/female **Redstart** also on the 24th, 8 **Yellow Wagtails** on both the 24th and 31st, a **Peregrine** on the 29th and 2 adult and 3 juvenile **Hobbies** together on the back scrape on the 30th. In addition to the above, **Little Grebes** were seen on four dates and **Egyptian Geese** and **Green** and **Common Sandpiper's** were seen throughout the month.

September; usually sees the bulk of the summer visitors leaving, a number of winter visitors arriving and a smattering of passage migrants passing through. In line with this typical pattern, single **Whinchat** were present on the 1st and 8th, two **Spotted Flycatchers** were seen on the 2nd - with singles seen later this month on the 14th and 21st. Returning **Water Rail** were seen on the 2nd and 29th, while 2 **Wood Sandpiper** made a brief appearance on the 3rd. A female **Wigeon** on 4th and four birds on the on 5th were the first of the autumn and **Meadow Pipits** starting passing through with 6 on the 7th and 40 on 14th. The 7th also produced a 3rd winter **Caspian Gull** with subsequent records of a juvenile on 26th and an unaged bird on the 30th. Further passage was witnessed by a **Wheatear** on the 7th, 13th and 19th, a **Ringed Plover** on the 8th, a male **Stonechat** on the 15th and 24th and nine **Golden Plover** flying towards Coursers Farm on the 16th. More gulls with a 1st winter **Mediterranean Gull** on the 16th and 17th and a 3rd calendar year **Yellow-legged Gull** also on the 16th, before 2 **Sandwich Terns** were seen on the 23rd. Probably less indicative of long-distance movements was a **Raven** on the 28th along with 2 **Red-crested Pochard**, a **Barn Owl** on the 29th and 2 **Yellowhammer** on the 30th. Also on the move were **Common Sandpiper**, **Green Sandpiper**, **Greenshank**, **Yellow Wagtail** and **Hobby** -- seen throughout the month - along with up to 6 **Egyptian Geese**. Finally, a single **Peregrine** was recorded on four dates and the first **Siskins** arrived on the 26th, with up to 20 counted on the 30th.

October; The month got off to a good start with a near adult **Caspian Gull** seen on the 1st, 2nd and 3rd that was joined by similarly aged **Yellow-legged Gull** on the 1st with a 2nd winter bird present on the 7th. Late migrants included up to four **Chiffchaff** on 4th, 6th and 7th, and a **Swallow** and a late **Common Sandpiper** on 7th. Not to be outdone, the month then produced the 3rd first for the site of the year when a **Cetti's Warbler** was found on the 9th. Probably long overdue, it was good to get this species on the board and nice that it stayed until the month's end - providing the opportunity for many of the regulars add it to their Tyttenhanger lists. A **Tawny Owl** was heard calling by the model railway on the 10th, nine **Mistle Thrush** were counted on the 11th and a **Stonechat** noted on the 20th. The surprises for the month hadn't finished yet and another first for the site (4th for the year) appeared in the form of a ringtail **Hen Harrier** on the 28th! Apart from the above

comings and goings there was a single **Green Sandpiper** present all month, a **Little Grebe** on four dates, a **Peregrine** on five dates, the roosting **Barn Owl** near Tyttenhanger House on 4 dates and between 1 and 2 **Water Rails** regularly seen around the site.



Caspian Gulls Larus cachinnans have become regulars at Tyttenhanger in the recent past and the two birds shown above and to the right are two of at least 5 individuals that were present during 2018. Photos courtesy Steve Blake.

the excitement of the 17th, there was a very late **Osprey** seen on the 18th along with a 2nd winter **Yellow-legged Gull** that was also seen on the 20th, 23rd, and 30th. A **Peregrine** was seen on the 21st and then a very good find of a **Jack Snipe** on the 24th and good count of 22 **Golden Plover** – also on the 24th. The 25th saw a significant movement of both **Redwings** and **Fieldfare** with both species notching-up record counts for the month i.e. 345 and 300 respectively. There was another **Great White Egret** seen on the 27th and it is tempting to speculate that it was the same bird as that seen earlier in the month. Aside from the above there were 12 days on which **Chiffchaffs** were recorded between the 3rd and the 30th, with two birds present on the 18th, 23rd and 30th; small numbers of **Siskin** and **Lesser Redpoll** were also seen throughout the month and the roosting **Barn Owl** was seen on six dates.



December; is usually a relatively quiet month and this year proved no exception! A **Caspian Gull** was seen on nine dates between the 1st and the 27th – which even a couple of years before would have been considered highly notable, but recently has become somewhat more expected! However, continuing the gull-theme, there was a single **Yellow-legged Gull** on the 1st and 12th with three 2nd winter birds seen together on the 27th and three **Great Black-backed Gull** seen on 16th. Gulls aside, **Lesser Redpoll** were noted on the 3rd and 16th, **Water Rails** were seen on five dates from the 2nd to the 7th and 30 **Siskin** were seen on Colney Heath Common on the 6th and 12th. Overwintering **Chiffchaffs** were also seen on six dates, with two birds recorded on the 10th, while the roosting **Barn Owl** was noted on six dates - still in the usual tree near Tyttenhanger House -and **Peregrines** were seen on seven dates. Besides the above, the other notable records for the month were a **Raven** on the 10th and then 30 **Golden Plover** on the 18th – which happened to be largest count for the year for this now somewhat irregular visitor.

This was undoubtedly one of the best, if not the best, year on site since 2004 when we started to produce annual reports. The total number of species seen was 144 –the same as 2017 – and is the best-total for the period 2004-18. However, there were 5 new species for the site reported this year, **Red-breasted Merganser**, **Spoonbill**, **Hen Harrier**, **Cetti's Warbler** and **Penduline Tit** - bringing the site total to 206 – which is the best year for new species since 2006 (4 new species). However, it was probably the overall quality and the supporting cast to the new species that made this year so special; **Common Scoter** for the first time since 2000, **Rock Pipit** - last seen in 2008, **Grasshopper Warbler** – last twitchable bird in 1988 and of course, the invasion of **Hawfinches**! Of course, it is always good to wonder "what may have

been” and notable that it was the following species recorded in 2017 that were not recorded this year ; **Garganey, Avocet, Grey Plover, Little Stint, Temminck’s Stint , Little Gull, Iceland Gull, Black Tern, White-winged Black Tern, Tree Pipit, Waxwing, Black Redstart, Firecrest and Corn Bunting.** On the other side of the coin and in addition to the species mentioned above this year produced the following species not seen in 2017; **Grey Partridge, Marsh Harrier, Osprey, Jack Snipe, Wood Sandpiper, Kittiwake and Sandwich Tern.**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
No. Species	136	142	132	137	135	139	140	138	134	132	129	139	144	144
New species	1	4	1	0	2	2	3	0	2	0	0	0	1	5

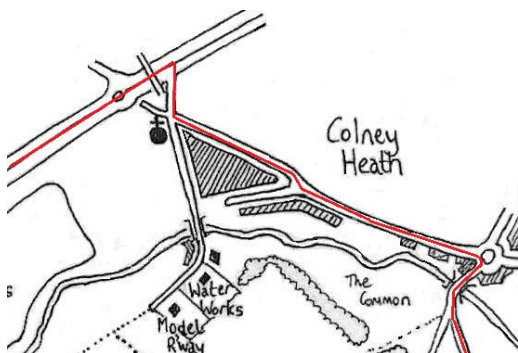
Taxonomy and Nomenclature

As with previous reports the systematic order we have used is similar to that used in all previous reports; the nomenclature for common names follows that used in the Hertfordshire Bird Report.

Submission of Records

Observers are encouraged to submit their records for the site (and for Hertfordshire generally) *via* the Herts Bird Club website (<http://www.hertsbirdclub.org.uk/>) Such reporting will ensure that records are passed to the County Recorder and disseminated quickly to the local birding community. Records submitted to the BTO’s Birdtrack system also flow through to the County Recorder and so are also captured for this report. We encourage everybody to submit their records through one of the above routes. Updates and the latest bird news from Tyttenhanger can also be found on the Twitter page at @TytGP.

Also, a note about Colney Heath Common and Colney Heath. Part of Colney Heath i.e. the Common up to the High Street and bordered by the bypass to the NW and Coursers Road to the SE, has always been included in the recording area for Tyttenhanger Gravel Pits.



The extent of the site is shown on the map in Figure 1 – with a detail from that map and the site boundary (in red) shown to the left. Further analysis of past records is on-going and we are slowly updating our core databases to include all of the relevant records from the northern section of the common i.e. between the High Street and the river – and the section north of the river, west of Church Lane over to the by-pass. Certainly, the inclusion of the OS grid reference in some records submitted through the Herts Bird Club website has made this task a little easier than in the past – but these data have only been included for the last couple of years and so capture of records prior to the middle 2017 will be slightly more problematic. However, hopefully we will be able to capture all of the records for this area - traditionally monitored as part of the

Tyttenhanger GPs complex - if observers are able to add a little bit more information when submitting records. As indicated last year, it would be very helpful if recorders could note in the comments when submitting records for Colney Heath, if they are from Colney Heath Common i.e. includes all of the area shown above south of the marked (red boundary). Alternatively, if records are submitted under the name Colney Heath Common, then we should be able to find a way of capturing those data as well. The other option is to enter data as Tyttenhanger GPs – but to include the note “Colney Heath Common” in the comments.

Data Collection, Analysis and Presentation

Data Collection

The current report contains data for the 12th year for which we have had access to all of the records from the Herts Bird Club database, Bird Track and from the personal records of some regular visitors. As shown in the table below, the numbers of recorders and observers has varied quite considerably over the years - with little obvious relationship between the two. However, what is notable is the dramatic increase in the number of records in 2017, which has continued through into 2018.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
No. of Records	9,469	11,415	9,498	6,968	7,105	5,548	7,087	8,783	9,734	10,814	15,284	15,217
No. of Recorders	51	57	49	76	72	58	60	55	55	67	72	72
Days of Coverage	275	272	271	289	289	275	271	289	296	303	321	324

For much of the data cited prior to 2004 we have primarily used the Hertfordshire Bird Reports from the period 1983-2003 as the source of data. These data have come from the main body of the text of those reports and also from the included WeBs counts (which we have continued to use from reports published after 2003). It is worth noting that the WeBs records between 1987 and 1997 were supplemented by additional counts from the same month - if these counts were greater than those made during the WeBs survey. We have made use of these data where available.

Last, but not least, we have an on-going project to digitize all of the available records back to 2004 i.e. to cover the period 2004-2008 (inclusive) - where it is clear that current data-capture mechanisms (particularly BirdTrack) were not being fully utilised by many observers and/or these systems were not then available. The data for 2007² is now complete and we have been able to use these data in a number of the analyses carried out for this report. Work on 2004-2006 is on-going and we hope to include analyses involving those years in future reports. In the meantime, a number of the tables in the current report only refer to data from 2007 onwards – depending on the analysis being conducted. For further details on this aspect of the report see below under “*Summary Tables*”.

Analysis

As the data made available to us comes from different sources there is a certain amount of duplication. Initial analysis for each species involves the removal of duplicated data, re-ordering and in some instances re-coding. The basic unit for most species is the daily maximum count. 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 records that have been generated for a particular species. When this is done records 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 HBC website and Birdtrack) and records ascribed to discrete observers are retained. We refer to this statistic as the Total Record Number.

Statistics used

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

Daily Maximum Count – the maximum count for a particular species on any given day.

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.

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

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

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

Total Record Number – this is occasionally calculated for a given species/month etc and is generated from all individual records for that species after the removal of obvious duplicates i.e. is effectively the number of independent entries into the database. While it is an overestimate of the number of bird’s present, it may offer insights into the way that certain species may or may not be recorded.

Significant Counts. For some species it is useful to have an indication of not just the maximum/record count but also of significant counts. For the purposes of most analyses we have taken the 95th percentile as the lower boundary for determining significant counts i.e. the highest 5% of counts are considered to be significant.

² The record database for 2007 now comprises 9,469 records in contrast to the originally available 2,421 records.

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

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

Median - when the number of data points is small (and 15 years of data is still a relatively small amount of data!), the median is an alternative measure to the mean (or average) to indicate a measure of the centre-point of the data. The median is useful when there may be outliers in the data that can skew the mean and therefore bias the mid-point of the data. We have generally tended to use this measure in the current report in preference to the mean.

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

Summer Migrants - Spring Arrival - before June 30th.

Summer Migrants – Autumn Departure– after June 30th.

Winter Migrant – Spring Departure – before April 30th.

Winter Migrant – Autumn Arrival – after July 31st.

Where possible we have been back and analysed the available data to ensure that the above assumptions are not massively incorrect and/or unsupported by the data. Where such cases are identified the alternate dates/values are mentioned specifically in the text for that species.

Standardization of Data

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

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

Coverage Based – as can be seen in the table provided in “*Review of the Year*” above (page 3), coverage is not consistent across years and/or through any given year. For this reason, we have occasionally used the relative coverage for each month to standardise the data. In this case the ratio of the coverage for a given month against the month with the lowest recording rate (February) is used to standardise the data. This type of analysis has been used particularly for those analyses that have looked at the relative number of days-recorded from each month of the year.

Number of years recorded in the last 5
Mute Swan *Cygnus Olor* (5, 15, 56)
Maximum site count
Number of years recorded since 2004

Presentation

Continuing on from previous years, the systematic section of the report shows the scientific name of each species followed by three numbers. As shown above these numbers represent the “Number of years the species has occurred in the last 5 years”, “Number of years the species has occurred in the last 14 years” (since 2004) and the “Maximum count on-site”.

In addition, below the header for each species are the current on-site status summaries. The following is a guideline to how several generalised terms have been applied in these descriptions:

Rare visitor – has occurred on less than three occasions.

Infrequent visitor – has occurred more than three times but less than one record per year on average.

Irregular visitor – occurs on average once or twice in most years.

Frequent visitor – occurs more than twice a year on average – but still may not occur in some years.

Regular visitor - occurs in most years.

The other significant change in status summaries we have trialled this year is the inclusion of the median arrival and departures dates for migrants /visitors. Much of these arrival/departure data previously included in the text-tables has now been migrated to Appendix 1 where the raw data long with latest/earliest dates and the median values are also presented.

Summary Tables

As previously mentioned, we are starting to get to the maximum "carrying capacity" for many of our tables with the data now available and in many instances alternative approaches to providing all of the data have needed to be found. As far as alternatives are concerned, we have previously focussed on updating tables to include at least 10 years of data along with the minimum, maximum and median values for the period from 2004 to the present. With the addition of further records to the 2007 database, we have modified our approach this year. While attempting to provide yearly data for as many years as possible we have attempted to take into account factors relevant to each species to provide as relevant summary as possible. This has resulted in several variations on the annual tables that provide the following in various combinations:

- A summary column for the period 2004-06 (inclusive) i.e. as we continue to update the records for these years, for many species the data currently available we feel are indicative rather than complete. As the amount of data no longer allows for these years to be included separately this intermediate approach has been taken in a number of instances.
- In some cases, median and maximum and/or minimum data are also provided for the period 2004-18.

The above approaches with the summary tables were originally devised to keep the number of pages in the report to a minimum i.e. assuming that most people would print a hard-copy version of the report. More recently we have also tried to standardise table to achieve both an acceptable publication-size and some degree of continuity in the presentation. However, as printing hard-copies may be happening less and less, the desire to keep the number of pages to a minimum is decreasing. So, while we would not wish to see the size of the report increase dramatically, we are also aware that the use of figures rather than tables provides a better summary of the data in many cases. However, this does increase the overall size of the report – which we hope is not more than most readers will find acceptable. We certainly hope that if you have any feedback on this issue that you contact the editors and let them know your thoughts.

Breeding Records

A number of species undoubtedly breed, or attempt to breed on-site, each year, although in most cases there are no data that indicate their success. For the purposes of this report (and those of previous years) we have attempted to separate "possible breeding" from "confirmed breeding" – and have generally only tended to use the latter term wherever possible. Towards this end the following criteria are used to designate "confirmed breeding:"

- Adult seen carrying food and/or faecal sac to/from a nest
- Young birds in the nest
- Adults and newly fledged birds seen together.

In the latter case, the possibility usually exists that these birds may have bred either on-site or just off-site and so this caveat is usually applied to these observations where appropriate.

Corrections and Additions to the Combined 2016 and 2017 Report

Mandarin *Aix galericulata*

The summary table for this species was omitted in the final report and is provided below. The summary statistics are for the period 2003-17 – not 2008-17 as stated in the report.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Min*	Max*	Med*
Days-recorded	5	1	0	0	1	0	1	1	1	7	0	9	1

*Minimum (Min), Maximum (Max) and Median (Med) values are given for the period 2004 – 18.

Black-tailed Godwit *Limosa limosa*

The species summary for this species was omitted from the 2015 report – and was not picked-up in the 2016/17 report. The summary for 2015 is included with the summary for this species in the current report (page 30).

Curlew *Numenius arquata*

The 2017 record for this species was stated to be the 48th for the site – it was in fact the 47th record since the first record on 13th August 1986

Ring-necked Parakeet *Psittacula krameri*

The record of 25 birds on the 30th September 2017 was actually an on-site record although the report failed to notice this fact at the time. The heading in the report should therefore have read:

Ring-necked Parakeet *Psittacula krameri* (5, 9, 25)

Firecrest *Regulus ignicapillus*.

2017. Records for 2017 comprised a bird on the 3rd January and then another seen around Garden Wood on 8th and 9th December (Rupert Evershed). A review of records from Colney Heath has also revealed a bird was trapped and ringed in the area around the Common (Park Corner) on 26th November.

**Sand Martin *Riparia riparia***

Breeding of this species on-site and in the vicinity of Tyttenhanger GPs is probably one of the factors that affects the relative abundance of this species at some times during the year. There have been some errors in previous reports of breeding on site that should be clarified:

- The last records of breeding in the currently accessible parts of the site were in 2002.
- A small colony bred in the Lafarge site in 2014 (40-70 active nests) and 2015 (10 active nests).

Yellow Wagtail *Motacilla flava*

The 2016 report for this species states “*One pair was seen visiting a probable nest site on 11th May and carrying a faecal sac or food on 6th June. However, no juveniles were subsequently seen so breeding is not confirmed*”. However, on the basis of the definitions previously given for confirmed breeding this should more accurately read “*..carrying a faecal sac or food on 6th June confirming the breeding of this species. Breeding success is not assumed however as no juveniles/family parties were subsequently recorded.*”

Marsh Tit *Poecile palustris*

The 2017 report states “A single bird on the 2nd January in with a mixed flock of tits (Dan Fletcher) is the first record since 2010”. This was actually the first record since 2014 - when a single bird was seen on the 12th April.

Contributors and Acknowledgements

This report would not have been possible without the records that observers have made available to the broader birding community and so first thanks must go to them. A large debt of thanks is also due to Tim Hill and Alan Gardiner who made the Tyttenhanger records from the Herts Bird Club database and Birdtrack available to us – without which there would have been many serious “gaps” in the current report. Thanks also to Marcus Brew for permission to use vignette of the Sand Martins (previously the cover illustration for the 1996 and 2004 reports). The cover picture and other graphic images in this report were produced by Peter Christian; photographs are individually acknowledged.

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David Booth	Dan Fletcher	Calum Mckellar	Simon West
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The above lists were constructed from the records obtained through the Herts Bird Club – both from their own website and from Birdtrack. Apologies if you submitted records for 2018 and your name doesn't appear on the above list - but please let us know so we can make sure it doesn't happen in the future.

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SYSTEMATIC LIST

Mute Swan *Cygnus olor* (5, 15, 56)

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

There were two broods in May/June (4 and 5 young) and another two in July/August, (4 and 4 young) – with a total of 17 young produced on-site, making this the best breeding season on record for the site – although it is not recorded how many of those young made it through to fledging. There were also twenty-six double figure counts for the year (17 in 2017 and 3 in 2016) and the maximum count was of 18 birds on the 10th November. Monthly maxima were generally above the long-term (2004-2018) median, which all-in-all adds up to a very good year for this species. A summary of monthly maxima data from the last 15 years is shown in the table below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2018	10	7	9	12	10*	12*	16*	11	14	16	18	16
Median 2004-18	10	6	6	6	9	9	8	8	10	12	10	13
Maximum 2004-18	18	23	12	12	18	14	16	14	20	24	28	26
Minimum 2004-18	3	2	4	3	5	6	3	5	3	4	4	2

* Includes young birds

Greylag Goose *Anser anser* (5, 15, 70)

Birds of presumed feral origin have become frequent visitors in the recent past.

Records for this species have been problematic in the recent past, with counts for the resident white domestic geese sometimes included with those for this species however, the data appear to be much “cleaner” and easier to interpret this year. Nevertheless, while we still encourage counts for both “wild-type” and white geese on site we’d be grateful if observers could continue to differentiate between the two when submitting records.

While the numbers for this year continued the good run of the recent past, there were only nine counts of 30 or more birds (24 in 2017) – 5 in January/February one in September and 3 in December - and overall numbers were slightly down on 2017 with no evidence of breeding. A summary of monthly maxima data for the period 2008-2018 are presented below (Figure 2 A) along with a plot of days-recorded for the period 2004-18 (Figure 2B).

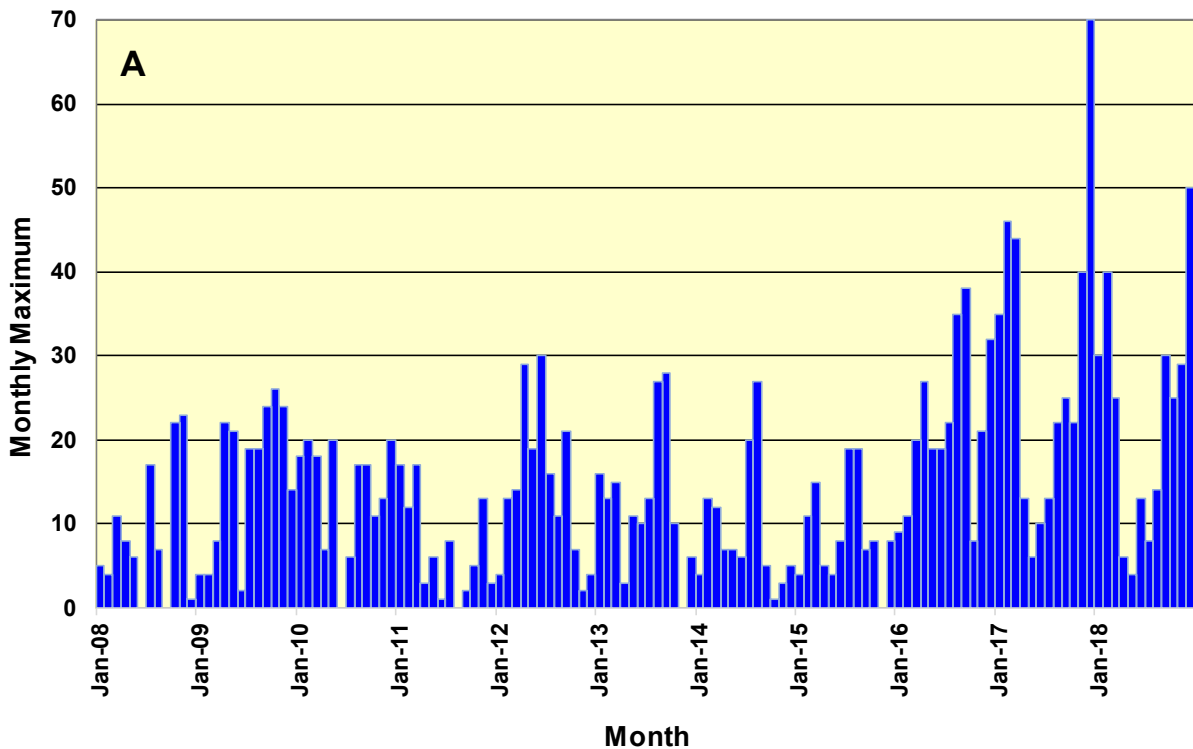
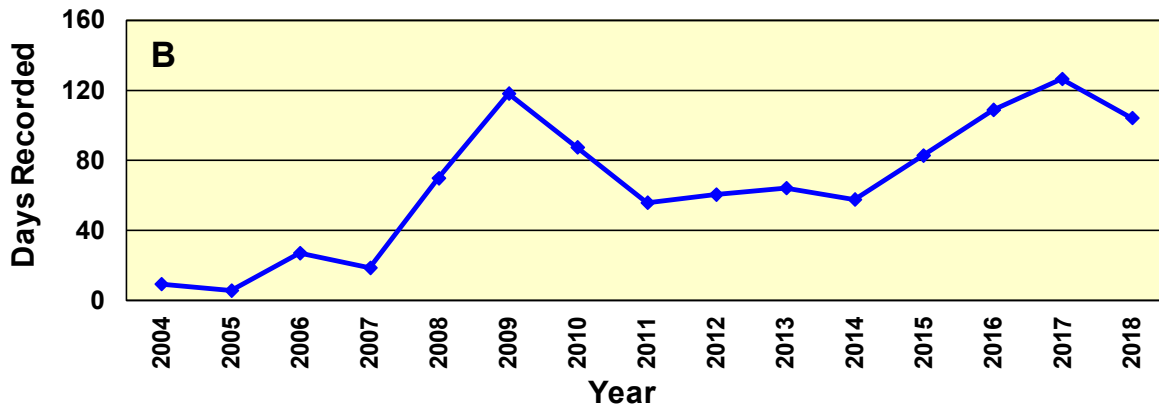


Figure 2. A. Summary of monthly maxima data for the period 2008-2018 (shown above). B. A Plot of days-recorded for the years 2004-18 (on following page).



Barnacle Goose *Branta leucopsis* (5, 11, 12)

Frequent visitor with birds probably coming from the Category C population in Bedfordshire.

Following on from last year's excellent numbers, this year was more of a return to "normal" for this species – albeit was still the third best year for the period 2004-18. Most of the reports for the year refer to a single bird that was seen on twenty-eight dates from the 5th January until 5th May – with two birds being present on the 13th April. Presumably most of these reports relate to the same bird which was present from 2nd June 2017 through until the end of the year? Days-recorded for the period 2004-18 is shown below along with the respective summary data for the period 2004-2018.

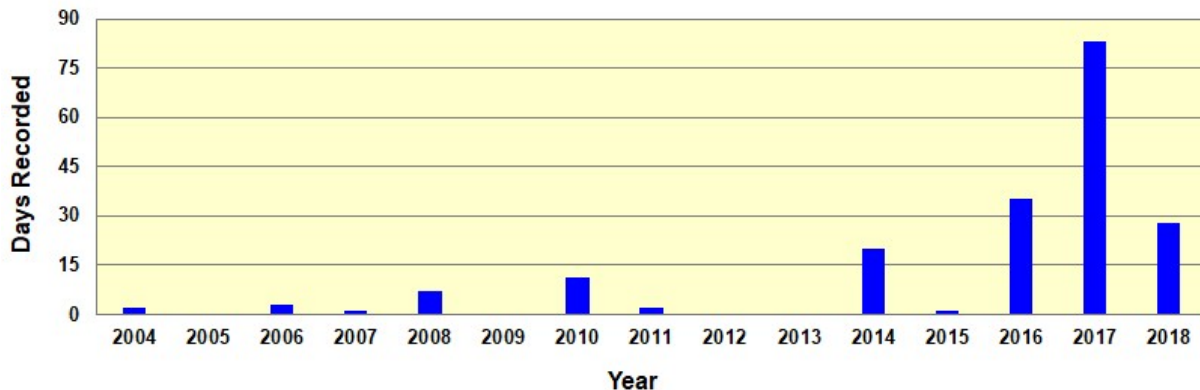


Figure 3. Graphic summary of days-recorded for Barnacle Goose (*Branta leucopsis*) in each year for the period 2004-2018.

Canada Goose *Branta canadensis* (5, 15, 449)

Common throughout the year with large moulting flocks present in the autumn. Usually breeds on site.

This was a poor year for breeding with just two broods of seven young noted in May (6 broods in 2017) and overall numbers were generally down on the last couple of years – especially during the peak August/September window. Nevertheless, February did produce a record count for that month (150 birds on 7th February) and maximum numbers in most other months were close to, or slightly above, the long-term (2004-18) medians. A summary of monthly maxima data from 2018 and from the last 15 years is summarised in the table below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2018	80	150	45	21	48	60	70	200	200	90	98	125
Median 2004-18	65	53	49	19	42	47	65	200	230	90	63	51
Maximum 2004-18	180	150	76	44	62	82	100	449	400	315	250	150

Egyptian Goose *Alopochen aegyptiacus* (5, 13; 10)

Infrequent visitor, becoming more regular.

This was the best year on record for this species, with 90 days-recorded – most of which (57 days) comprised counts of (presumably) the same two birds (see below). While most records involved two birds there was one count of 8 birds (2nd September) and 8 counts of 4 or more birds for a total of 205 bird-days. The previous best for days-recorded and bird-days was 2010 with 41 and 81 respectively. A plot showing the distribution of records through the year is shown below (Figure 4A) along with a summary of days-recorded for the period 2004-18 (Figure 4B).

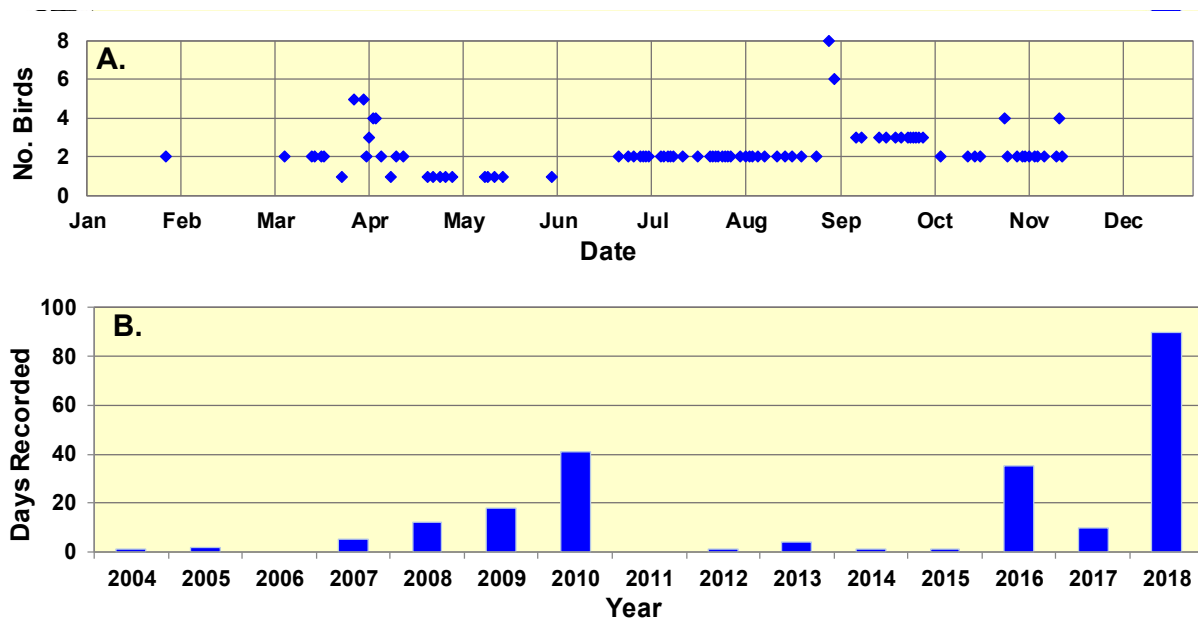


Figure 4. **A.** Plot showing the number of birds present for Egyptian Goose *Alopochen aegyptiacus*, against date for 2018. First record of the year was on the 27th January and the last on 18th November. **B.** Summary of days-recorded for Egyptian Goose *Alopochen aegyptiacus* for the period 2004-18.

Mandarin *Aix galericulata* (5, 10, 4)

Irregular visitor, becoming more regular.

With a total of 8 days-recorded and 9 bird-days, this is the best year for this species in the period 2004-18 with records that involved at least two birds and possibly up to six. Records were as follows; two (unsexed) were present on 11th February, then a single drake on the 13th April and then another bird (no sex given) on 24th May (possibly a different bird). A drake was then seen below the high view point on 27th and 28th May before a female appeared on 10th June in the same area as the drake two weeks earlier. Finally, a female was seen on 2nd and 3rd July. This is the best year we have on record for this species in the period 2004-2018. A summary of days-recorded for the period 2004-2018 is shown in Figure 5.

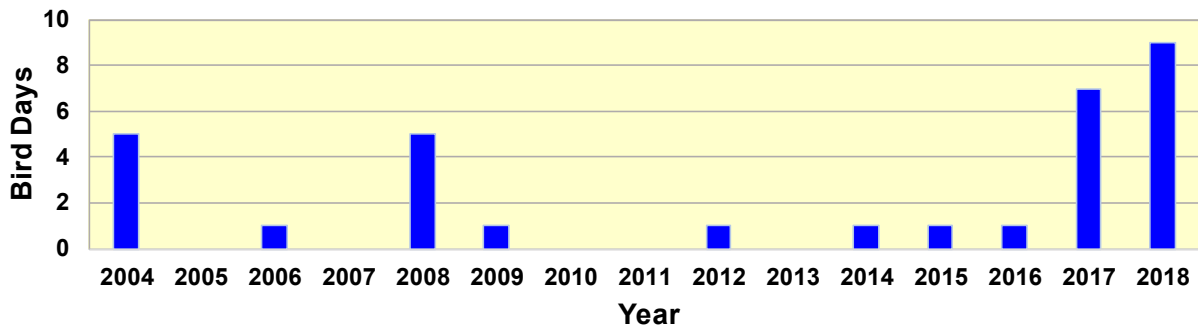


Figure 5. Summary of days-recorded in the period 2004-18 for Mandarin *Aix galericulata*.

Shelduck *Tadorna tadorna* (5,15, 12)

Regular visitor in small numbers. Has bred in the past and the presence of pairs during the breeding season indicates it may breed again either on-site or close by.

Another very poor year for this species with just a single record that involved a pair on 8th May (Steve Blake). A summary of days-recorded and bird-days for the last 10 years is shown below along with the respective summary statistics for the period 2004-2018.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Min*	Max*	Med*
Days-rec.	74	86	93	50	52	9	9	26	14	9	1	1	93	27
Bird-days	175	198	184	59	81	11	11	37	35	9	2	2	195	42

*Minimum (Min), Maximum (Max) and Median (Med) values are given for the period 2004 – 18.

Gadwall *Anas strepera* (5, 15, 117)

Recorded all year around, but is breeding infrequent.

While the only breeding-related record for the year was of courtship and display between a pair on the 15th April, the year continued the amazing upward trajectory for this species observed in 2017. The early part of the year saw monthly maxima records set in January, February, March and April, and while numbers were slightly below recorded values from May to July, numbers were again at record (September) or close to them in the period August to December. Summaries of the monthly maximum data for the period 2004-18 are presented in the table below and in Figure 6.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2018	42	64	61	50	8	30	40	60	100	110	80	63
Median 2004-18	13	14	16	9	7	14	11	19	12	12	9	14
Maximum 2004-18	42	64	61	50	14	52	75	62	100	117	107	66
Minimum 2004-18	6	8	4	5	3	4	1	1	5	0	3	6

* Includes young birds. Monthly maxima records from 2018 are highlighted

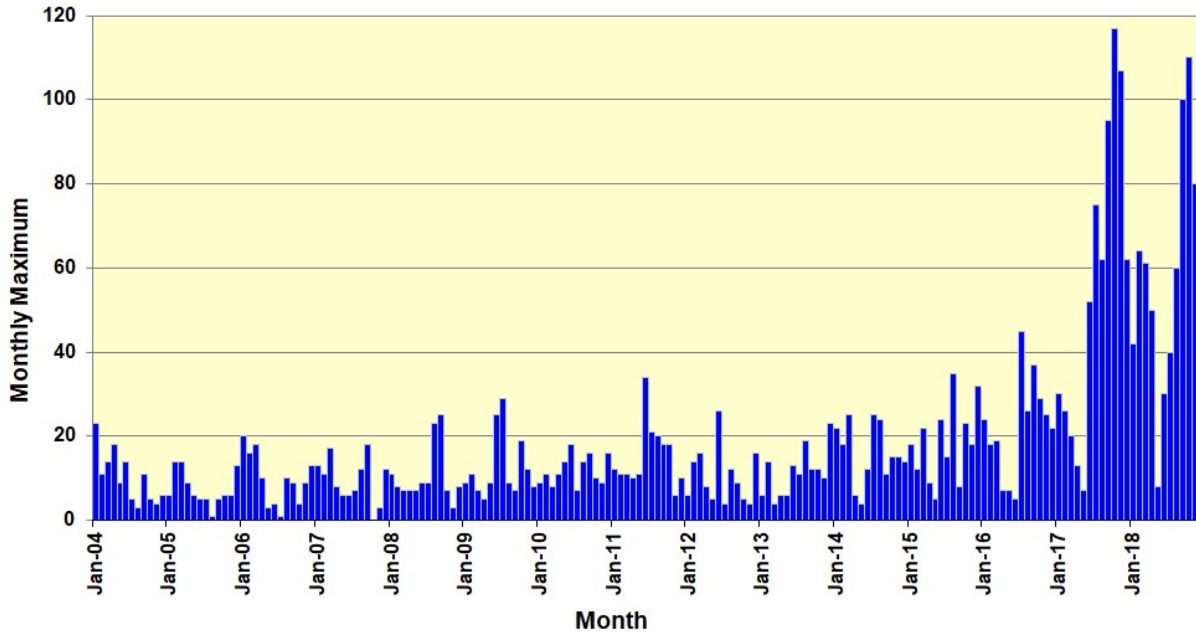


Figure 6. Summary of monthly maxima for Gadwall *Anas strepera* during the period 2004-2018.

Mallard *Anas platyrhynchos* (5, 15, 250)

Common breeding resident present throughout the year. Birds were also released for wildfowling in the past.

Another poor breeding season for this species with just three broods (4, 7 and 10 young) noted across the site in May/June. Overall numbers were also low with no count of 100 or more birds made throughout the year and a maximum count of just 71 birds on the 9th December. Summary breeding data from the last 14 years are shown in the table below, along with the summary monthly maximum data for the period 2004-18 in the table below that.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
No.Broods	2	15	6	7	10	10	9	2	6	7	4	1	4	3

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Maximum 2018	44	20	12	22	21	40	50	50	45	62	63	71
Median 2004-2018*	60	50	29	34	55	59	40	67	72	80	78	96
Maximum 2004-2018*	168	101	83	81	92	128	105	193	250	152	146	165

*Median and Maximum of the monthly maximum for the period 2004-18.

Teal *Anas crecca* (5, 15, 120)

Frequent visitor and passage migrant. Highest numbers usually observed in the first winter period/early spring.

As with other dabbling ducks at Tyttenhanger, the numbers just keep rising and rising for this species with 134 days-recorded, 3211 bird-days, 87 counts of 10 or more birds and a maximum for the year of 120 birds on 10th February – which is also a new site record (Andrew Steele). Maximum counts for the months of January and April were also recorded in this year, highlighting the upward trend in numbers for this species.

A summary of monthly maximum data for 2018 and summary statistics for the period 2004-18 are shown in the table below and presented graphically in Figure 7.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2018	76	120	54	50	2	5	6	25	26	62	88	90
Median 2004-18	25	21	26	10	1	1	2	8	16	10	15	23
Maximum 2004-18	76	120	62	50	3	5	6	25	34	62	88	90
Minimum 2004-18	2	8	4	2	0	0	0	4	6	3	7	3

Monthly maxima records set in 2018 are highlighted

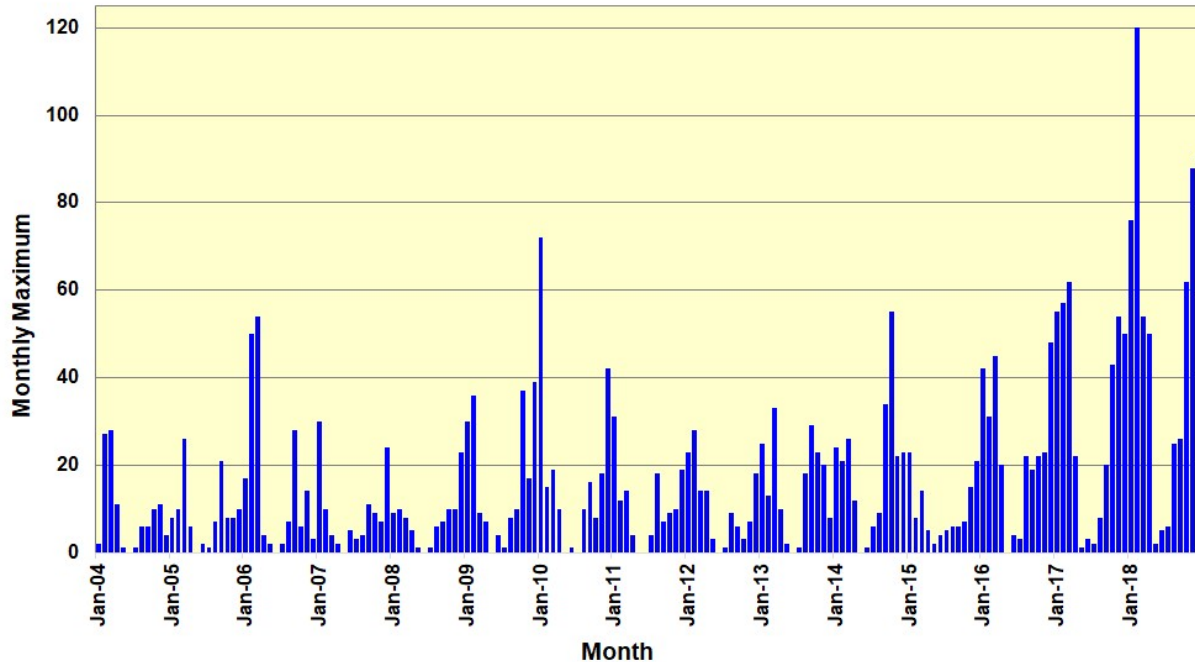


Figure 7. Summary of monthly maxima for Teal during the period 2004-2018.

Wigeon *Anas penelope* (5, 15, 77)

Usually occurs through the winter months in small numbers with additional passage migrants in spring and autumn.

Ultimately a good year for this species after what was a very unusual start to the year with just 3 days-recorded up until the 26th March (the last spring record). Nevertheless, a count of 44 birds was made on the 7th January which was the maximum count for the year and also a record for the period 2004-18. Birds were then absent until 4th September, after which, birds were recorded on a further 71 days!. Monthly maxima data from 2018 and summary statistics from the last 15 years are presented in the table below. Data for days-recorded in the period 2004-18 are shown in Figure 8.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2018	44	0	4	0	0	0	0	0	14	21	12	2
Median 2004-18	4	2	2	0	0	0	0	0	6	7	4	5
Maximum 2004-18	44	7	6	2	3	6	6	5	16	21	12	33
No. Years Recorded	13	11	12	3	3	2	1	4	14	15	15	15

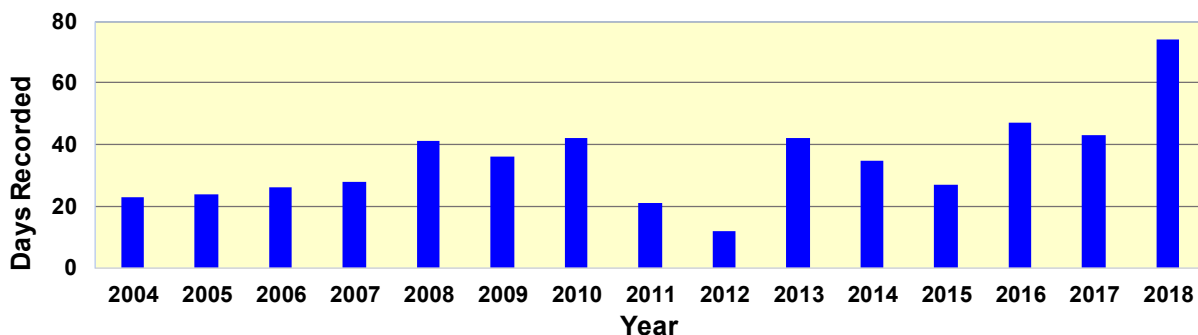


Figure 8. Summary of days-recorded for the period 2004-18 for Wigeon *Anas penelope*

Shoveler *Anas clypeata* (5, 15, 62)

Commonly encountered spring migrant and winter visitor that may occasionally breed.

Numbers were very similar this year to 2017 with 102 days-recorded (109 in 2017), a total of 1628 bird-days (1652 in 2017), a maximum count of 53 birds on the 26th February (62 in January 2017) and 61 counts of 10 or more birds (62 in 2017).

A summary of data from 2008-18 along with summary statistics from the period 2004-18 are shown in the table below. A plot of the monthly maxima for the period 2004-2018 is shown in Figure 9.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Min*	Max*	Med*
Days-rec.	115	89	71	57	59	72	103	103	108	109	102	21	115	83
Bird-days	315	214	245	134	343	763	624	452	1164	1652	1628	64	1652	317
Maximum	17	14	13	6	24	54	28	18	61	62	53	6	62	17
No ≥ 10⁽¹⁾	3	3	3	0	12	25	24	9	40	62	61	0	62	7
Ave Count	2.8	2.4	3.5	2.3	5.8	10.6	6.1	4.4	10.8	15.2	16.0	2.3	16.0	3.5

*Minimum (Min), Maximum (Max) and Median (Med) values are given for the period 2004–18. ⁽¹⁾ Number of counts of ≥10 birds

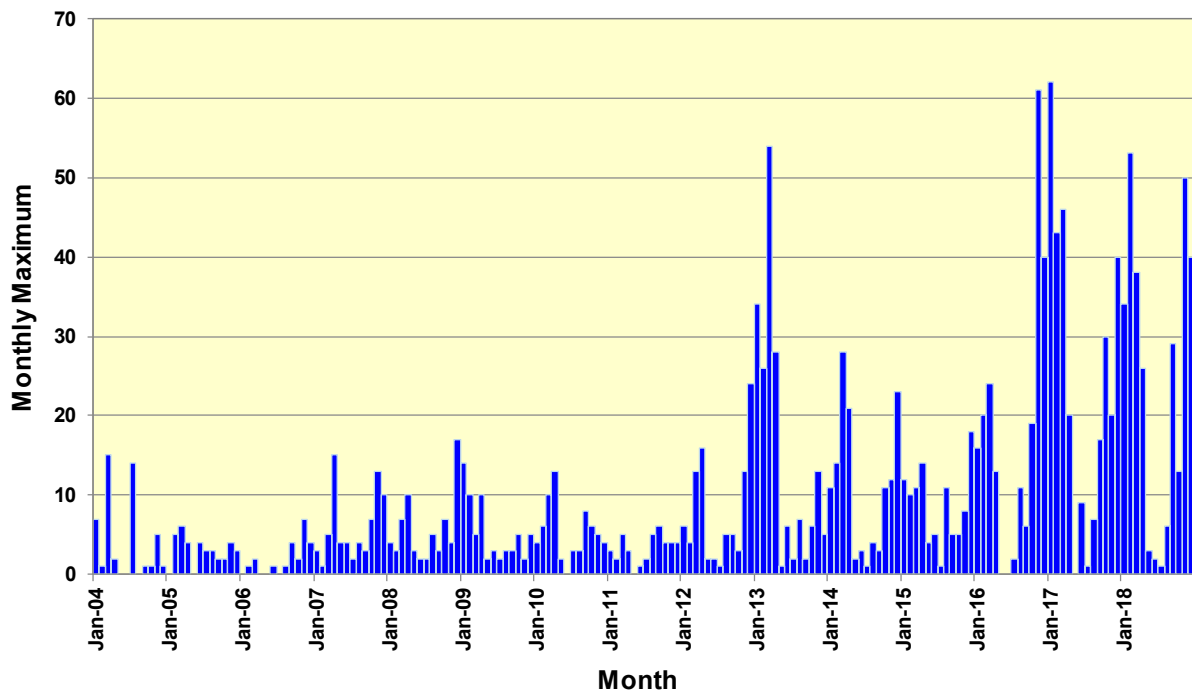


Figure 9. Summary of monthly maxima for Shoveler *Anas clypeata* during the period 2004-2018.

Pochard *Aythya farina* (5, 15, 132)

Reasonably common winter visitor.

An average year for this species; reported in eleven months (no records in May) with 86 days-recorded, a total 522 bird-days and a maximum count of 16 birds on 11th February. The only notable counts this year were of 15 birds on the 2nd and 8th September – both counts being records for this month in the period 2004-18. A summary of days-recorded, bird-days and maximum counts from the last 11 years is shown below along with the respective medians for the period 2004-18.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Min*	Max*	Med*
Days-rec.	162	112	94	84	53	47	70	62	115	103	86	10	162	83
Bird-days	885	373	376	312	171	126	216	204	356	408	522	35	885	312
Maximum	31	19	20	27	12	18	11	15	20	20	16	10	31	19

*Minimum (Min), Maximum (Max) and Median (Med) values are given for the period 2004–18.

Tufted Duck *Aythya fuligula* (5, 15, 95)

Relatively common species that breeds in some years.

Another breeding-year for this species, with three broods of young noted on 4th August of 5, 6 and 2– a summary of breeding seasons since 2004 is shown below.

Number of Broods														
2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
0	0	0	4	4	1	0	2	2	3	2	0	2	6	3

Breeding aside, monthly maxima were generally a little above, or close to, the long-term (2004-18) median values for most months of the year as shown in the table below. The best count for the year was of 65 birds on the 17th February with the only other notable count being the 46 birds on 3rd November – which was a record count for this month. A summary of monthly maximum data for 2018 and summary statistics for the period 2004-18 are shown in the table below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Maximum 2018	40	65	39	41	9	7	31	23	30	21	46	48
Median 2004-2018**	40	44	37	32	16	11	16	16	14	17	25	26
Maximum 2004-2018**	59	74	54	47	33	30	41	38	34	50	46	70

* Includes young birds; **Median and maximum values of the monthly maxima for the period 2004-18.

Red-crested Pochard *Netta rufina* (2, 6, 5)

Irregular visitor

Two female-type birds were reported on 28th September and then a pair were noted on 4th November. A female was then present on the back of the main lake from the 9th November until 21st November – the first time a bird has stayed for more than just a day. These were the 9th, 10th and 11th records for the site.



Male Red-breasted Merganser *Mergus serrator* – a first for Tyttenhanger on 17th November 2018. Photo courtesy Steve Blake

Red-breasted Merganser *Mergus serrator* (1, 1, 1)

Vagrant.

A male was found on the main pit early on the morning of the 17th November but unfortunately didn't linger for long and was seen to fly off at 09.15 am (Ricky Flesher and Steve Blake). Maybe a little surprisingly, this is the first record for the site and so a full story from the finder can be found on page 58.

Goosander *Mergus merganser* (4, 12, 9)

Regular visitor with one or two records in most winters.

After last year when there were 18 days-recorded, we had to wait until 14.45pm on 2nd November to notch-up the only record for the year. This is one of the least predictable of the regular winter visitors as shown in Figure 10 which summarises the data for days-recorded and bird- days for the period 2004-18.

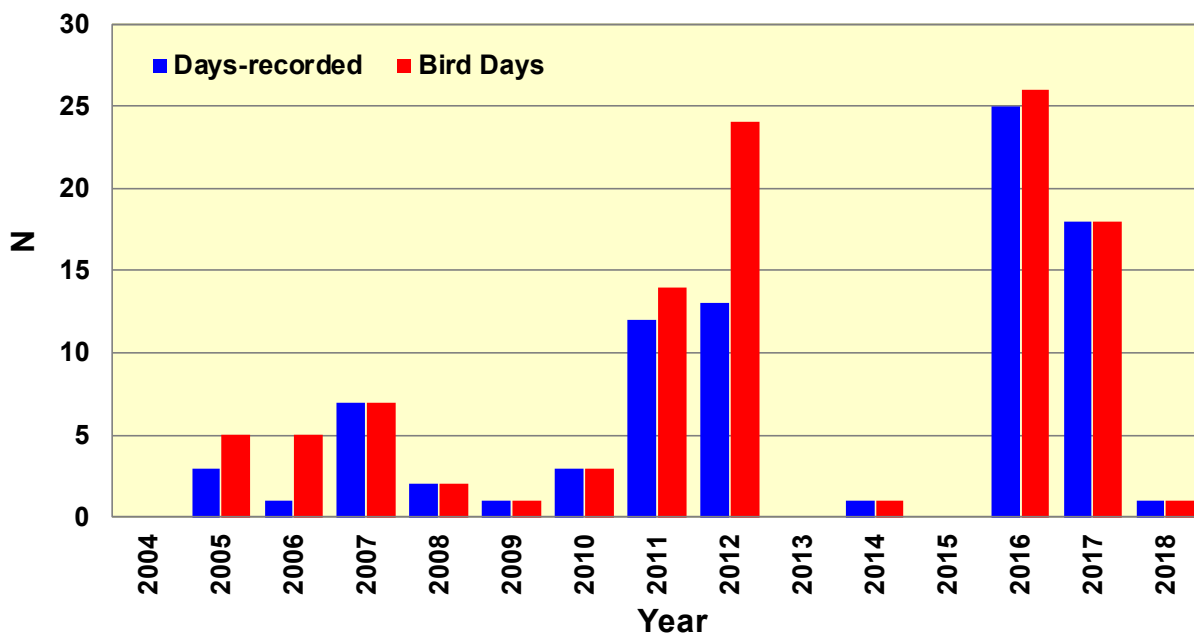


Figure 10. Summary of days-recorded and bird- days for the period 2004-18 for Goosander *Mergus merganser*.

Common Scoter *Melanitta nigra* (1, 1, 1)*Vagrant.*

A male was found on the main pit at 07.15 am on 8th April (Ricky Flesher) and was seen through the day until last reported at 17.15 pm. This is only the second record for the site after a female-type was present between 2nd May and 7th May 2000. The fact that this year's bird was around for much of the day enabled a lot of the regulars to catch up with this tricky species – previously a major blocker for the finder!

It is noted that this bird appeared as part of an influx into the county on this day when there were 9 birds at Hilfield Park Reservoir (5 males and 3 females joining a 1w male that had overwintered) and 5 birds at Stanstead Abbots Lake (3 males and 2 female). Hopefully it won't be another 19 years before this species turns up again – but don't be surprised if it is!



Male Common Scoter *Melanitta nigra*, found on the 8th April 2018. Photo Courtesy Andrew Steele.

Grey Partridge *Perdix perdix* (2, 9; 17)*Uncommon visitor.*

Just a single record of one bird on the 4th April – very typical of the recent past. A summary of records spanning the period 2004 to 2018 are provided in the Figure below.

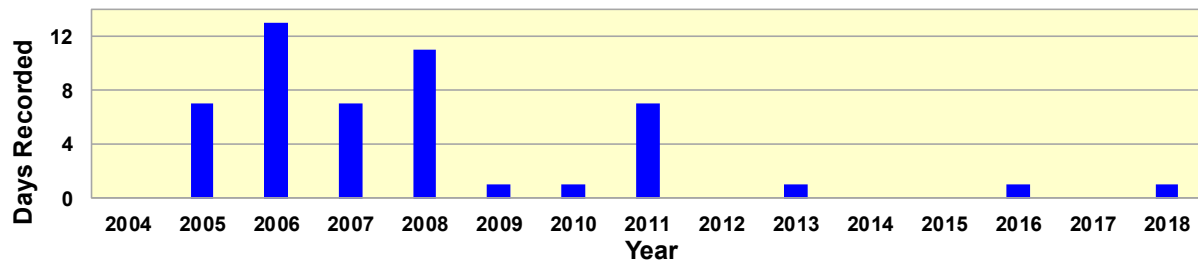


Figure 11. Days-recorded for Grey Partridge *Perdix perdix* for the period 2004-18.

Red-legged Partridge *Alectoris rufa* (5, 15, 200)*Resident, previously supplemented by released birds from Tyttenhanger Farm; appears to be declining locally.*

A very bad year for this species with only four bird-days (42 in 2017, 28 in 2016) from 4 days-recorded i.e singles on 19th January, 3rd April, 4th April and 28th April. A summary of maximum counts, days-recorded, number of records are shown in the table below. Also included in the table are the number of records that only indicate the species is "Present" i.e. no count made, and the proportion that these represent of the total number of records. The above data are shown for the period 2008-18.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Max. Count	50	50	70	71	44	6	10	9	3	2	1
Days-recorded	122	98	45	62	26	32	30	22	12	34	4
No. Records	138	105	48	65	34	37	32	22	13	35	4
"Present"	79	50	9	24	11	4	1	0	0	1	0
% "Present"	57.2	47.6	18.8	36.9	32.4	10.8	3.1	0.0	0.0	2.9	0.0

It now looks like the apparent resurgence of the species in 2017 was an aberration and that this species is continuing the steady decline that has been noted since the release of captive bred birds stopped in 2010. However, what makes this decline more interesting is the fact that birds are still being reported over the road at Coursers Farm and Colney Heath. In the case of the former, 2018 produced a total of 9 days-recorded (18 bird-days and maximum count of 7 birds) – which taking into account the relative number of records from the two sites represented a 55-fold greater reporting rate than at Tyttenhanger.

Pheasant *Phasianus colchicus* (5, 14, 50)*Resident, previously supplemented by released birds from Tyttenhanger Farm; appears to be declining*

Only reported in nine months of the year and in very small numbers, the maximum for the year was of three birds on the 24th March and 10th October. There were 26 days-recorded this year (25 in 2017 and 46 in 2016). A summary of maximum

counts from the last 10 years is shown below along with the respective medians for the period 2004-18.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Min*	Max*	Med*
Maximum	12	13	15	20	17	10	7	4	8	4	3	3	50	13

*Minimum (Min), Maximum (Max) and Median (Med) values are given for the period 2004 – 18.

Great Crested Grebe *Podiceps cristatus* (5; 15, 46)

Present throughout the year with small numbers of pairs breeding.

A slightly better breeding season this year with two broods of 2 and 4 young reported on 21st July and 2nd September respectively. The maximum for the year was of 37 birds on 26th November. A summary of monthly maximum data are shown in the table below along with median and maximum data for the period 2004-18; breeding data for the same period are summarised in Figure 12.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Maximum 2018	12	22	16	8	9	6	6	8	10	16	37	33
Median 2004-2018**	12	15	19	19	18	14	14	18	18	19	21	18
Maximum 2004-2018**	27	22	38	30	39	27	32	29	23	29	37	33

* Includes young birds; **Median and maximum values of the monthly maxima for the period 2004-18.

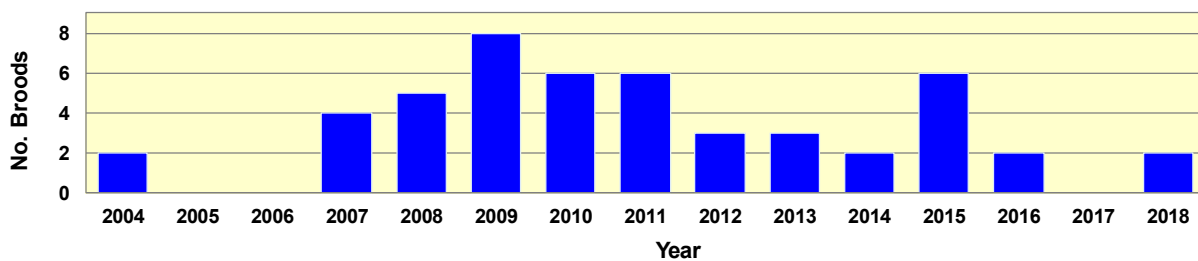


Figure 12. Breeding (number of broods per year) for Great Crested Grebe *Podiceps cristatus* in the period 2004-18.

Little Grebe *Tachybaptus ruficollis* (5; 15, 16)

Infrequent breeding species, present throughout much of the year although often absent in the winter months.

A relatively good year for this species with 48 days-recorded (29 in 2016 and 42 in 2017) with thirteen counts of two birds and two counts of three birds (19th January and 15th September) - to give a total of 65 bird-days. There was no breeding again this year and this species last bred in 2013. Data for days-recorded and bird-days for the period 2004-18 are shown in the figure below.

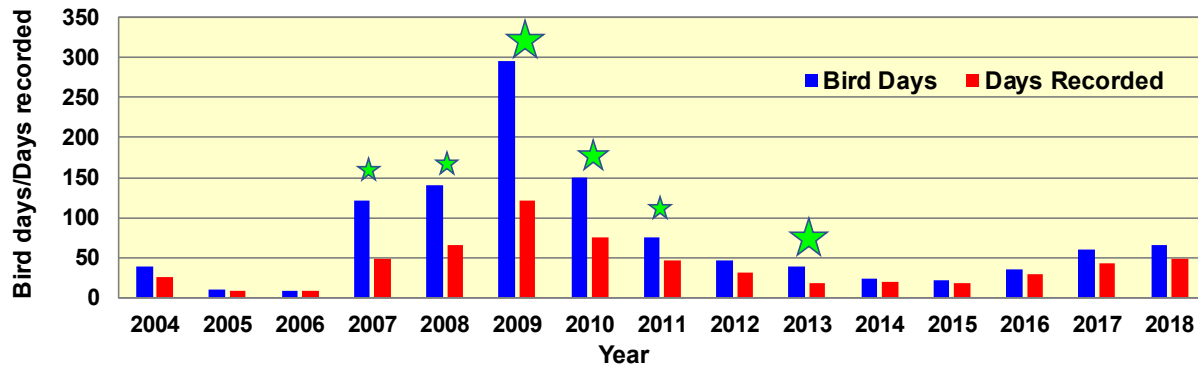


Figure 13. Summary of bird-days and days-recorded for Little Grebe *Tachybaptus ruficollis* for the period 2004-18. Those years in which breeding was recorded are indicated by the green stars; the size of the stars is in proportion to the number of recorded broods (numbers ranged from 1-3 broods).

Cormorant *Phalacrocorax carbo* (5; 15, 94)

A common winter visitor with birds present through much of the year.

A typical pattern of occurrence, with numbers being greatest in the winter periods and lower in the summer months. However, overall numbers were down this year with maximum counts for the year of just 25 birds in both January and December. This is the first year since 2014 that there have been no counts over 25 birds A summary of maxima data for the period 2004-2018 is shown in the table below.

A summary of monthly maxima data for the period 2004-18 is shown in the table below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Maximum 2018	25	22	8	15	4	8	1	4	20	8	17	25
Median 2004-2018*	21	16	13	10	4	4	4	6	7	8	22	25
Maximum 2004-2018*	75	62	34	25	10	9	11	20	20	35	70	91

*Median and maximum values of the monthly maxima for the period 2004-18.

Spoonbill *Platalea leucorodia* (1, 1, 1)

Rare visitor.

A first 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 (Steve Blake). The bird stayed until just 10.08 am when it flew off high to the SW. Elsewhere in Hertfordshire this year there were 5 days-recorded in the Lea Valley (Amwell and Rye Meads) in May/June – all considered to be the same bird and the 13th record for the County (HNHS, 2018, p101). The full story of the finding of this bird can be found on page 57.



A first for Tyttenhanger – a Spoonbill Platalea leucorodia – found on the 22nd May 2018. Photo courtesy Steve Blake.

Grey Heron *Ardea cinerea* (5, 14, 26)

Present throughout the year with numbers generally on the increase as a result of the small breeding colony that has recently established.

There were 10 nests occupied again this year – the same number as in 2016 and 2017. Breeding aside the monthly maxima this year were generally above the long term (2004-18) median- with January producing the best count for that month in the period 2004-18 (15 on the 25th January). The latter was also the best count for the year being matched by counts of 15 on the 11th March, 2nd June and 16th June. A summary of monthly maxima data from the period 2004 – 2018 is shown below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Maximum 2018	15	12	15	13	14	15	8	6	9	8	8	7
Median 2004-2018*	8	6	6	7	7	9	6	8	9	5	6	7
Maximum 2004-2018*	15	19	20	14	16	16	20	26	23	18	8	12

* Includes young birds; **Median and maximum values of the monthly maxima for the period 2004-18.

Little Egret *Egretta garzetta* (5, 15; 24)

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

The status and patterns of occurrence of this species on site, continues to be of a moving feast as demonstrated by the following table of bird-days by month – in which the best three months for each period are highlighted.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2004-14	17	28	40	18	10	22	76	91	42	29	16	29	418
2015	10	8	22	17	12	3	31	58	18	9	6	68	262
2016	42	15	22	21	3	4	49	62	51	31	123	193	616
2017	138	48	20	2	5	36	22	22	12	225	193	66	789
2018	44	16	8	4	5	26	110	72	100	79	42	24	530

Overlay on the above that although there were only two double figure counts this year (30 in 2017), days-recorded were a new site record (204 – the previous record was 195 in 2016) but bird-days were the lowest since 2015 and it seems the picture is even more confused. However, when the data are inspected more closely it is clear that the period November 2016 - January 2017 and October – November 2017 both have clusters of significant counts i.e. ≥ 9 – as shown in Figure 14. Finally, the maximum for the year was of 11 birds on 25th July and again there was no breeding noted on site ... although we continue to remain hopeful as this species appears to have established itself in other parts of Hertfordshire³. The following table provides a summary of days-recorded and bird-days for the years 2005-18.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-rec.	7	5	2	29	12	20	30	51	84	74	140	195	171	204
Bird-days	8	7	2	40	12	33	48	58	105	88	262	616	789	530

³ The Herts Bird Report for 2018 indicates that a total of 22 occupied nests were recorded from Amwell, Stanborough Lakes, Stockers Lake Wilstone Res and Verulamium Park. The proximity of the latter can only indicate it is a matter of time before they come to breed at Tyttenhanger?

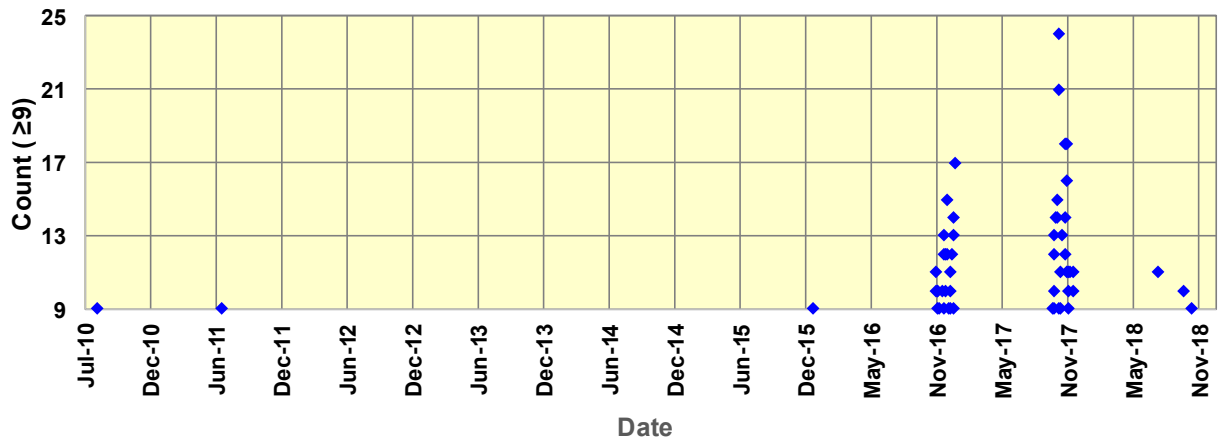


Figure 14. Distribution of Significant counts (≥ 9) of Little Egret *Egretta garzetta* plotted against date. The first count of ≥ 9 was made on the 6th August 2010.

Great White Egret *Ardea alba* (2, 2, 2)

Rare visitor; first recorded in 2013.

The irruptive pattern for this species continued on from the phenomenal 2017 to produce 3 days-recorded for the year. First record for the year was of a bird flying over on the 17th April, A bird was found at 2.30 pm on the 4th November – leaving shortly thereafter at 3.00 pm and then the last record of the year (from Birdguides). was of a single bird on the 27th November.

Osprey *Pandion haliaetus* (4, 12, 1)

Regular passage migrant

A single bird reported by several observers on the 18th November – a very late date for this species – and unsurprisingly the first ever November record for the site. This is the 27th record for the site since the first in 1988.



Osprey Pandion haliaetus seen flying over on the 18th November 2018. Photo courtesy of Ricky Flesher.

Red Kite *Milvus milvus* (5, 15, 6)

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

A very similar year to the past 6 years – indicating a very Stable population after the rapid population rise in the period 2004-13. Overall, there were totals of 109 days-recorded for a total of 164 bird-days and a maximum count of three birds on a number of dates scattered through the year. The reporting frequency this year was 51.4% (recorded on 36 dates from a total of 70 days-visited by one regular observer).

A summary of the recording frequency during the period 2004-2018 for this and the other common birds of prey on-site is shown in Figure 15 and data for days-recorded and bird-days in the period 2006-2018 is shown below.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-rec.	9	7	5	13	36	78	95	138	143	121	114	120	109
Bird-days	9	7	6	14	45	97	149	180	194	165	147	190	164

Buzzard *Buteo buteo* (5, 15, 10)

Local resident becoming increasingly more common in Hertfordshire and more frequently observed at Tyttenhanger.

In many respects little appears to have changed in the status of this species over the last several years i.e. being recorded on 98 days (mean for the previous 5 years – 2013-17 – was 98.6 days) for a total of 198 bird-days – (mean for the previous 5 years was 220.6 bird-days). However, the maximum count for the year was just 6 birds on the 5th April and the reporting frequency for the year dropped from over 45% in the past 5 years to 34.3% this year (recorded on 24 dates from a total of 70 days-visited by one regular observer – see Figure 15). Notwithstanding this possible “dip” in relative abundance this species is still a regular occurrence on-site and appears to be doing well.

A summary of the recording frequency during the period 2004-2017 for this and the other common birds of prey on-site is shown in Figure 15.

Hen Harrier *Circus pygargus* (1, 1, 1)*Rare visitor.*

A first for Tyttenhanger when a ringtail was first seen over Courser Road GPs on the 28th October being mobbed by a Red Kite. It dropped down briefly, was evicted by Carrion Crows and was then seen to fly over Willow's Farm (Rupert Pyrah). A full version of the story can be found on page 58.

Marsh Harrier *Circus aeruginosus* (3, 8, 1)*Irregular visitor; first recorded in 1991.*

A female heading south over the main pit on 16th April (Steve Blake et al). This is the 16th record for the site. A summary of data is shown in the table below. A summary by-month, of all records is shown in the table below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days-Recorded	0	0	0	3	5	0	1	5	2	0	0	0

Sparrowhawk *Accipiter nisus* (5, 15, 4)*Present throughout the year. Undoubtedly breeds locally but usually not confirmed.*

The reporting frequency for this species appears to have taken one of its frequent dips this year i.e. see Figure 15, with a frequency of just 15.7% (recorded on 11 dates from a total of 70 days-visited by one regular observer). The relative scarcity of this species in the current year is also indicated by the observation that the maximum count for the year was of two birds on 18th November and that there was just the single count of more than one bird for the year. Those years with the lowest recording frequencies i.e. 2009, 2013 and 2018 invariably seem to show a low numbers of days-recorded with maximum counts of more than a single bird, suggesting that recording frequency is a relatively good measure of overall abundance i.e. the toughs observed are believable and reflect a lower abundance of the species on-site in that year. However, why the latter is the case is still somewhat of a mystery.

A summary of the recording frequency during the period 2004-2018 for this and the other common birds of prey on-site is shown in Figure 15.

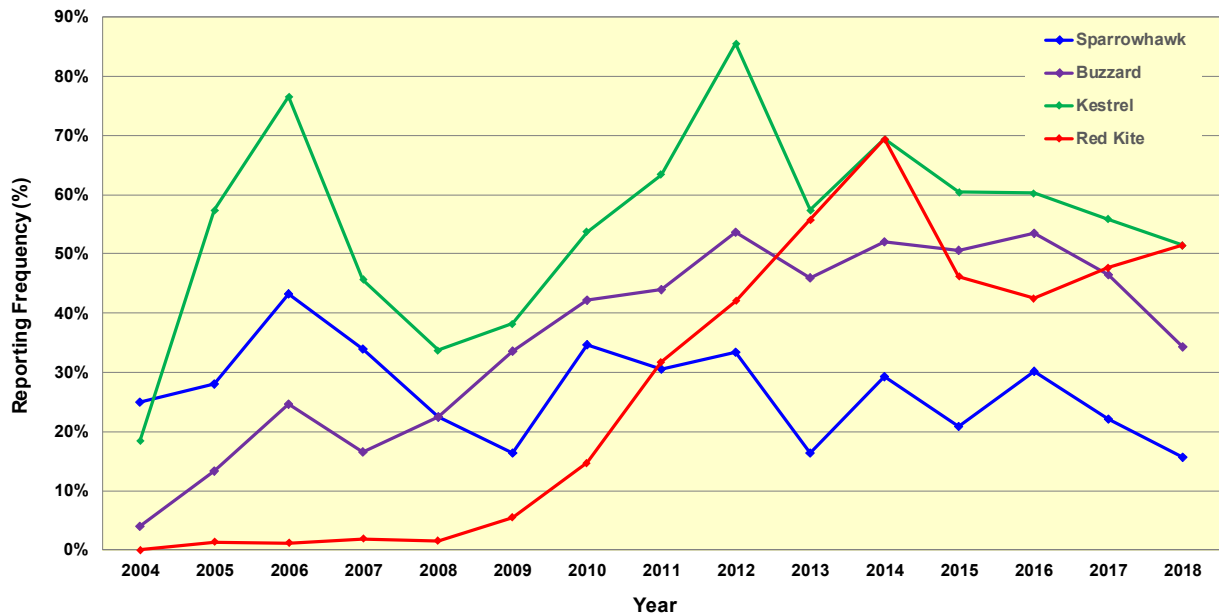


Figure 15. Summary of recording frequency for the more common birds of prey at Tyttenhanger during the period 2004-2018. Recording frequency is calculated from data generated by a single observer for each species-year combination and is based on the number of days-recorded for the year as a percentage of the number of visits. Note only single observer records have been used where the observer is known to record all sightings of the species involved.

Kestrel *Falco tinnunculus* (5, 15, 5)*Birds of both sexes present throughout the year. Undoubtedly breeds locally but usually not confirmed.*

Birds were noted visiting a probable nest site in March, but there was no further evidence of breeding noted after this date. Nevertheless, breeding was reported at Courser's Road GPs on 27th August, possibly indicating that birds moved over the road after the initial observation made at Tyttenhanger. Breeding aside, recording frequency was again above 50% i.e. 51.4% (recorded on 36 dates from a total of 70 days-visited by one regular observer) and counts of 3 birds were made on 16th March, 2nd July and 10th and 30th October. A summary of the on-site recording frequency for the period 2004 – 2018, for this and the three other common birds of prey, is shown in Figure 6.

Hobby *Falco subbuteo* (5, 15, 5)

Passage migrant and summer visitor.

A very good year for this species with the first bird seen on the 29th April (2004-18 median - 30th April), 54 days-recorded (for a total of 97 bird-days) and a maximum count of five birds on 30th August. Breeding activity was reported from Garden Wood in mid-June with a juvenile first noted on 23rd August with subsequent reports of 3 juveniles, with attending adults, made in late August. It would therefore seem that breeding occurred on site or very close by this year. The last bird for the year was seen on 28th September (2004-18 median – 28th September). A summary of arrival and departures dates can be found in Appendix 1 (page 59) and summary of days-recorded and bird-days for the period 2004-2018 are shown in Figure 16.

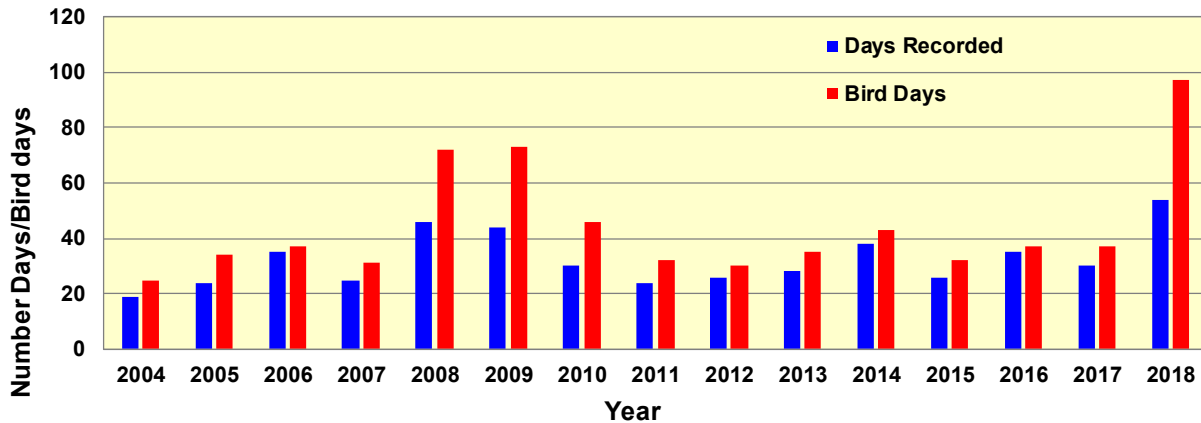


Figure 16. Summary plot of Days-recorded and bird-days for Hobby Falco Subbuteo for the period 2004-18

Peregrine *Falco peregrinus* (5, 15, 2)

Regular visitor.

There were 22 days-recorded this year. All the records were of single birds except for a record of 2 birds on the 7th January. At least two birds were present in the latter part of the year (September to December) with an adult and a juvenile both noted. Interestingly the latter was observed to be ringed and carrying a large orange band on the left leg – which does raise some questions as to its provenance. The days-recorded in the year showed the typical bias to the months from August through to January (see table below) with birds also typically absent in February and from April through to June. A summary of days-recorded by month for the period 2004-18 is shown in the Table below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days-recorded 2004-18	28	9	16	4	4	5	9	16	19	24	35	37

Water Rail *Rallus aquaticus* (5, 15, 4)

Regular winter visitor in the recent past; median spring departure date (2004-18) 18th March; median autumn arrival date (2004-18) 9th November.

This is the second good year in a row for this species, with 45 days-recorded (42 and 14 in 2017 and 2016 respectively) for a total of 60-bird-days (52 in 2017 and 18 in 2016)- with multiple birds seen on 12 days (two birds on 9 days and 3 birds on 3 days). Birds were seen across the two winter periods (split 15-30 days respectively) and reported from the River Colne, below the High Viewpoint, the Back Scrape and Park Corner. The last bird of the first winter period was seen on the 13th April and the first bird of the second winter period was on the 24th August.

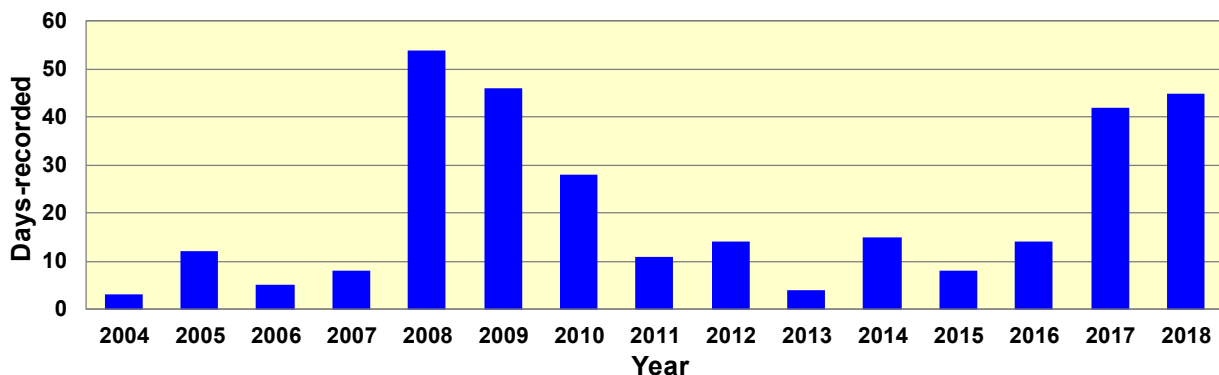


Figure 17. Days-recorded for Water Rail *Rallus aquaticus* for the period 2004-18.

This is one of the species at Tyttenhanger that appears to have obvious boom and bust periods – as shown in Figure 17 –

and it remains to be seen what 2019 holds for this species i.e. whether the good numbers of the past couple of years can be maintained or whether numbers will fall again. A summary of days-recorded for the period 2004-18 is shown in Figure 17 and early and late dates for the period 2004-18 are shown in Appendix 1 (page 59).

Moorhen *Gallinula chloropus* (5; 15, 69)

Common resident with a few pairs breeding in most years.

Only two broods were noted on-site this year, one on 8th May and the other on 5th July. Overall numbers were also a little low compared to the last couple of years - but in most months the maximum count was close to, or just above, the long-term (2004-18) median - the count of 25 on 29th June was also a record for that month. Nevertheless, the best count of the year was of just 30 birds on 17th February, making this the first year since 2009 there has not been a count of 36 birds or more. The context of the current year is shown in Figure 18 which demonstrates that the period from 2010 to 2017 was a good one for this species - but that it may be starting to decline. A close eye will be kept on the numbers in the next couple of years to see if this is indeed the case. A summary of the monthly maxima for the period 2004-18 is shown in the table below along with data from this year.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2018	20	30	20	22	7*	25	12*	15	18	19	25	16
Median 2004-18	19	11	15	12	8	12	12	12	15	21	19	16

* Includes young birds. **Median and maximum counts each month in the period 2004-18.

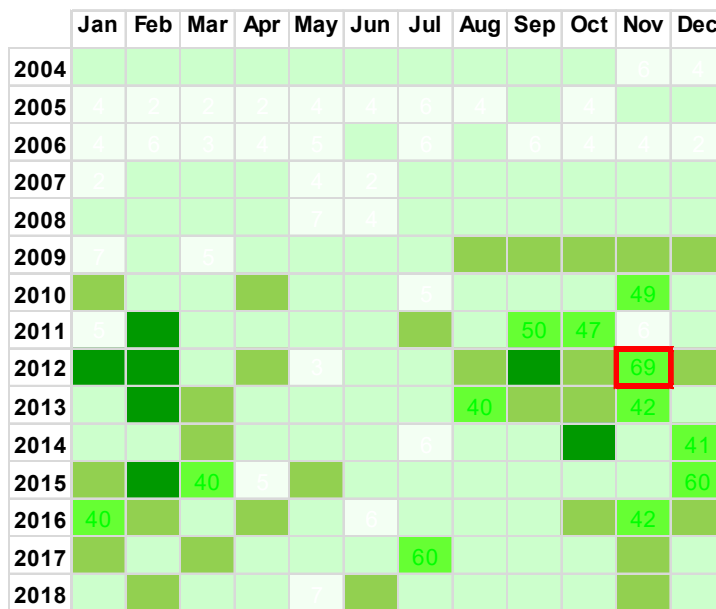


Figure 18. Graphic summary of monthly maxima data for the period 2004-18 for Moorhen, *Gallinula chloropus*. The maximum count in this period is shown by the highlighted box with the red border (69 birds on 11th November 2012).

Key	
0-7	[Lightest Green]
8-23	[Light Green]
24-35	[Medium Green]
36-49	[Dark Green]
≥40	[Brightest Green]

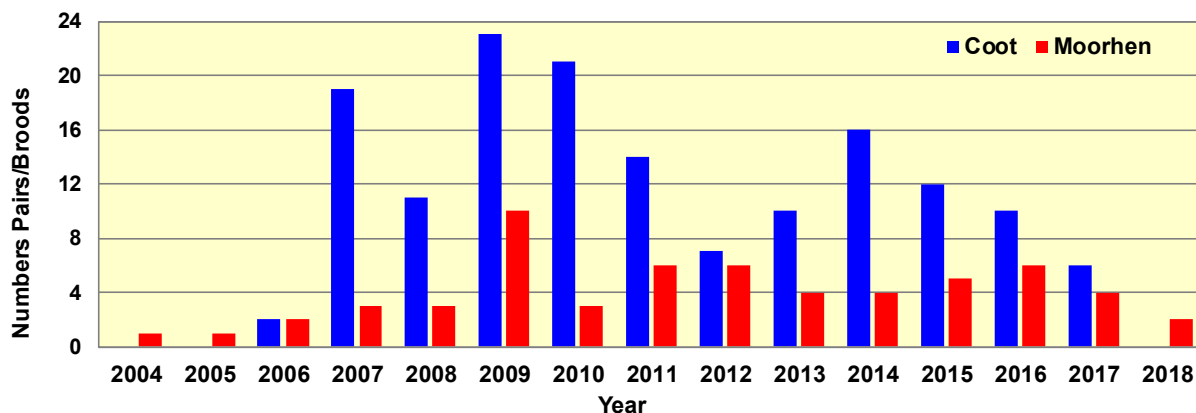


Figure 19. Comparison of the estimated numbers of breeding pairs of Coot *Fulica atra* and Moorhen *Gallinula chloropus* on-site in the period 2004-18

Coot *Fulica atra* (5, 15, 214)

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

This was the first year since 2005 that this species failed to breed on-site - which is rather surprising given the generally good numbers that were seen in the early part of the year (see table below). In addition, breeding was also recorded in the

current year for Moorhen – although as shown in Figure 19, the latter does appear to be able to breed (albeit in low numbers) in those years that the current species has previously had poor breeding years (2004, 2005 and 2006).

As indicated above, numbers were relatively good early in the year and with the exception of May and June – when numbers are usually inflated by the numbers of young birds – were also good in the latter part of the year so it is rather surprising that the species failed to breed this year. Note, the maximum count for the year was of 196 birds on the 17th December – which also happened to be a record count for this month.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2018	74	102	125	60	28	30	48	70	140	105	150	196
Median 2004-18	88	90	65	55	52	52	63	72	63	53	65	90

* Includes young birds. **Median and maximum counts each month in the period 2004-18.

Oystercatcher *Haematopus ostralegus* (5, 15, 8)

Regular summer visitor, has bred in the past.

A similar pattern of occurrence this year to that observed since this species first started breeding attempts on site back in 2007 i.e. birds appear in early spring, pair-up and then attempt to nest (with varying success) with adults and young disappearing by the end of July. This year was slightly different inasmuch as the first bird appeared on the relatively early date of 9th February, and was then around on its own for about a month until it was joined by another bird on 16th March - but only one bird was present thereafter until the 6th April. On the 6th April a dead bird was found on the fishing lake, but there were two birds present on site, with two birds then present until the 19th April. On the 19th April there were three birds present but, by the following day this had fallen back to a single bird - which is how it remained until the last bird of the year was seen on 25th June. Figure 20 shows the time-frame for this year’s records, noting that there was no recorded attempts at breeding this year.

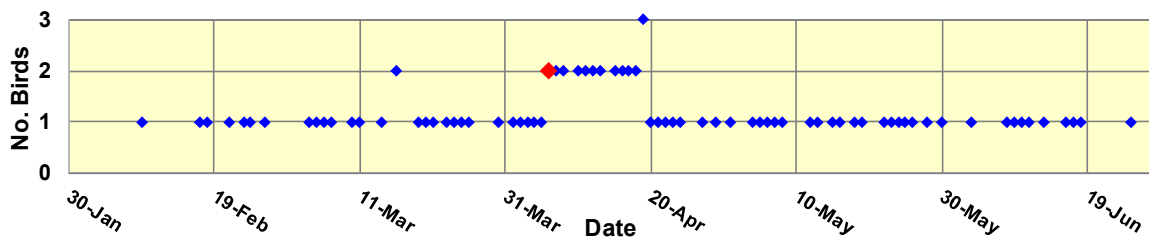


Figure 20. Time-frame for the daily counts of Oystercatcher *Haematopus ostralegus* in 2018. The record of 2 birds on the 6th April is shown in red as this is the date that a corpse of a 3rd bird was found on the fishing lakes.

Interpreting the events of the 2018 breeding season for this season are clearly subject to considerable conjecture. However, Oystercatchers are long-lived, generally monogamous birds that show a high degree of site fidelity, hence, it is highly likely that the same birds (or at the very least one of them) have been involved with all of the breeding attempts made on-site since 2007 – and were therefore involved in this seasons events. The following table summarises the data from all of the last 12 breeding seasons, showing the date the first bird arrived and the subsequent date when the season’s resident pair appear to have joined up.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
First Bird	28 th Mar	6 th Mar	6 th Mar	27 th Feb	28 th Feb	3 rd Mar	7 th Mar	22 nd Feb	7 th Mar	5 th Mar	18 th Feb	9 th Feb
First Pair	31 st Mar	27 th Mar	20 th Mar	19 th Mar	1 st Mar	5 th Mar	16 th Mar	26 th Feb	27 th Mar	11 th Mar	4 th Mar	6 th April

One possible interpretation of the data would be that one of the resident birds returned around the 9th February the second bird either failed to appear or died shortly after arriving – and was found dead on the 6th April. Other birds then appeared in early April but failed to form a bond with the bird from the regular pair and departed without attempting to breed. The one regular then departed on the relatively early date of 25th June – without any attempt being made to breed.

Notwithstanding the above it should be mentioned at this time that birds returned in 2019 and attempted to breed. Whether these birds are part (or all) of the presumed regular pair or new birds will never be known, but it is heartening to know that Tyttenhanger is still an attractive breeding prospect for this species.

Ringed Plover *Charadrius hiaticula* (5, 15, 15)

Passage migrant with a number of birds staying to breed in previous years. Median arrival date (2004-18) 23rd February; median departure date (2004-18) 6th September.

After the encouraging resurgence of this species in 2017 it was disappointing to see a poor result this year. With just 10 days-recorded – and all days managing just a single bird – it would appear that 2017 was the aberration! In addition to the

low numbers, the first bird of spring was not seen until 22nd April – two months after the long-term median date - although the last bird of the autumn was on the more usual date of 8th September.

A summary of data from 2005-18 is shown below and a summary of days-recorded and breeding data for this and the following species is shown in Figure 21. Early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-rec.	111	93	101	94	67	51	29	36	11	18	9	4	49	10
Bird-days	361	287	199	167	105	65	42	60	17	24	12	4	68	10
Max.Count	11	10	5	5	3	2	3	4	5	3	3	1	5	1

Little Ringed Plover *Charadrius dubius* (5, 15, 18)

Passage migrant and former breeding species. Median arrival date (2004-18) 30th March; median departure date (2004-18) 10th August.

A reasonable year for this species with 52 days-recorded and a total of 99 bird-days with maximum counts of four birds made on several dates in April. The first returning bird was very early on the 9th March - the median for 2004-18 is 30th March – and is the earliest recorded for the period 2004-18. There was no breeding reported on site this year despite the early return date and multiple birds being present through early April.

A bird was recorded on the 21st April that had a yellow leg flag (No. 34). Interestingly, it appears this bird (a female) was tagged on the 22nd July 2016 at Tancat de Milia, Sollana, Valencian Spain and subsequently recorded as breeding at Panshanger in Hertfordshire on 2nd May 2017.

The last bird of the autumn was reported on 14th August – close to the 2004-18 median date of 10th August. A summary of data from the last 14 years is shown below and a summary of days-recorded and breeding data for this and the above species is shown in Figure 21.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-rec.	80	75	41	31	43	50	76	71	53	73	60	23	99	52
Bird-days	326	277	65	50	63	69	179	133	88	146	152	32	402	99
Max.Count	13	15	4	3	3	3	6	7	4	5	8	4	11	4

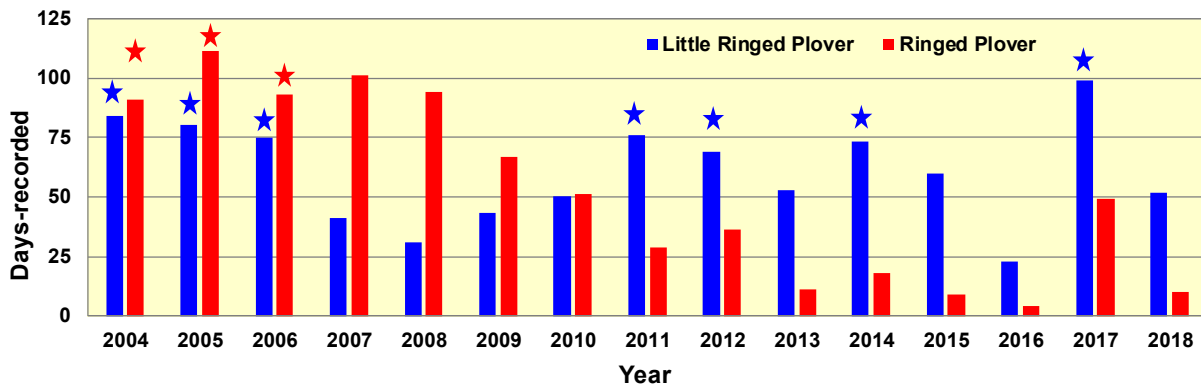


Figure 21. Days-recorded for Little Ringed Plover *Charadrius dubius* and Ringed Plover *Charadrius hiaticula* for the period 2004-18. The years in which breeding has occurred/ attempts have been made are shown by the blue and red stars for Little Ringed Plover and Ringed Plover respectively.

Golden Plover *Pluvialis apricaria* (5, 15, 2160)

Regular winter visitor to the area becoming less common in the recent past. Median spring departure date (2004-18) 30th March; median autumn arrival date (2004-18) 11th October.

Just six days-recorded again this year, one in the first winter period and five in the second. All day counts are as follows: 5 on 29th January, 9 on 16th September, 2 on 2nd October, 3 on 17th November, 22 on 24th November and 30 on 18th December. Strangely, it appears that the record on the 16th September is actually the first September record for this species in the period 2004-18.

A summary of days-recorded since 2007 is shown in the Table below.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-recorded	40	18	17	13	24	7	7	11	2	2	6	6

Lapwing *Vanellus vanellus* (5, 15, 2000)

Present through much of the year with large winter flocks using the Main Pit and surrounding fields. Several pairs nest on site most years but success is limited due to disturbance.

After the attempted breeding of 2017 things returned to the more recent norm with no recorded breeding attempts in this year. Monthly maxima for the year were generally a little down on the long-term (2004-18) median values across the board, with the exception of November which produced the highest count of the year of 500 birds on the 25th November – which was also a record count for this month.

A summary of monthly maxima data for the period 2004-2018 is shown in the table below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Max 2018	300	194	60	4	16	25	50	101	120	128	500	300
Median 2004-2018*	300	420	130	21	16	57	145	180	138	230	276	300
Maximum 2004-2018*	630	617	600	50	50	137	307	1000	313	700	500	554
Minimum 2004-2018*	47	102	24	4	3	0	50	5	36	128	176	150

* Median, maximum and minimum counts each month in the period 2004-18.

Dunlin *Calidris alpina* (5, 15, 12)

Regular passage migrant and occasional visitor likely to turn up at any time of the year.

There were only 8 days-recorded this year, probably involving just 5 birds.; a single bird 3rd to-5th March, two birds on 10th August and a single bird from 17th to 20th November – joined by a second bird on the 21st November. All in all, a poor year for this species as shown by the summary data in Figure 22.

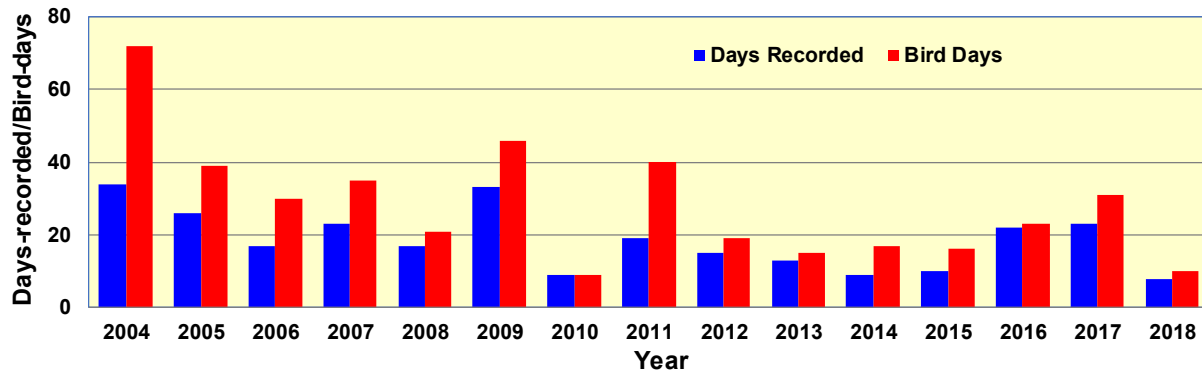


Figure 22. Summary of days-recorded and bird-days for Dunlin *Calidris alpina* in the period 2004-18.

Ruff *Calidris pugnax* (3, 11, 26)

Infrequent visitor.

Just a single record for the year of a lone bird on 7th March (Alan Gardiner and Steve Blake). A summary of days-recorded and bird-days for the period 2004-18 is shown below.

	2004-06*	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days Rec'd	4(2)	1	1	0	3	2	1	5	0	3	0	10	1
Bird-days	6	1	1	0	3	4	1	14	0	4	0	20	1

* The total number of days-recorded in the period 2004-06 is shown along with the total number of bird-days. The number in brackets indicates how many of the years in the period the species was recorded.

Woodcock *Scolopax rusticola* (5, 12, 5)

Frequent visitor.

A reasonable year for this species with just 3 days-recorded all of single birds in Garden Wood. Birds were noted on 23rd February, 9th March and 3rd April. A summary of data for the period 2004-2018 is shown below.

	2004-06*	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days Rec'd	3(1)	0	3	5	5	2	2	1	2	1	2	6	1
Bird-days	3	0	3	5	7	5	7	1	2	2	2	8	1
Maximum	1	0	1	1	2	3	5	1	1	2	1	2	1

* The total number of days-recorded in the period 2004-06 is shown along with the total bird-days. The number in brackets indicates how many of the years in the period the species was recorded.

Jack Snipe *Lymnocyptes minimus* (2, 10, 6)

Previously a regular winter visitor but becoming less frequent in the recent past.

One was seen from the high view point for 10 minutes on 24th November (Steve Blake and Ricky Flesher). It was good to have- this species back after last year drew a blank, but as shown in Figure 23, this is now a very tricky species to catch-up with at Tyttenhanger.

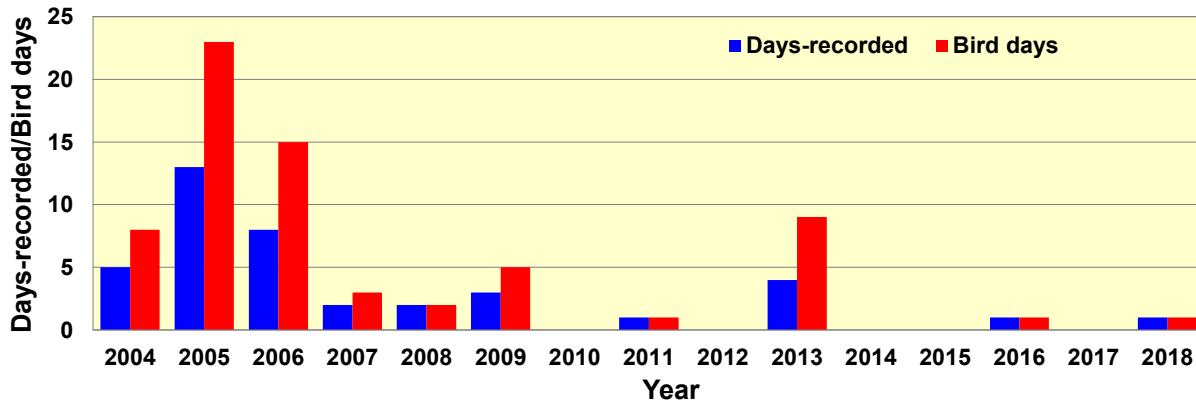


Figure 23. Summary of days-recorded and bird-days for Jack Snipe *Lymnocyptes minimus* in the period 2004-18

Snipe *Gallinago gallinago* (5, 15, 48)

Winter visitor and common passage migrant.

A phenomenal year for this species, completely smashing virtually all previous records: 139 days-recorded (previous best 103 in 2008), 891 bird-days (previous best 597 in 2009); 502 bird-days in the second winter period (previous best 277 in 2008), record number of bird-days for January (222 – the best for any month in the period 2004-18), and record bird-days for September (98 - previous best 30 in 2006), October (103 – previous best 54 in 2008), November (100 - previous best 82 in 2008) and December (192 – previous best 124 in 2008). And, on top of all of the above, the highest count of the year, 48 birds on the 12th January, was also a record count for the site! The only previous years to come close to the current year were 2008 and 2009 (see Figure 24), although for overall numbers this year was far and away the best – with the second winter period being particularly impressive. It will be interesting to see what happens in 2019!

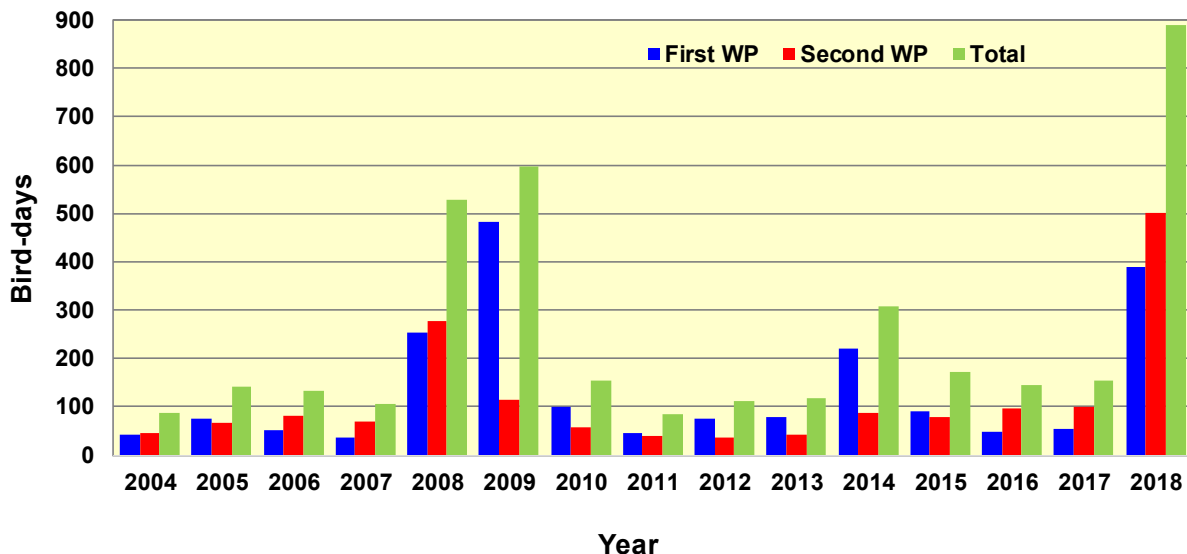


Figure 24. Summary of bird-days for Snipe *Gallinago gallinago* for the period 2004-18. The split for the First (Jan-June) and Second (July-December) winter periods (WP) is shown along with the total for the year 2004-18.

Black-tailed Godwit *Limosa limosa* (5, 14, 96)

Irregular passage migrant.

2015. The summary for this species was originally omitted from the 2015 report and we failed to include it in the 2016/17 report. For completeness it is provided below.

A reasonable year producing a total of 5 days-recorded for a total of 27 bird-days – which included a flock of 13 birds seen on the 28th August. The latter was the second-best count on-site up to that point, eclipsed only by the 25 reported on the 2nd September 2007.

2018. The first record of the year involved an incredible 96 birds that flew over the main pit at 05.45am on the 28th April before landing on the sand spit for about 30 minutes and then departing to the south at 06.17am. This is the largest flock seen at Tyttenhanger GPs and is only bettered in Hertfordshire by the 150 seen flying over Cassiobury Park on 26th August 2011. Birds were also seen in July and August making a total of 8 days-recorded and 105 bird-days.

Bar-tailed Godwit *Limosa lapponica* (3, 7, 4)

Scarce migrant.

Two birds were seen on the 13th April, one under the power lines on the fishing lake and the other flying over at the same time – apparently having been on the Main Pit briefly before that. This is the 13th record for the site and the 4th for April.

Whimbrel *Numenius phaeopus* (2, 10, 31)

Irregular passage migrant

Two days-recorded for the year with one record in each of spring and autumn. The first record for the year was of a single bird seen briefly on the sand spit on 18th April. The lone autumn record involved 2 birds, one seen flying over south at 6.55am on the 24th August then another 45 minutes later. This years records are the 39th and 40th days-recorded for the site – with the latter being only the 10th day-recorded in autumn.

Curlew *Numenius arquata* (5, 14, 19)

Infrequent passage migrant

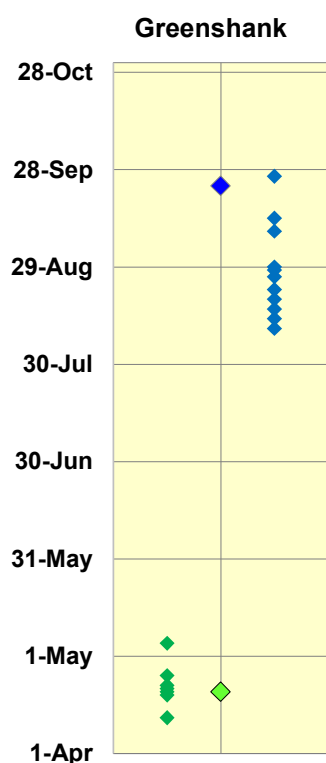
Two days-recorded for the year with one bird seen to fly over north on 7th March and a second when a bird was seen to fly from the main pit at 7.30am on 14th April.

Redshank *Tringa totanus* (5, 15, 14)

Summer visitor with 2-3 pairs breeding in previous years; median spring arrival date (2004-18) 7th March; median autumn departure date (2004-18) 22nd August.

Another drop-in days-recorded for this species, with just twenty-three days-recorded and thirty-six bird-days, the maximum for the year was of 5 birds on 24th May. Despite the low numbers the first arrival in Spring – on the 12th March was very close to the long-term (2004-18) median of 7th March. However, the last bird of the year was on the relatively early date of 27th July compared with a long-term median (2004-18) of 22nd August. Again, there were no breeding records- this species last breeding on site in 2010. A summary of data from 2005 to 2018 is shown below.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-Rec'd	91	81	93	83	70	91	69	58	30	27	34	29	35	23
Bird-days	300	288	250	295	291	331	229	177	49	52	62	45	38	36
Broods	1	1	2	0	0	1	0	0	0	0	0	0	0	0



Greenshank *Tringa nebularia* (5, 15, 18)

Spring and autumn migrant in small numbers. median spring arrival date (2004-18) 21st April; median autumn departure date (2004-18) 13th September.

The first bird of the year was recorded on the 20th April – very close to the median date for the period 2004-18. There were a further twenty-five days-recorded producing forty-seven bird-days – which makes this the best year for some considerable time. Days-recorded showed a typical split of 4 in the spring and 22 in the autumn, with a maximum count of three birds made on the 4th, 5th and 11th September. Birds were noted on the main pit and the fishing lakes and the first bird of the autumn passage was seen on the 31st August and the last bird of the year was seen on the slightly late date of 23rd September.

Previous analyses involving this species have been confounded by the number of years when the species has not been recorded in spring, but also by the appearance over several winters in the early 2000's of an overwintering bird. Sufficient data have now been gathered to allow for the generation of median spring arrival dates (20th April) and autumn departure dates (28th August) – and more importantly an early spring arrival date (12th April). Using these dates, we have analysed all of the potential spring dates through to the end of July to determine an end to spring migration. Overall, this analysis has allowed us to assign records to either Spring (12th April to 3rd June), Autumn (4th June to 23rd September) or Winter (24th September to 11th April).

Using these dates to determine the overwintering records for the period 2004 to 2006, we produced the summary provided in Figure 25. As can be seen from this figure, there is generally a large bias towards autumn in terms of bird-days and that the overwintering bird(s) in 2004-06 made a significant contribution to the overall number of

bird-days in this period – although it is also notable that 2004 and 2006 were also the best passage years in the period 2004-18.

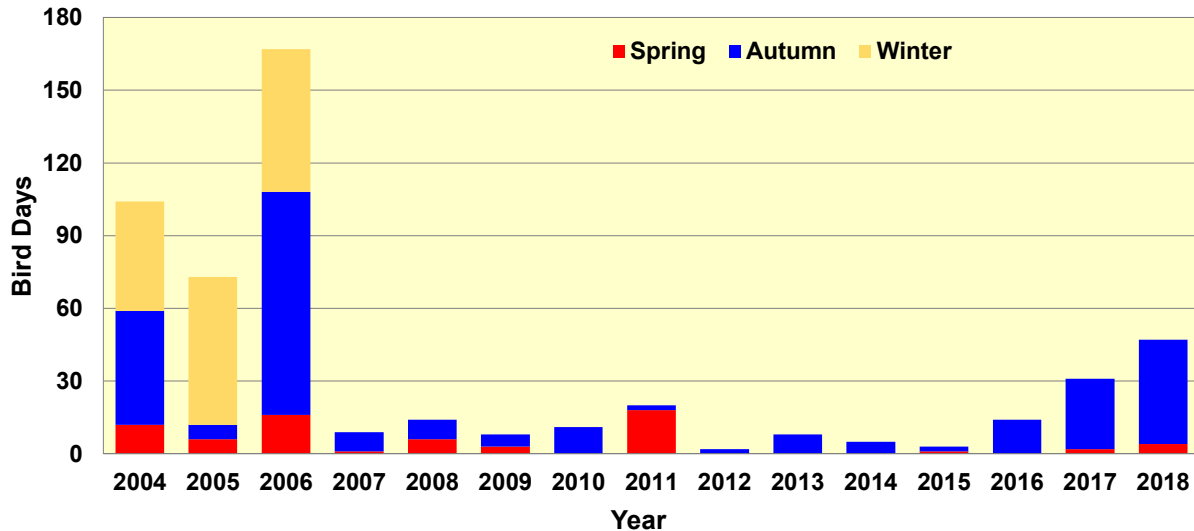


Figure 25. Summary of bird-days for Greenshank *Tringa nebularia* for the period 2004-18. Records have been assigned to Spring (12th April to 3rd June) Autumn (1st July to 23rd September) and Winter (24th September to 11th April).

Wood Sandpiper *Tringa glareola* (4, 6, 13)

Infrequent visitor.

The first bird of the year was seen to land on the sand spit at 9.30am on the 19th May and flew off just 3 minutes later. Then two birds were seen from the gate in front of the Maersk container - accompanied by a Greenshank and three Green Sandpipers - at 5pm on 3rd September. These two birds were seen at 7.30pm from the high viewpoint and were last reported at 8.10pm. These represent to 23rd and 24th records since the species was first recorded in 1985 and are the 4th time the species has occurred in the last 5 years – hopefully the good run will continue!

Green Sandpiper *Tringa ochropus* (5, 15, 14)

Frequent winter visitor and passage migrant; median spring departure date (2004-18) 20th April; median autumn arrival date (2004-18) 18th June.

This was another good year for this species with 155 days-recorded (164 in 2017) to give a total of 306 bird-days (320 in 2017). The last bird in the spring was on 20th April (also the long-term median for the spring departure date) and the first returning bird was on the early date of the 9th June i.e. earlier than the long-term (2004-18) median of 18th June and just a day later than the earliest records from 2004-18. The maximum count for the year was of six birds on four dates in September and birds were seen across the site both on the main pit and the fishing lakes.

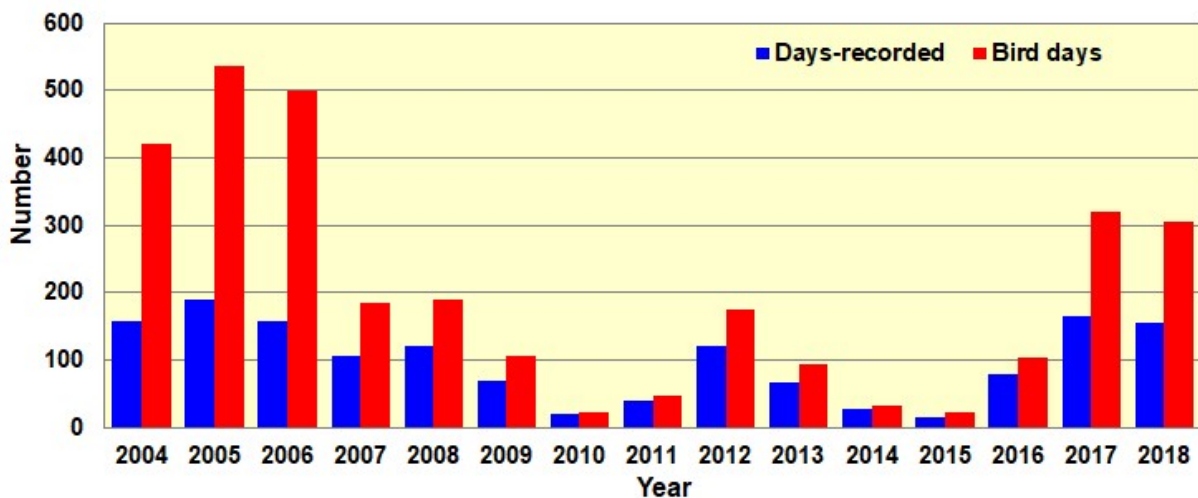


Figure 26. Days-recorded and bird-days for the period 2004-18 for Green Sandpiper *Tringa ochropus*.

Also of note this year was the presence of a colour-ringed bird between 3rd September and the 11th October. The bird was originally ringed at Lemsford Springs in August 2016 and was reported through the winters of 2016/17, 2017/18 and 2018/19 from that site. In September 2018 it must have got restless as it was seen at both Tyttenhanger (6 reports) and Lemsford Springs (4 records) between the 3rd September and 13th October – the latter being around the date that the

extract was provided. The bird is termed - **LAY,LBM;RAWY** and has the colour ring-combination = LAY = Left Above 'knee' Yellow ring; LBM = Left Below 'knee' Metal (BTO) ring; RAWY = Right Above 'knee' White over Yellow ring - so it will be interesting to see if it reappears. A summary of days-recorded and bird-days for the period 2004 to 2018 is shown in Figure 26. Spring departure and autumn arrival dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term medians for those dates.

Common Sandpiper *Tringa hypoleucos* (5, 15, 18)

Regular passage migrant, more frequent in autumn. Median arrival date (2004-18) 15th April; median departure date (2004-18) 28th September.

Another good year for this species with 71 days-recorded (14 in spring) and 121 bird-days (22 in spring) with records split between the main pit and the fishing lakes in a ratio of about 2:1. The maximum count for the year was of 5 birds – which unusually, was made during the spring passage (8th May). The earliest (16th April) and latest (7th October) records for the year compare well with the long-term medians. A summary of data for the period 2006-18 are shown in the table below. Early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-Rec'd	58	43	60	47	28	40	48	54	41	30	79	61	72
Bird-days	144	62	111	70	36	56	86	84	56	43	130	102	121
Max Count	10	3	5	3	3	5	5	6	4	3	5	5	5

Black-headed Gull *Chroicocephalus ridibundus* (5, 15, 1900)

Common non-breeding species present virtually all year around.

Another good year for this species with January, March and July recording maxima for those months and all months except August, September and October recording maxima greater than the long term (2004-18) medians. The best count of the year was of 800 birds on the 6th January. A summary of monthly maxima data from the period 2004-18 is shown in the table below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Maximum 2018	800	650	500	28	12	100	600	300	435	320	600	500
Median 2004-2018**	300	300	258	20	8	21	305	461	510	400	350	350
Maximum 2004-2018**	800	1000	500	30	26	109	600	1000	1500	800	1200	800
Minimum 2004-2018**	50	80	42	1	2	2	100	189	300	240	141	166

** Median, Maximum and Minimum values from the monthly maxima for the period 2004-18.

Mediterranean Gull *Larus melanocephalus* (5, 13, 3)

Regular visitor.

A reasonable year for this species with five days-recorded; the first bird was an adult on Willow's Farm Lake on the 2nd March, there was another adult on the 15th June (this is the first June record for the site), a first winter bird on the 16th and 17th September and finally, three birds in the Garden Wood/Willow's Farm area on the 7th November. A summary of bird-days-recorded in the period 2001-18 is shown in Figure 27.

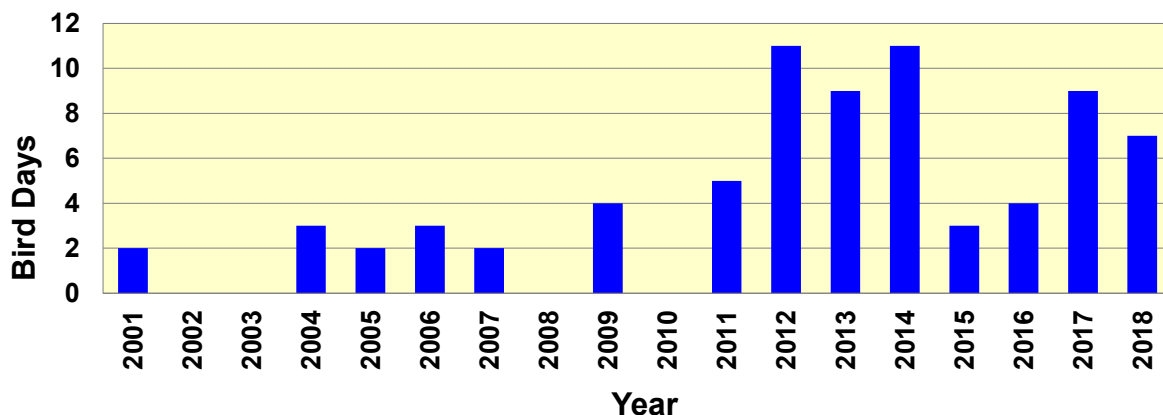


Figure 27. Bird-days by year for Mediterranean Gull *Larus melanocephalus* since the first record in 2001.

Common Gull *Larus canus* (5, 15, 256)

Regular winter visitor; absent during the summer months.

Present again in all months of the year with the exception of May and with monthly maxima generally slightly higher, or

close to, the long-term medians for the period 2004-2018. The real exception to the latter observation was April, when the maximum for the month (62) was much greater than the long-term median – and similar to late-passage/April counts previously seen in 2010 and 2015 (see Figure 28). The largest count of the year was of 200 birds on the 31st December - which is also the best count for this month in the period 2004-18. A summary of data from the last 15 years is shown below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Maximum 2018	50	28	112	62	0	1	2	1	5	25	54	200
Median 2004-2018*	64	71	79	4	0	0	2	3	4	24	70	66
Maximum 2004-2018*	200	256	218	142	4	4	8	28	16	52	144	200

* Median and Maximum values from the monthly maxima for the period 2004-18.

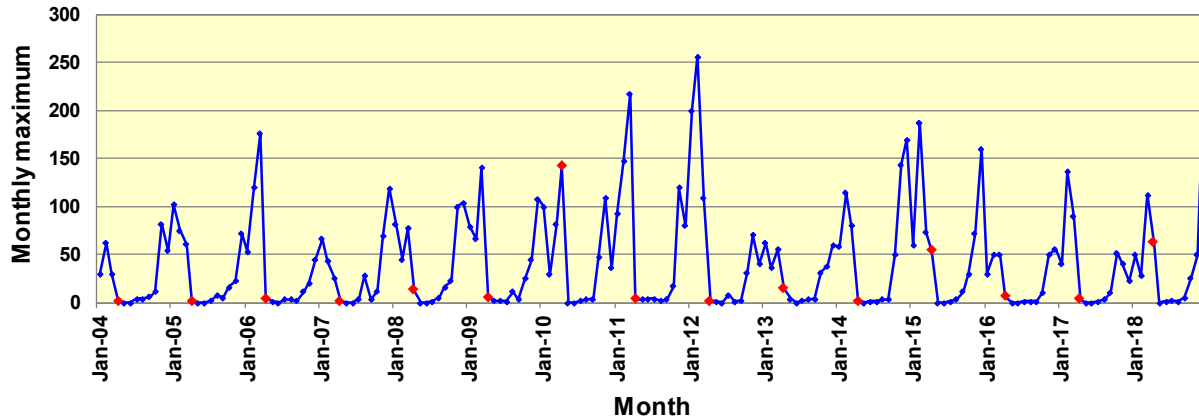


Figure 28. Monthly maxima for Common Gull *Larus canus*, shown for the period 2004-18. The counts for April in each year are shown by the red markers.

Herring Gull *Larus argentatus* (5, 15; 38)

Present through much of the year in small numbers. Local breeding is increasing records in the summer months.

The status of this species on site continues to be something of a moving feast, with numbers for both days-recorded (117) and bird-days (749) down on the peak values of 2017 (147 and 1135 respectively). Notwithstanding this slight drop in numbers, this was still a very good year for this species. A summary of data from 2005 onwards is shown in the table below – clearly reflecting the significant change in status for this species we have seen since 2012.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-rec.	21	24	22	20	21	21	52	43	83	91	128	123	147	117
Bird-days	52	75	43	36	37	33	116	125	264	245	577	656	1135	749
≥ 10 birds	1	2	1	0	0	0	1	1	4	3	14	22	39	29

Caspian Gull *Larus cacchinans* (3, 4, 2)

Previously rare visitor – status changed dramatically in 2016/17 and currently considered a regular visitor

The impressive string of records stretching from October 2016 continued through this year with 46 days-recorded and birds seen from the 5th January until 24th May (21 days-recorded) and then from the 7th September until 27th December (25 days-recorded); two birds were seen on the 25th and 26th November – an adult and a 1st Winter. While it is difficult to be certain of the number of individuals involved in the records from this year it is clear that at least 4 individuals were involved:

- 2nd Winter A: probably the continuing bird from 2016/17 (see below); also possibly the 3rd Winter bird seen on 7th September (♦ -in Figure 30)
- 2nd Winter B: a different bird from 2nd Winter A noted on 9th February. (◆ -in Figure 30)
- 1st Winter: initially noted as a juvenile on the 26th September this was probably the same bird recorded as a 1st Winter in November (◆ -in Figure 30)
- Adult: First recorded on 1st October and then seen through to the end of the year (◆ -in Figure 30)

As alluded to above, many of the records from this year probably relate to a single bird which may have been visiting the site from October 2016 - when first noted as a 1st Winter bird. This may be the bird frequently recorded as a 1st Winter - 1st Summer - 2nd Winter bird through 2017 and using this assumption i.e. that then majority of records refer to a single returning bird, we have analysed the records from October 2016 through to the end of 2018. The results of this analysis are shown in Figure 29.

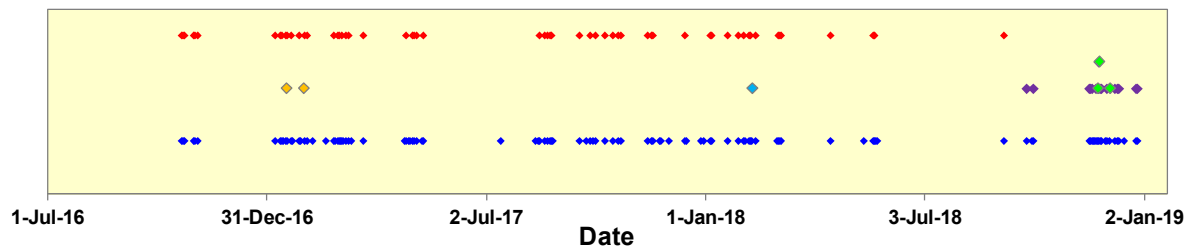


Figure 29. Analysis of records for Caspian Gull *Larus cachinnans* at Tyttenhanger from October 2016 through to end December 2018. All dates on which the species was recorded are shown by the blue symbol (◆); the days on which the presumed returning bird (2nd Winter A in 2018) was recorded are shown by the red symbols (◆). Other birds are shown by the different coloured symbols between these previous sets of symbols (see text above for further information).

The following points are made in conjunction with the above analysis:

- For many of the days-recorded for this species it is not possible to assign an age/identity to the bird reported i.e. from a total of 121 bird-days through the period of the analysis only 81 of these birds can be assigned an age/identity.
- The 3rd Winter bird reported on the 7th September 2018 – and considered to be a returning bird - is the last record that could be assigned to this bird i.e. all records thereafter refer to a 1st Winter or Adult bird.
- The above analysis indicates that there may be as few as 5 birds involved in all of the days-recorded since October 2016 – with identifiable bird-day combinations in the period (81) being dominated by a possible single returning bird (58 days-recorded i.e. 71.6% of all bird-days with attributable age/identities).

Notwithstanding the specifics of the records since late 2016, Tyttenhanger is still the prime site in Hertfordshire to see this specie. Other days-recorded in the county in the current year being from Amwell NR (15 days-recorded), Fairlands Valley Park (3 days-recorded) and Hilfield Park (1 day-recorded) i.e. Tyttenhanger had nearly 71% of all days-recorded in the County.

Yellow-legged Gull *Larus michahellis* (5, 12, 3)

Irregular visitor.

As with a number of other large gulls, this proved to be an outstanding year for this species with 16 days-recorded for a total of 19 bird-days. The first record of the year was not until the 20th May with birds then recorded in every month (except August) through until the end of the year. There were two birds present on the 7th October and a new site-record count of 3 2nd Winter birds was made on 27th December and it would appear that all in all upwards of 8 birds may have contributed to this year's records. A summary of days-recorded for the period 2005-18 is shown below.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-rec.	1	3	0	4	2	0	4	1	2	3	3	2	5	16

There have now been a total of 48 days-recorded for the site - since the first record in July 1996 – which are distributed by month as shown in the following table.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days-recorded	4	4	4	0	2	3	7	2	2	8	8	4

Lesser Black-backed Gull *Larus fuscus* (5, 15; 142)

Present throughout the year; with a recently established breeding population nearby in London Colney

This species continues to go from strength-to-strength on-site with numbers still increasing – but maybe also beginning to show a slight shift in occurrence patterns. Figure 29 shows the distribution of higher monthly maxima (30 and over) is clearly more prevalent in the last few years and that these larger counts tended to be in July/August. However, in the last couple of years these higher counts appear to have shifted more towards the March-April window. The count of 142 birds on the 5th March was the maximum for the year and also a site-record, with monthly records also being set in January, March and May. Recently fledged birds were seen in July from the breeding colony off the A414.

A summary of data from the last 15 years is shown in the table below and in Figure 30.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Maximum 2018	30	35	142	34	100	50	60	40	30	27	40	30
Median 2004-2018*	12	7	11	12	12	14	13	23	24	16	23	8
Maximum 2004-2018*	30	42	142	65	100	50	108	129	40	97	50	36

* Median and Maximum values obtained from the monthly maxima for the period 2004-18.

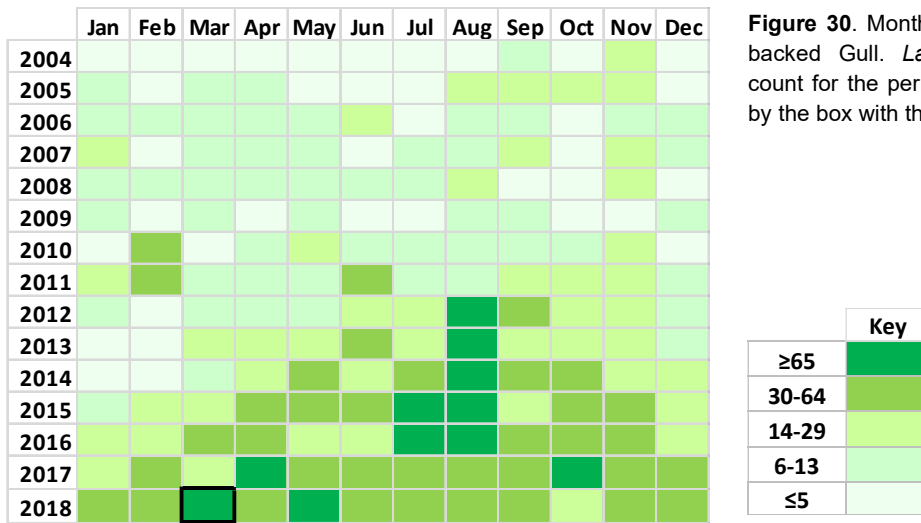


Figure 30. Monthly maxima for Lesser Black-backed Gull. *Larus fuscus*. The maximum count for the period shown above is indicated by the box with the bold border (March 2018.).

Great Black-backed Gull *Larus marinus* (5, 15, 13)

Previously an infrequent visitor most often encountered in the cooler months – but recently has become a much more frequent visitor.

Another good year for this species, breaking the records set in 2017 for days-recorded (62 this year, 53 in 2017) and bird-days (91 this year, 65 in 2017) and a maximum count of 7 birds on 8th April was the highest count since the 13 birds seen in December 1997. A summary of data for the period 2004-18 is shown in the table below.

	2004-6*	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-rec.	12	6	2	5	5	5	3	3	6	2	6	53	62
Bird-days	13	10	2	7	6	7	3	3	7	5	14	65	91

* The total number of days-recorded and bird-days in the period 2004-06 is shown.

While the Table above clearly indicates that there has been a significant shift in status since the end of 2016, this is only part of the story. Analysis of the data from 2004-16, 2017 and 2018 provides the summary shown in Figure 31 below. It is clear from this analysis that through the period 2004-16 this species occurred primarily as a winter visitor. However, the large number of records from 2017 and 2018 do not show such a pattern – and do not even show the same i.e. 2017 shows an August/September peak while 2018 has peak occurrence between April and May. It remains to be seen what future years may hold.

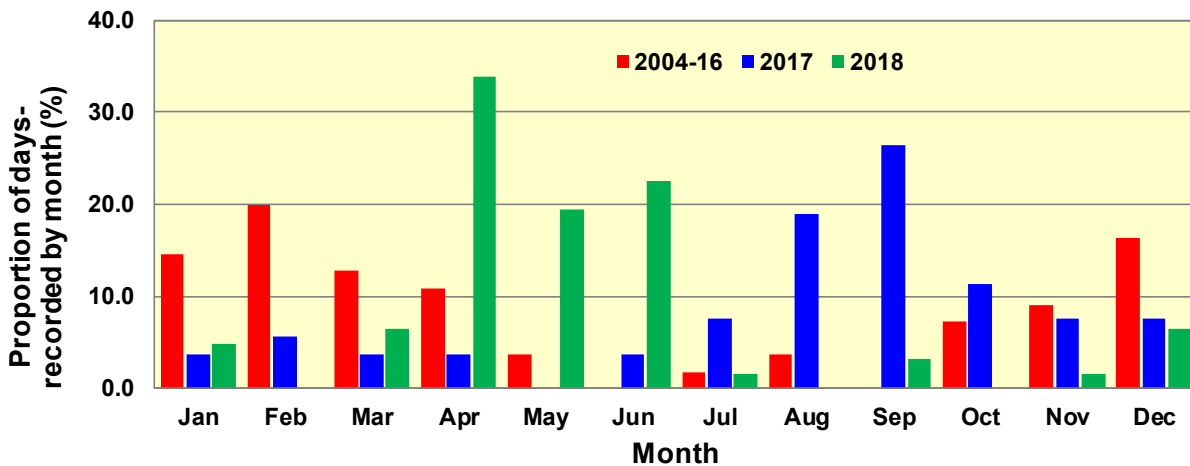


Figure 31. Distribution of days-recorded as a proportion of the total for the periods 2004-16, 2017 and 2018.

Kittiwake *Rissa tridactyla* (1, 3; 29)

Infrequent visitor

A single First Winter bird seen on the 31st March was a good find (John Yates) and only the 6th record on-site including the first record of 29 birds on the 25th January 1993. A summary of all records is shown below:

- 1993:** 29 adult birds on 25th January
- 1997:** 1 First Winter bird on 30th November
- 2012:** a single adult bird on 15th May
- 1995:** 1 first winter bird on 26th February
- 2010:** a dead bird found on 16th January
- 2018:** a single First Winter on 31st March

Common Tern *Sterna hirundo* (5, 15, 30)

Summer visitor. Has regularly attempted to breed in the past but not always successfully. Median arrival date (2004-18) 11th April; median departure date (2004-18) 4th September.

The first bird of the year arrived on 19th April – a little later than the long-term median date - after which numbers fluctuated over the next six months with a maximum count of 9 birds on the 31st July. The last bird of the year recorded on 14th September – slightly later than the long-term median. Early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure.

There was no breeding recorded on-site again (last recorded breeding in 2014), although up to three juveniles were seen in August indicating that breeding occurred close-by. A summary of the maximum counts and days-recorded for the period 2004-18 are summarised in the table below.

	2004-06*	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Maximum	30	25	16	20	16	18	20	22	20	23	22	10	9
Days-rec.	199	66	88	90	69	77	50	59	68	82	75	81	84

* The total number of days-recorded in the period 2004-06 is shown along with the maximum count from this period.

Sandwich Tern *Sterna sandvicensis* (2, 6; 4)

Infrequent visitor.

A first winter bird was seen by two observers on the fishing lakes at 3.00pm on 23rd September; the bird was present for 10 minutes before it flew off high to the north. A bird was also seen on the same date at 6.20pm, when it was feeding over the fishing lakes amongst Black-headed Gulls. The latter bird was seen down to less than 50 metres on occasions and eventually called briefly before gaining height and flying off to the south. We are treating the two occurrences on the 23rd September as the same bird at the present time i.e. until further evidence refutes or confirms this assertion.

1996: 1 on 7th Sep

1997: 1 on 27th June

2000: 4 on 22nd and 23rd August

2004: 1 on 3rd May

2010: 1 on 25th April

2011: 1 on 4th April

2011: 1 on 10th April

2015: 1 on 8th May

Feral Pigeon *Columba livia* (5, 15, 1250)

Common resident, particularly common around Willows Farm.

Present throughout the year with a maximum of 120 on 3rd October and 51 double figure counts throughout the year, with double-figure counts noted in all months of the year apart from November. In contrast to last couple of years, there were only 15% of records for which no count was made i.e. this figure was 56% and 53 % in 2016 and 2017 respectively. A summary of maximum counts for the period 2004-2018 for this, and the other regular Pigeons/doves, is shown below.

	2004-07*	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Feral Pigeon	1250 (2006)	1000	100	500	100	150	50	103	185	120	250	120
Stock Dove	200 (2005)	50	6	12	10	5	20	25	20	148	20	15
Woodpigeon	3000 (2005)	732	1000	500	800	300	140	500	1000	1500	800	1000
Collared Dove	57 (2006)	23	18	8	13	2	11	2	4	3	11	6

* The highest counts in the period 2004-07 are provided along with the year in which that count was made (in brackets)

Stock Dove *Columba oenas* (5, 15, 200)

Common resident present throughout the year.

Present all year with a maximum of just 15 birds on the 27th November – also the only double figure count for the year. As with the previous species it is encouraging to see that counts were more frequently made in the current year (96%) than in the recent past i.e. 74% in 2016 and 78% in 2017. There were no records relating to breeding submitted this year. A summary of maximum counts for the period 2004-2018 for this and the other regular pigeons/doves on-site is shown above.

Woodpigeon *Columba palumbus* (5, 15, 4000)

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

Present all year with a maximum of 1000 birds noted on 3rd March, 19th November and 27th November; there were also a further two counts of 500 birds or more – both in the first winter period. As with most other years, there were no breeding records this year. A summary of maximum counts for the period 2004-2018 for this and the other common pigeons/doves on-site is shown above.

Collared Dove *Streptopelia decaocto* (5, 15, 57)

Patchily distributed resident.

An average year for this species with 31 days-recorded (36 in 2017) and again without any evidence of breeding activity.

The maximum count for the year was of just six birds on 12th September. A summary of maximum counts for the period 2004-2018 is shown above; and a summary of days-recorded in the period 2007-2018 is shown below.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-recorded	50	45	41	34	31	33	31	13	17	15	36	32

Cuckoo *Cuculus canorus* (5, 15, 5)

Summer visitor in small numbers. Median spring arrival date (2004-18) 19th April; median autumn departure date (2004-18) 9th August.

Another very bad year for this species and with just four days-recorded and all records being of single birds, unsurprisingly, there were no records of breeding this year. The first bird of the year was on the 24th April – relatively close to the long-term median and the last record for the year was on the 25th May i.e. well before the autumn passage and so not considered to be a departing bird. A summary of days-recorded for the period 2004-18 is shown below and a summary of early and late dates for the period 2004-18 are provided in Appendix 1 (page 59).

	2004-06*	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-rec.	58	7	12	12	9	15	17	10	21	17	8	4	4

* The total number of days-recorded in the period 2004-06 is shown.

Ring-necked Parakeet *Psittacula krameri* (5, 12, 25)

Previously an irregular visitor, this species is now frequently observed across the site.

A species that is still on an upward trajectory, with another big increase in days-recorded and bird-days again this year. There were 105 days-recorded (62 in 2017) producing 428 bird-days (220 in 2017) and a maximum count of 22 birds on the 28th September; there were also 13 other double-figure counts. Birds were reported from Willow's Farm, Coppice Wood, Deep Lake, Main Pit, Garden Wood and Colney Heath Common/Water Works. A summary of days-recorded and bird-days for the period 2004-18 is provided below.

	2004-06*	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-rec.	3	0	5	0	1	3	3	1	5	4	10	62	105
Bird-days	3	0	8	0	8	16	5	2	9	6	19	220	428

* The total number of days-recorded in the period 2004-06 is shown along with the total number of bird-days in that period.

Tawny Owl *Strix aluco* (5, 15, 4)

Resident. Undoubtedly under-recorded but present in most woodland areas on the site.

After an excellent 2017 it was back to a more normal year for this species - with just a single record of a bird calling at 6.30pm by the Model Railway/Water Works area on 10th October. A summary of days-recorded for the period 2004-2018 is shown below along with a break-down by month of these days-recorded.

	2004-06*	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-rec.	4	11	3	1	3	10	9	11	8	1	2	9	1

* Total number of days-recorded in the period 2004-06.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days-Recorded	2	9	7	5	2	6	1	5	12	11	9	4

Little Owl *Athene noctua* (5, 15, 4)

Resident; birds usually seen around the Model Railway Club and Willows Farm, regularly breeds.

Seventy-three days-recorded, all from Willow's Farm (no records again from the Model Railway/Water Works area), with two birds on seven dates and three birds on 3rd August, makes this the best year in the period 2004-2018. Interestingly, days-recorded) were distributed fairly evenly through the year with the exception of October (no days-recorded) and November (one day-recorded). Local breeding was indicated by two adults and a juvenile seen together on 3rd August. A summary of days-recorded and the number of days with more than one bird recorded (Multi bird) are shown for the period 2004-18 in the table below. Figure 32 shows the distribution of days-recorded by month during the period 2004-18.

	2004-06*	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-rec.	29	41	54	36	27	42	27	10	21	32	34	48	73
Multi bird	7	10	4	2	1	12	4	1	5	7	0	1	8

* Total number of days-recorded and total multi-bird-days in the period 2004-06.

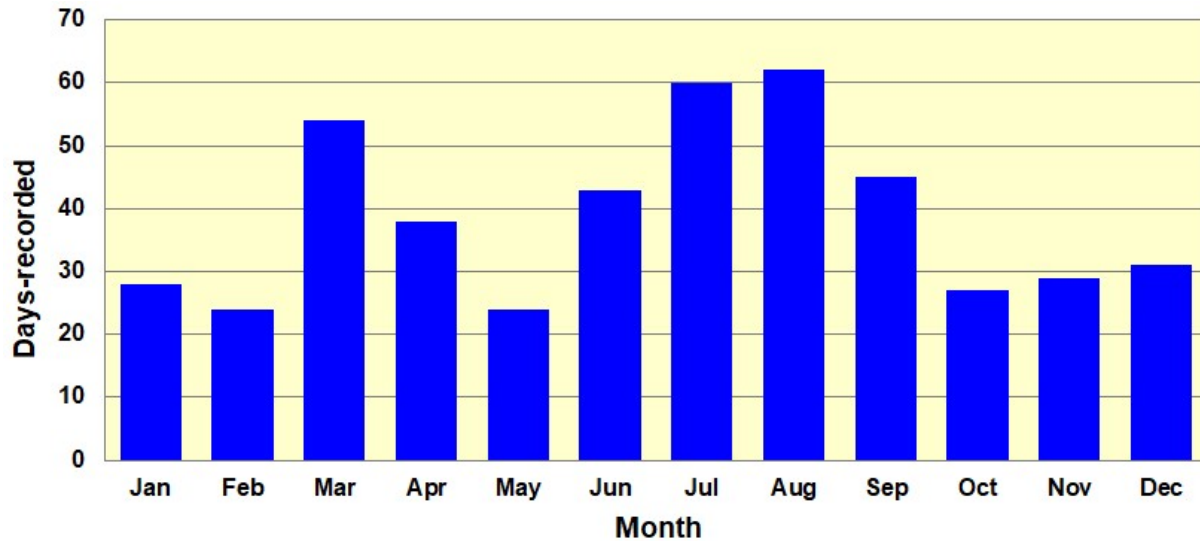


Figure 32. Monthly distribution of days-recorded for Little Owl *Athene noctua* in the period 2004-18.

Barn Owl *Tyto alba* (4, 8, 2)

Irregular visitor.

As in 2017, a bird was again found roosting in a hole in a tree by Willow's Farm – in fact the same hole as in 2017! First reported on the 29th September it was seen on a total of 17 days up until 18th December - which makes this the best year on site for this species. Interestingly, the records from this year are the only ones for September, October, November and December in the period 2004-18 - although there was a bird present in December 1997 (the only other December record).

Kingfisher *Alcedo atthis* (5, 15; 4)

Resident, present through most of the year, occasionally breeding on-site or close by.

A total of 104 days-recorded (138 in 2017) including 15 days on which two birds were present (27 in 2017), otherwise there were two records of birds carrying food (3rd June and 18th July) - but no other evidence of breeding noted. A summary of days-recorded and bird-days from the period 2004-18 is shown below in Figure33.

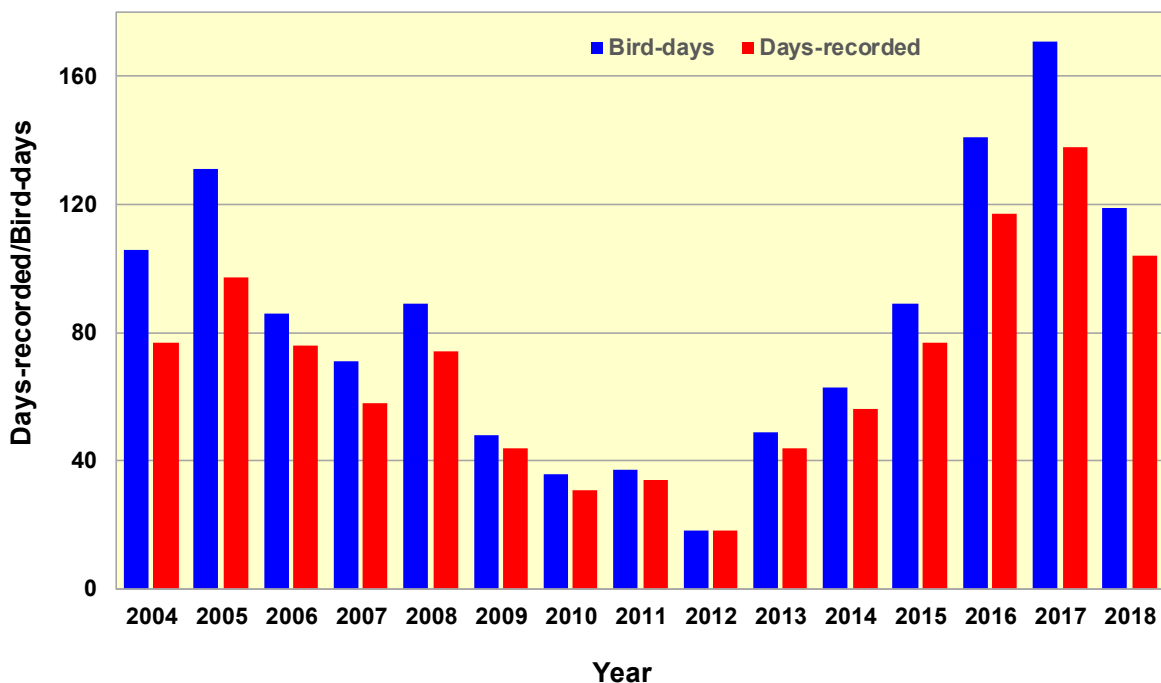


Figure 33. Annual totals of days-recorded and bird-days for Kingfisher *Alcedo atthis* during the period 2004-18

Swift *Apus apus* (5, 15, 300)

Relatively common summer visitor with feeding birds present throughout the summer months. Median spring arrival date (2004-18) 27th April; median autumn departure date (2004-18) 10th August.

Despite a slight drop in days-recorded (38) and counts of 10 or more birds (13) compared with 2016 and 2017 (42 and 41

respectively for days-recorded and 17 in both years for 10 or more birds), this was still a relatively good year for this species. The first bird of the year was on the 21st April and the last bird on the 18th August – slightly earlier and later respectively than the long-term median dates; a summary of early and late dates for the period 2004-18 are shown in Appendix 1 (page 59). The maximum count for the year was 160 birds on 17th June – the best count since 2011.

A summary of days-recorded, counts of 10 or more birds and maximum count for the year for the period 2007-18 is shown below.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-recorded	29	34	19	23	27	19	29	29	26	41	41	38
Counts ≥10	16	11	5	5	10	5	13	7	5	17	17	14
Maximum	200	50	30	100	300	30	40	30	60	80	100	160

Green Woodpecker *Picus viridis* (5, 15, 10)

Common resident.

Recorded in all months of the year with a maximum of 7 birds across the site on 6th January and the 15th April, breeding was confirmed this year by recently fledged young noted on 8th July.

Great Spotted Woodpecker *Dendrocopos major* (5, 15, 6)

Common Resident

Present throughout the year with a maximum count of 4 birds on the 17th February and 14th July. There were no records this year that indicated breeding either on-site or close-by.

Skylark *Alauda arvensis* (5, 15, 100)

Breeding resident also recorded as passage migrant and in winter flocks.

A reasonable year for this species with 103 days-recorded (117 in 2017 and 96 in 2016) and a maximum count of 100 birds on 2nd March; the latter is equal to the previous record count made on the 26th November 2005. Previous analyses have treated counts of ≥40 birds as being of significance. However, re-analysis of the available data suggests that counts of ≥25 can be more accurately described as significant. Using this revised value for Significant counts all of the currently available digitised data (2007 onwards) have been revaluated - as shown in the table below.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-rec'd	89	116	105	66	66	48	66	98	95	96	117	103
Maximum	75	100	50	35	14	80	93	55	56	19	43	40
≥ 25 Birds	4	0	9	5	1	3	0	5	1	2	7	5
≥ 40 Birds	0	0	5	4	1	1	0	1	1	1	2	3

The monthly distribution of those counts of ≥25 for the period 2004-18 are shown below in Figure 34 i.e. indicating a clear peak in November – the significance of the March count of this year is also indicated.

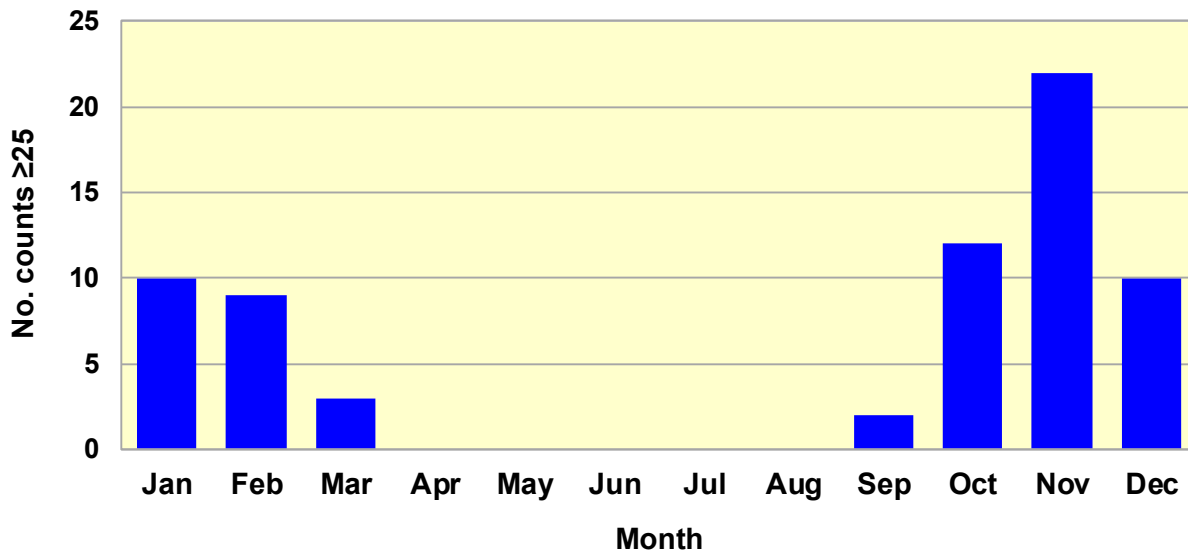


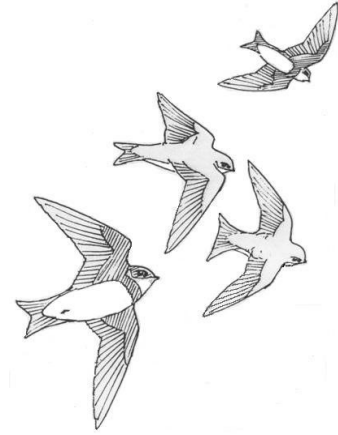
Figure 34. Distribution by month of counts of ≥25 for Skylark *Alauda arvensis* during the period 2004-2018.

Sand Martin *Riparia riparia* (5, 15; 200)

Summer visitor that previously bred and has more recently bred locally on Coursers Road. Median arrival date (2004-18) 22nd March; median departure date (2004-18) 15th September.

A poor year for this species - recorded on just 52 days (80 in 2017) with only 2 counts of 30 or more birds compared to 15 in 2017. The earliest and latest dates were 16th March and 16th September respectively. Early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure. There was no evidence of breeding noted this year and/or indications of breeding close-by.

The maximum count for the year was of just 30 birds on the 24th May and 18th August – also indicating that this species has fared less well locally than in the past. The latter was followed-up by comparing maximum counts for the 3 regular hirundine species over the period 2007-2018 i.e. the period for which digitized records are available - see table below.



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Sand Martin	70	100	50	50	200	50	40	80	50	60	100	40
Swallow	50	50	50	100	300	100	100	100	150	200	100	100
House Martin	80	20	50	130	150	170	50	80	50	100	100	100

A review of daily maxima for the period 2004-18 indicated that significant counts on-site were of 55 birds or more and so counts of ≥ 55 were analysed across the relevant period. This provided the graph shown in Figure 35.

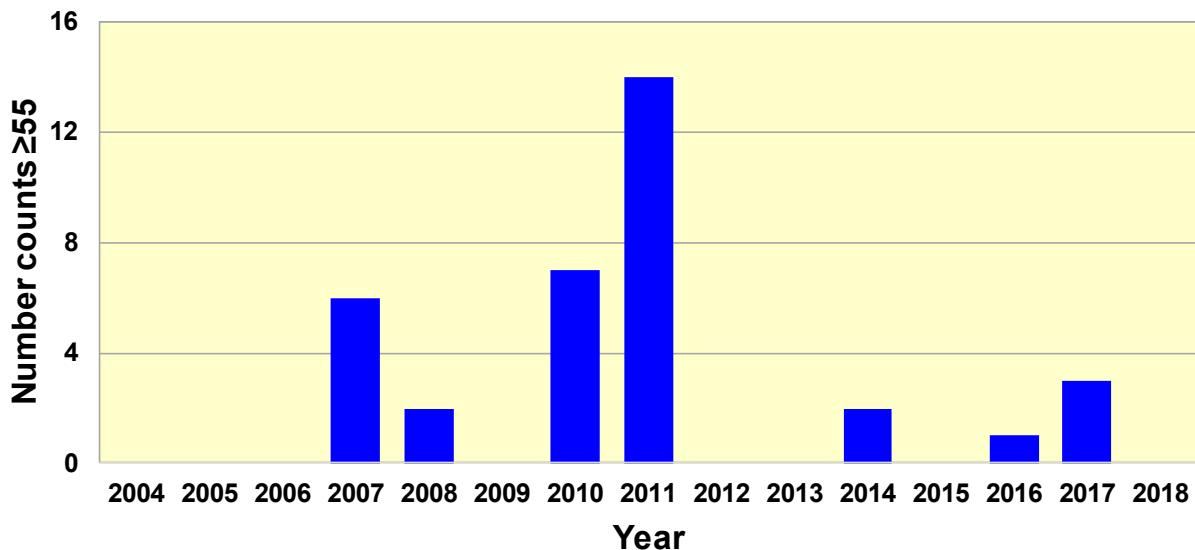


Figure 35. Distribution by year of significant counts (≥ 55 birds) of Sand Martin *Riparia riparia* during the period 2004-18.

Swallow *Hirundo rustica* (5, 15, 500)

Summer visitor with small breeding population centred on Willows Farm. Median arrival date (2004-18) 31st March; median departure date (2004-18) 11th October.

The first bird of the year arrived on the 3rd April with subsequent numbers often in double figures for much of the season through to the last bird departing, slightly earlier than usual, on the 7th October. Throughout the year there were 4 counts of 50 or more birds and a maximum count of 100 birds on the 29th April and 8th September. Early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure.

House Martin *Delichon urbicum* (5, 15, 290)

Passage migrant with small breeding population previously present on the Colney Heath margins of the site. Median arrival date (2004-18) 10th April; median departure date (2004-18) 3rd October.

Reported in small numbers from 6th April through to 23rd September with a maximum of 100 birds on the 8th September. Early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure. Again, there were no breeding records for the year - the last breeding being noted in 2007. Maximum counts for this species in the period 2007-18 are shown in the table above.

Yellow Wagtail *Motacilla flava* (5, 15, 30)

Passage migrant with 1-2 pairs breeding in some years. Median arrival date (2004-18) 10th April; median departure date (2004-18) 19th September.

With the first bird arriving on the 5th April, this was a good year for this species with 51 days-recorded and 100 bird-days (28 and 67 respectively in 2017 and 38 and 69 in 2016) up to the 27th September when the last bird of the year was noted. Early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure.

There was no confirmed breeding on site this year but there were a number of records in May and June from around Tyttenhanger Farm that indicated attempts were being made to breed – apparently without success. A summary of data from the period 2004-18 is provided in the table below.

	2004-06*	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Bird-days*	274	10	49	172	60	23	28	56	31	58	69	67	100
Days-rec*	102	7	12	17	24	10	13	33	22	33	38	28	51
Maximum*	25	3	12	30	10	8	5	5	2	5	7	6	9

* Total number of days-recorded and bird-days in the period 2004-06; the maximum is the largest count obtained in this period.

Grey Wagtail *Motacilla cinerea* (5, 15; 5)

Local resident and winter visitor.

A poor start to the year with just 10 bird-days (7 days-recorded) recorded in the first 6 months, but then a reasonable autumn passage (despite no days-recorded in August) and overwintering numbers produced a respectable final tally for the year of 41 days-recorded and 49 bird-days; the maximum count for the year was of just 2 birds on several dates scattered through the year. The poor start to the year is even more surprising given the local breeding indicated by a report of recently fledged bird seen on 20th July – suggesting that birds maybe have a limited range along the river when breeding?

The following table summarises bird-days and days-recorded for the period 2007-18.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Bird-days	54	28	34	10	2	34	21	19	50	88	67	49
Days-rec.	43	27	25	7	2	24	18	14	38	61	49	41

White/Pied Wagtail *Motacilla alba* (5, 15; 90)

Present through much of the year with evidence of passage in most years.

Pied Wagtail: After the peak numbers of 2017 it was back to a more typical set of numbers with 78 days-recorded, 201 bird-days and a maximum count of 30 birds on 5th October – the best count since a count of 37 on 13th October 2011. Breeding on-site, or close by, was indicated by recently fledged birds seen on the 18th June. A summary of data for the period 2007-2018 is provided in the Table below.

White Wagtail: After the exceptional 2017 it was more of a return to normal – although a total of 9 days-recorded and 10 bird-days (all singles apart from a pair seen on 7th May) is still relatively good in the context of the 33 years for which records of this taxon are available i.e. from 1986 the only years to produce more days-recorded are 2004 and 2016 (11) and 2017 (15). All days-recorded were in April (2) and May (7). A summary of data for the period 2007-18 is provided in the table below.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pied Wagtail Bird-days	379	252	322	438	199	114	134	156	245	277	476	201
Pied Wagtail Days Rec'd	104	115	119	91	62	46	59	79	90	102	138	78
Pied Wagtail Maximum	21	8	18	37	37	7	20	11	19	14	15	30
White Wagtail Days Rec'd	0	1	1	5	2	0	2	3	1	11	15	9
White Wagtail Bird-days	0	1	1	5	2	0	2	3	3	13	36	10

Rock Pipit *Anthus petrosus* (1; 2, 2)

An infrequent visitor.

A single bird was seen on the 2nd March “Briefly by side of footpath at the top end of causeway before flying into private area of gravel works” (Andrew Steele). Only the seventh record for the site – previous records shown below - it shows a recent pattern of occurrence that one may hope is not to be relied upon i.e. with the last three records being in 1998, 2008 and 2018 a wait until 2028 is currently suggested!

1992: 1 on 7th September

1996: 1 on 22nd March

1996: 1 on 6th April

1996: 1 on 10th April

1998: 1 from 7th to 9th October

2008: 2 on 18th October

Meadow Pipit *Anthus pratensis* (5, 15; 120)*Winter visitor and passage migrant.*

After the excellent 2017, things were more typical of the last several years in 2018. Maximum counts were of 25 in the first winter period (6th January) and 70 in the second winter period (30th September). Also notable this year was a record on 2nd June – surprisingly just the third record for June in the period 2007–18. A summary of data from the period 2007 – 2018 is presented below.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Maximum	50	52	30	64	25	8	37	30	47	55	100	70
Days-recorded	2	60	34	26	19	19	24	29	48	45	73	42
Bird-days	329	341	167	332	119	77	212	119	532	331	750	440

Wren *Troglodytes troglodytes* (5, 15, 14)*Common breeding resident.*

Present throughout the year with a maximum count of 11 birds on the 18th and 25th April – the 5th year in a row that has recorded double-figure counts. Breeding was also noted this year with a record of a faecal sac/food being carried on 13th June.

Dunnock *Prunella modularis* (5, 15, 23)*Common breeding resident.*

Another year in which there were no confirmed breeding records. The maximum count for the year was of 12 birds made on two separate dates – 11th March and 5th April – with one other count of 10 or more birds i.e. 10 birds on the 30th March.

Robin *Erithacus rubecula* (5, 15, 30)*Common breeding resident.*

Present throughout the year with a maximum count of 13 birds made on the 29th September. There were no confirmed records of breeding.

Redstart *Phoenicurus phoenicurus* (4, 11, 3)*Irregular visitor usually on spring passage.*

A single female-type bird was seen on the 24th and 25th August in the hedge dividing the fields to the north of the main pit. These were the 33rd and 34th days-recorded since the first record in September 1989.

Whinchat *Saxicola rubetra* (5, 15, 7)*Regular passage migrant. Median spring arrival date (2004-18) 29th April; median autumn departure date (2004-18) 13th September*

A total of 4 days-recorded for the year – one in spring and three in autumn, with the spring record being on the relatively early date of the 18th April. Autumn birds were seen on the 1st, 2nd and 3rd September. All records for the year were of single birds. Early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure. A summary of bird-days, autumn bird-days (Autumn BDs) and days-recorded for the period 2004-18 is shown in the table below.

	2004-06*	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Bird-days	15	4	6	16	11	9	8	5	3	7	8	5	4
Autumn BDs	10	2	3	16	10	8	8	3	3	5	8	4	3
Days-rec'd	11	4	6	8	6	9	7	5	6	6	6	5	4

* Total number of bird-days, autumn bird-days (Autumn BDs) and days-recorded for the period 2004-06.

Stonechat *Saxicola torquata* (5, 15, 6)*Regular passage migrant and winter visitor.*

Recorded on 14 days this year with 11 of these in the first winter-period (5th January through until 5th March) – following on from the good end to 2017 - and three in the second winter-period (15th September to 20th October). All records for the year were of single birds, with many of the records coming from the Willows Farm area. A summary of data from the period 2006-18 is provided in the table below.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
BDs – 1st WP*	0	0	35	0	0	1	0	1	1	1	0	0	11
BDs – 2nd WP*	15	23	21	5	1	0	7	0	10	2	3	27	3
Days * Rec'd	13	16	46	5	1	1	7	1	9	3	3	21	14

*BDs= bird-days; WP = winter period

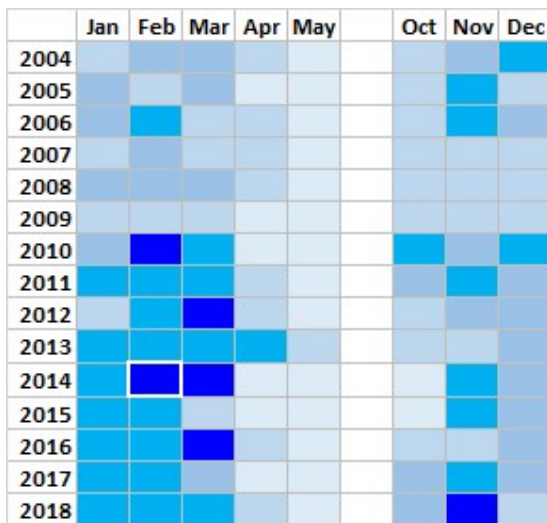
Wheatear *Oenanthe oenanthe* (5, 15, 30)

Regular passage migrant, more frequent in spring. Median arrival date (2004-18) 25th March; median departure date (2004-18) 21st September.

Although there was a good, albeit late, start to the year with 3 birds seen on the 16th April, disappointment prevailed with just 10 days-recorded across the two-migration periods and a total of just 15 bird-days. The count on the 16th April proved to be the best for the year despite reports of birds across the site at various times i.e. on the Sand Spit, Big Field behind the high viewpoint, Maize Field, Willow's Farm, the dung heap and the sheep field by the main pit. The last bird for the year was seen on the 19th September.

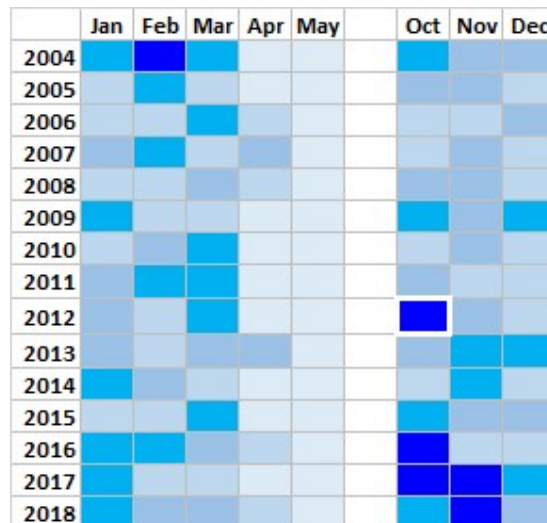
Early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure. A summary of data from the period 2005-18 is presented below showing total bird-days (Bird-days) and spring bird-days (Spring BDs) for the period 2005-18.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Bird-days	9	63	16	24	40	44	56	32	71	18	10	14	17	15
Spring BDs	9	58	15	5	29	29	30	30	67	10	7	11	8	11



Key	
≥225	Dark Blue
100-224	Medium Blue
47-99	Light Blue
1-46	Very Light Blue
0	White

Figure 36A. Monthly maxima for Fieldfare *Turdus pilaris* for the period 2004-18. The maximum count for the period is shown by the white bordered box.



Key	
≥151	Dark Blue
57-150	Medium Blue
28-56	Light Blue
1-27	Very Light Blue
0	White

Figure 36B. Monthly maxima for Redwing *Turdus iliacus* for the period 2004-18. The maximum count for the period is shown by the white bordered box.

Fieldfare *Turdus pilaris* (5, 15, 600)

Common winter visitor and passage migrant. Median spring departure date 7th April (2004-18); median autumn arrival date (2004-18) 22nd October.

The last birds in spring were seen on the 7th April (spot on the median departure date) and the first returning birds in the autumn were seen on the 22nd October – coincidentally also on the long-term median date! Late and early dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for departure and arrival.

The number of days-recorded this year, 63, showed a significant increase over the last couple of years (46 in 2016 and 48 in 2017) but overall numbers were slightly lower i.e. there were 5 counts of 100 or more compared with 10 in 2016 and 7 in 2017. Typically (see Figure 35) the larger counts for the year were in the first winter period, however, the maximum count for the year was 300 birds on 25th November – which also happened to be a record count for this month in the period 2004-18. An overall summary of data from 2004 onwards is presented in the table below and a graphic summary of these data - along with those for Redwing *Turdus iliacus* - is shown in Figure 36.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Maxima 2018	150	110	100	22	0	0	0	0	0	81	300	60
Median 2004-2018*	80	110	91	1	0	0	0	0	0	25	76	50
Maximum 2004-2018*	200	320	300	118	1	0	0	0	5	100	300	100

* Median and Monthly Maximum for each month in the period 2004-18.

Redwing *Turdus iliacus* (5, 15, 617)

Common winter visitor and passage migrant. Median spring departure date (2004-18) 26th March; median autumn arrival date (2004-18) 14th October.

The last birds of spring were seen on the relatively late date of the 3rd April and the first returning birds on the slightly early date of 12th October; early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure. As with the previous species, days-recorded for the year (66) were higher than the previous couple of years (42 in 2016 and 50 in 2017). As usually observed, numbers were better in the second winter period with 6 of the 9 counts of 50 or more birds being in this period. The maximum count for the year was of 345 birds on 25th November – and as with the previous species this was also a record count for the month. An overall summary of monthly maxima data from 2004 onwards is presented in the table below with a graphic summary of these data presented in Figure 35B.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Maxima 2018	86	40	50	12	0	0	0	0	0	57	345	53
Median 2004-2018*	50	40	43	0	0	0	0	0	0	50	40	26
Maximum 2004-2018*	125	200	125	50	0	0	0	0	0	617	345	80

* Median and Maximum Monthly Maximum for each month in the period 2004-18.

Blackbird *Turdus merula* (5, 15, 25)

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

Recorded throughout the year in reasonable numbers, with the largest count of the year being of 20 birds on the 6th January. Typically, there were no confirmed reports of breeding.

Song Thrush *Turdus philomelos* (5, 15, 13)

Breeding resident.

Present throughout the year with a typical 1-2 singing males through spring – also typical was the absence of any confirmed breeding records. The maximum count for the year was of 8 birds on the 18th March.

Mistle Thrush *Turdus viscivorus* (5, 15, 125)

Breeding resident and local migrant.

Another poor year for this species being noted in only ten months of the year (not seen in June or August), and a maximum count of just 9 birds on the 11th October; as usual there were also no confirmed reports of breeding. The status of this species on-site is difficult to gauge as there appears to be no clear relationship between maximum numbers, days-recorded and/or recording frequency⁴ Maximum counts, the dates for those counts, days-recorded and recording frequency for the period 2007-18 are all shown in the table below.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Maximum Count	34	30	17	29	32	24	8	14	17	4	15	9
Date Max. Count	30 th Jul	10 th Sep	15 th Aug	4 th Oct	26 th Jul	10 th Jun	28 th Jul	30 th Aug	3 rd Sep	7 th May	7 th Aug	11 th Oct
Days-recorded	50	64	46	41	33	24	22	34	42	38	54	29
Recording frequency	18.2	12.8	20.0	30.5	19.5	15.9	11.5	20.0	17.6	15.1	19.8	7.1

Grasshopper Warbler *Locustella naevia* (1, 2, 1)

Infrequent visitor.

One found in the reed bed on the main pit at 7.10am on 25th April (Rupert Evershed), was then heard and (occasionally) seen until the 29th April. Singing was intermittent - and was not reported at all on the 26th April - but this stayer gave many of the Tyttenhanger regulars a chance to catch up with this difficult species. This is the 7th record for the species (other records shown below) – and the first since 2005.

1985: One in late April/early May

1987: Reeling male in April

1988: Reeling male reported

1996: Reeling heard

1998: Reeling heard

2005: A bird reeling on 31st May

Cettis Warbler *Cettia cetti* (1, 1, 1)

Rare visitor – becoming an increasingly abundant resident in Hertfordshire.

A first for the site was found on the 9th October on the causeway of the back scrape (Rupert Evershed). The bird moved to the reeds below the high viewpoint on the 10th October and was then present - and reported to be singing almost daily - until the 24th October. Given the increasing abundance of this species in Hertfordshire and elsewhere in the UK, it was only

⁴ Recording frequency is calculated from the number of days-recorded as a proportion of the number of days-visited - the value is usually calculated from the records of a single regular observer.

a matter of time until it turned up at Tyttenhanger – but nevertheless it was still good for it to finally make its way onto the list. A more complete story of the discovery can be found on page 58.

Sedge Warbler *Acrocephalus schoenobaenus* (5, 15, 5)

Summer visitor and breeding species. Median arrival date (2004-18) 13th April; median departure date (2004-18) 30th August.

This species is rapidly becoming difficult to see on site, and with just 8 days-recorded and a maximum count of just 3 birds (23rd April) this was by far the worst year in the period 2004-18. Despite the low numbers, the first bird of the year was still seen on the slightly early date of 10th April and the last bird close to the long-term median on the 31st August; early and late dates for the period 2004-18 are shown in Appendix 1 (page 59). Unsurprisingly, given the numbers, there was no confirmed breeding again this year.

The apparent decline of the last couple of years will be monitored in the future. However, is worth noting that while the previous variations in the abundance of this species closely tracked that of the following species (Reed Warbler *Acrocephalus scirpaceus*) – there has been a divergence between the species in the recent past – see Figure 36. A summary of days-recorded and bird-days for the period 2007-18 is shown in the table below; a summary of the days-recorded is also provided – alongside the data for Reed Warbler *Acrocephalus scirpaceus* – in Figure 37.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Median
Days Rec'd	15	22	45	29	33	21	34	24	32	19	20	8	23*
Bird-days	21	35	87	69	64	29	78	38	56	39	56	11	48*

* Median for the period 2007-18.

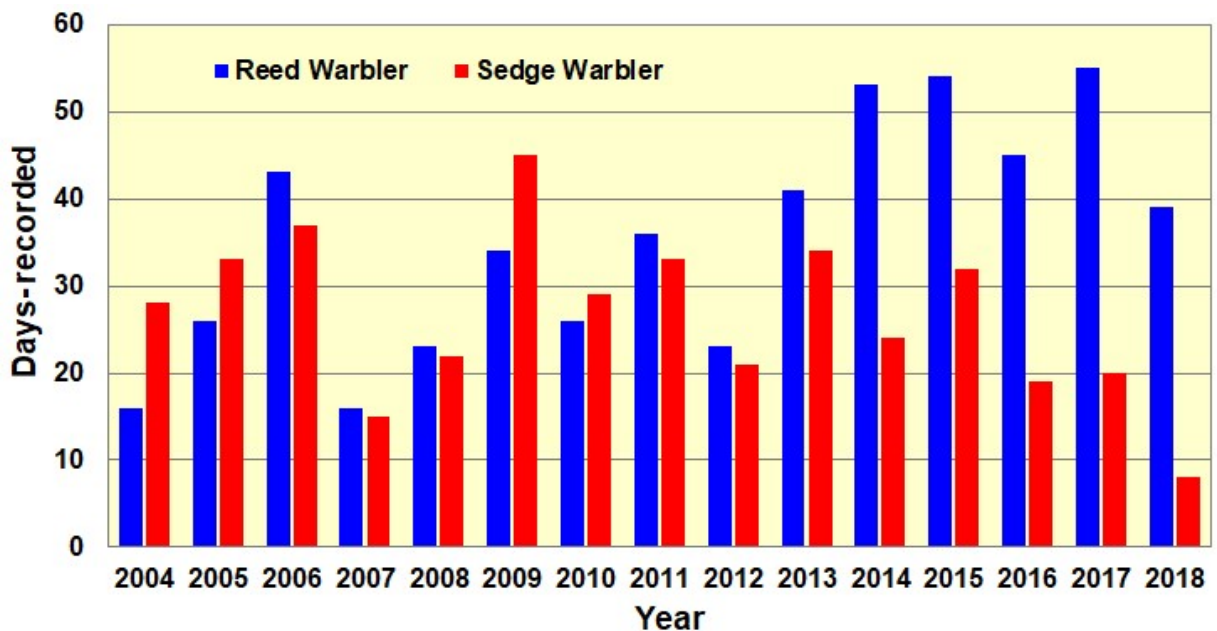


Figure 37. Comparison of days-recorded for Reed Warbler *Acrocephalus scirpaceus* and Sedge Warbler *Acrocephalus schoenobaenus* for the period 2004-18.⁵

Reed Warbler *Acrocephalus scirpaceus* (5, 15, 20)

Summer visitor and breeding species. Median arrival date (2004-18) 20th April; median departure date (2004-18) 5th September.

The first bird of the year was noted spot-on the long-term median date of the 20th April, with the last bird seen on the slightly late date of the 16th September; early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure. In terms of numbers this was an average year for this species with days-recorded (39) slightly down on the last few years but with maximum counts still relatively good i.e. maximum count of 12 on the 5th and 6th May and 6 counts of 10 or more birds compared to just 1 in 2016 and 2017. Strangely, despite the reasonable numbers, there was no confirmed records of breeding this year – the first time since 2012 that this has occurred. Also, of interest is the observation that despite the string of poor years Sedge Warblers *Acrocephalus schoenobaenus* are having, this species seems to be holding its own on-site i.e. see Figure 37.

⁵ Data for 2004-2006 is yet to be fully digitised however, it is considered that the relative recording of the two species under consideration would be unlikely to be affected by the additional data that are likely to be captured during the digitization process.

A summary of days-recorded and maximum counts for the period 2007-18 are shown below along with the relevant medians for the same period.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Median
Days Rec'd	16	23	34	26	36	23	41	53	54	45	55	39	38*
Maximum	2	6	5	8	5	4	8	8	10	20	10	12	8*

* Median for the period 2007-18.

Blackcap *Sylvia atricapilla* (5, 15, 13)

Common summer visitor and breeding species. Median arrival date (2004-18) 2nd April; median departure date (2004-18) 1st October.

Overall numbers this year were fairly typical of the last several years with 57 days-recorded and a total of 203 bird-days (68 and 169 and 62 and 194 for 2017 and 2016 respectively). The maximum count was of 13 birds across the site on the 21st April – which is also a site record. Spring arrival (5th April) and autumn departure (30th September) were close to the long-term median dates and there was also a notable winter record of a female-type on-site in a Colney Heath garden between the 14th and 26th January. The only other winter record in the period 2004-2018 also involved a female-type bird seen on the 10th December 2006 – also on Colney Heath Common.

Early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure. The table below shows days-recorded and maximum counts for the period 2007-18; further visualisation of the days-recorded data can be seen in Figure 38.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Median
Days Rec'd	25	47	46	37	43	29	47	53	60	62	68	57	47*
Maximum	6	4	8	7	10	6	8	5	10	10	8	13	8*

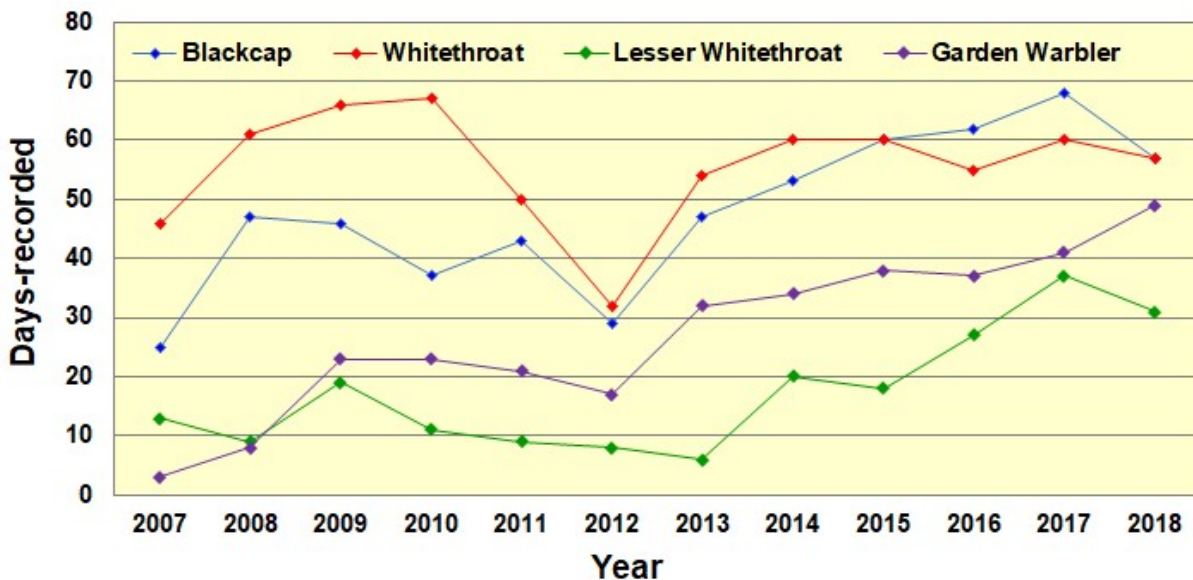


Figure 38. Comparison of days-recorded, by year, for the four common species of Sylvia warblers on-site.

Whitethroat *Sylvia communis* (5, 15, 20)

Common summer visitor and breeding species. Median arrival date (2004-18) 13th April; median departure date (2004-18) 14th September.

This species continues to be the most abundant of the migrant warblers on-site and appears to have had a relatively stable population over the last 6 years in contrast to the other three breeding *Sylvia* warblers on-site (see Figure 38). So, it is not surprising that this year's numbers were much the same as those of the recent past i.e. 57 days-recorded for 221 bird-days compared with 60 and 209 for 2017, and 55 and 236 for 2016. The first bird of the year arrived on the long-term median date of the 13th April and the last bird of the year was seen somewhat latter than normal on the 26th September (latest ever date is the 2nd October). Breeding was confirmed again this year – making it 8 of the last 10 years (2009 and 2015 excepted). All-in-all a good year for this species.

Early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure. The table below shows days-recorded and maximum counts for the period 2007-18; further visualisation of the days-recorded data can be seen in Figure 38.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Median*
Days-rec'd	46	61	66	67	50	32	54	60	60	55	60	57	59
Maximum	20	14	14	9	19	14	10	14	16	16	11	15	14

* Median from the period 2007-18.

Lesser Whitethroat *Sylvia curruca* (5, 15, 5)

Frequent spring migrant/summer visitor showing some breeding success in the recent past. Median arrival date (2004-18) 22nd April; median departure date (2004-18) 1st September.

The first bird of the year appeared on the slightly early date of the 16th April, with the season subsequently producing a total of 31 days-recorded and 44 bird-days. The maximum count for the year was of 4 birds on the 10th and 22nd June – the latter record comprising an adult and 3 recently fledged young; this is the second year in a row this species has now bred on-site. The last bird of the year was seen on the 2nd September; early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure.

The following table provides a summary of days-recorded and bird-days for the period 2007-18. A graphic summary of the days-recorded data is presented in Figure 38.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Median*
Days-rec'd	19	11	9	8	6	20	18	27	37	31	13	9	16
Bird-days	22	18	9	13	6	22	22	43	74	44	19	11	21

* Median from the period 2007-18.

Garden Warbler *Sylvia borin* (5, 15, 6)

Regular summer visitor and breeding species. Median spring arrival date (2004-18) 25th April; median autumn departure date (2004-18) 16th August.

This species continues to go from strength to strength on-site, and can now be considered a regular breeding species - having bred in all years since 2012, with the exception of 2015; breeding was confirmed this year by the observation of recently fledged young on the 2nd July. The first bird of the year was seen on the 21st April and the last bird on the relatively early date of 31st July; early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure. Number of days-recorded (49) and bird-days (90) were comparable with 2017 (41 and 88) with a maximum count of 5 birds on 7th and 27th May and the 2nd July.

The following table provides a summary of days-recorded and bird-days for the period 2007-18. A graphic summary of the days-recorded data is presented in Figure 38.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Median*
Days-rec'd	3	9	24	23	21	17	32	34	38	37	41	49	28
Bird-days	4	13	41	43	36	26	51	55	61	62	88	90	47

* Median from the period 2007-18.

Chiffchaff *Phylloscopus collybita* (5, 15, 20)

Common summer visitor and breeding species; overwintering birds may be coming more regular. Median arrival date (2004-18) 15th March; median departure date (2004-18) 19th October.

The first bird of the year was seen on the 14th March, with good numbers subsequently seen through late March and April – including three significant counts (≥ 6 birds) in this period. Overall numbers were good again this year with 114 days-recorded (354 bird-days) compared with 110 (339 bird-days) and 119 (376 bird-days) in 2016 and 2017 respectively. A summary of data from the period 2007-18 is shown in the table below with the days-recorded data shown graphically in Figure 38; early and late dates for the period 2004-18 are provided in Appendix 1 (page 59).

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-recorded	54	77	75	59	54	41	42	89	86	110	119	114
Bird-days	115	154	125	113	110	97	112	232	270	339	376	354
Mean count	2.13	2.00	1.67	1.92	2.04	2.37	2.67	2.61	3.14	3.08	3.16	3.11
Maximum count	6	7	7	4	6	8	11	10	20	14	18	14
No. significant counts	2	3	1	0	1	2	5	9	11	16	15	14

Despite the good numbers indicated above and a number of references to singing birds, there were no confirmed breeding records this year. Autumn numbers were good again this year, with the maximum count of the year being 20 birds on the 28th August (equals the previous site-record) and a total of 9 significant counts (counts of ≥ 6 birds) in this period (August onwards). All indications are that this species is increasingly abundant on site as shown by the table above which

summarises days-recorded, bird-days, mean count (bird-days/days-recorded)⁶, maximum count and the number of significant counts. In addition to the overall increasing abundance of this species, the recent past has also shown a dramatic increase in the recording of over-wintering birds i.e. birds occurring between 1st November and 28th/29th February. Over-wintering days are generally more frequent in the 2nd winter period (54 bird-days total in the period 2004-18) than the first winter period (20 bird-days in total) and this year was no exception - with the second winter period being the most notable in the period 2004-18 – as shown in the table below.

	2004-06 [^]	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
BDs 1st WP*	11	2	0	0	0	0	0	0	1	0	6	0	0
BDs 2nd WP*	0	0	1	7	1	0	0	0	7	3	9	3	23

* Bird-days (BDs) in the 1st winter period (1st WP- November and December) and second winter period (2nd WP- January and February).

[^] Total number of BDs in the first and second winter periods for the years 2004-06.

Willow Warbler *Phylloscopus trochilus* (5, 15, 13)

Regular summer visitor and breeding species. Median arrival date (2004-18) 3rd April; median departure date (2004-18) 21st September.

The first bird of the year was reported on the 1st April and the last bird of the year on the slightly early date of the 12th September; arrival and departure dates for the period 2004-18 are shown in Appendix 1 (page 59) along with the long-term median dates. However, these apparently normal arrival and departure dates belie the poor year for this species in which there were only 23 days-recorded for a total of 38 bird-days; the maximum count for the year was of 5 birds on 13th and 24th April. The following table summarise similar statistics to those provided above for Chiffchaff *Phylloscopus collybita*, while Figure 39 provides a comparison of days-recorded for these two species for the period 2007-18.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-recorded	43	48	43	46	36	13.00	22	29	30	41	34	23
Bird-days	93	131	89	84	65	18.00	25	42	44	65	59	38
Mean count	2.16	2.73	2.07	1.83	1.81	1.38	1.14	1.45	1.47	1.59	1.74	1.65
Maximum count	6	6	13	8	6	3.00	2	4	3	4	5	5

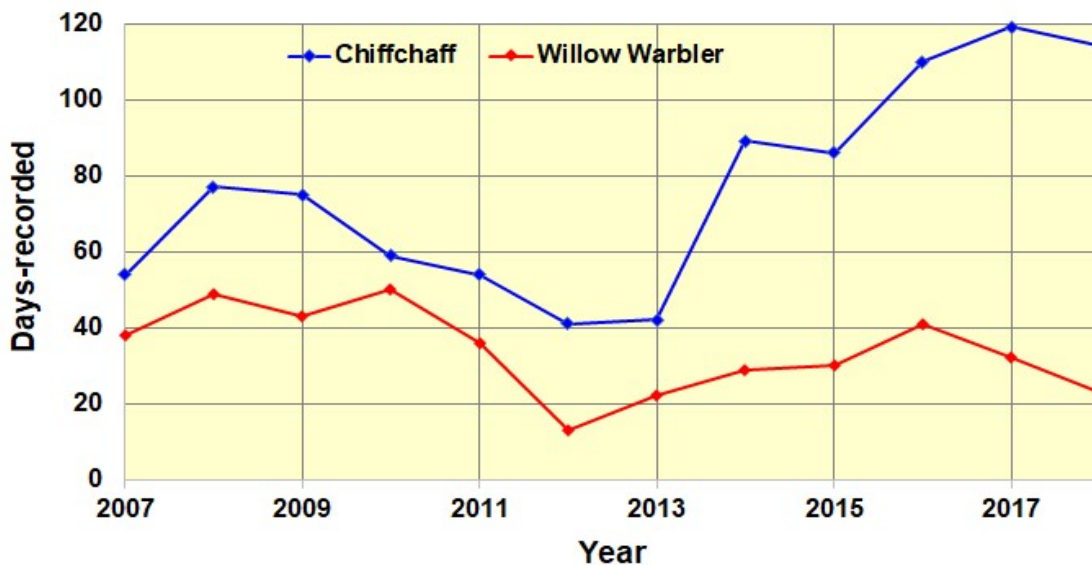


Figure 39. Comparison of days-recorded for the period 2007-2018 for Chiffchaff *Phylloscopus collybita* and Willow Warbler *Phylloscopus trochilus*.

Goldcrest *Regulus regulus* (5, 15, 10)

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

Another good year for this species with 50- days-recorded and a total of 90 bird-days (58 and 102 respectively in 2017) and a maximum count for the year of 10 birds on the 18th November – which equals the previous site record (20th December 2015). There were singing birds noted at the Model Railway, Tyttenhanger Farm and Garden Wood on dates between mid-March and early May – but there was no other evidence of breeding. A summary of days-recorded for the period 2007-18 is provided in the table below.

⁶ This measure is considered to be more independent of observer-effects than some of the other measures that can be used to give estimates of relative abundance and so has been used here.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days Rec'd	27	36	19	19	20	21	22	20	38	33	58	50

Spotted Flycatcher *Muscicapa striata* (5,15, 6)

Declining autumn passage migrant; has bred in past years. Median autumn departure date (2004-18) 10th September.

Just three days-recorded for the year with two birds present on 1st September, one on the 13th and then the last bird of the year on the relatively late date of the 21st September (latest recorded date is the 25th September); autumn departure dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median. Figure 40 shows the distribution of daily maxima by date recorded for the period 2004-18; the last record prior to the start of August was on the 6th July 2008.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-recorded	5	4	12	3	3	2	2	2	6	3	3	3	3
Bird-days	8	8	16	3	4	3	2	2	6	3	3	5	4

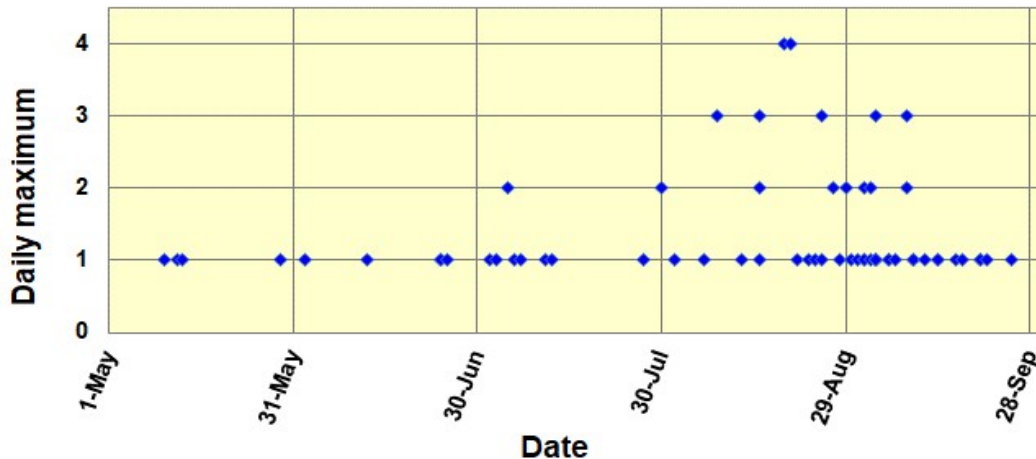


Figure 40. Days-recorded, shown by date, for Spotted Flycatcher *Muscicapa striata* in the period 2004-18.

Penduline Tit *Remiz pendulinus*

Rare visitor.

One of this year's many highlights was a male found on 16th April feeding on reed-mace heads in the back scrape (Steve Blake). Initially proving to be a little elusive, the bird eventually showed well, through until it went to roost at around 7.20pm that evening. The following morning the bird was seen for a short time before it flew high and headed off north east at around 6.45am. The bird was seen to be ringed and sufficient information could be garnered from the images of the ring to identify the Tyttenhanger individual as the same bird that had spent several weeks in Gloucestershire over the previous winter.

A full account of the finding of this first for Hertfordshire can be found in the Hertfordshire bird report ([HNHS, 2018](#)); this is the most recent first for Hertfordshire that has been found at Tyttenhanger – the last being the Lesser Scaup *Aythya affinis* way back in in 1996!



Undoubtedly bird-of-the-year, this superb male Penduline Tit *Remiz pendulinus* got many pulses racing when found on the 16th April by Steve Blake 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 bird that spent the previous winter in Gloucestershire. Photos courtesy of (l to r) Steve Blake – David Hutchinson – Steve Bake.

Long-tailed Tit *Aegithalos caudatus* (5, 15, 35)*Common resident and breeding species.*

Reported throughout the year, with a maximum of 22 birds seen on the 6th January. Breeding was confirmed again this year with recently fledged birds seen on 18th June.

Blue Tit *Cyanistes caeruleus* (5, 15, 50)*Common resident and breeding species.*

Present throughout the year with a maximum of 40 birds on the 26th August. Breeding was confirmed again this year with newly fledged young seen on the 9th June.

Great Tit *Parus major* (5, 15, 50)*Common resident and breeding species.*

Present throughout the year with a maximum of 45 birds on 26th August. Breeding was confirmed with recently fledged young seen on the 9th June.

Coal Tit *Periparus ater* (5, 15, 6)*Resident and irregular breeding species.*

A substantial increase in numbers this year with 46 days-recorded (36 in 2017), 94 bird-days (59 in 2017) and maximum count of 6 birds on 17th February – which is also a new record count for the site! Breeding was also confirmed this year with recently fledged young seen on 11th June – making this the third year in the last 5 this species has bred on-site. A summary of days-recorded and maximum counts for period 2007-18 is shown below.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-recorded	13	20	16	37	18	11	18	32	32	29	37	46
Bird-days	3	2	3	3	3	2	3	5	5	3	3	6
Maximum	19	26	22	55	25	12	23	48	48	43	59	94

Nuthatch *Sitta europaea* (5, 15, 5)*Common resident and probable breeding species.*

Reported in all months except June with 46 days-recorded (51 and 36 in 2017 and 2016 respectively) and a maximum of four birds on 17th February and 8th November. There were no records this year to indicate breeding occurred either on-site or close-by.

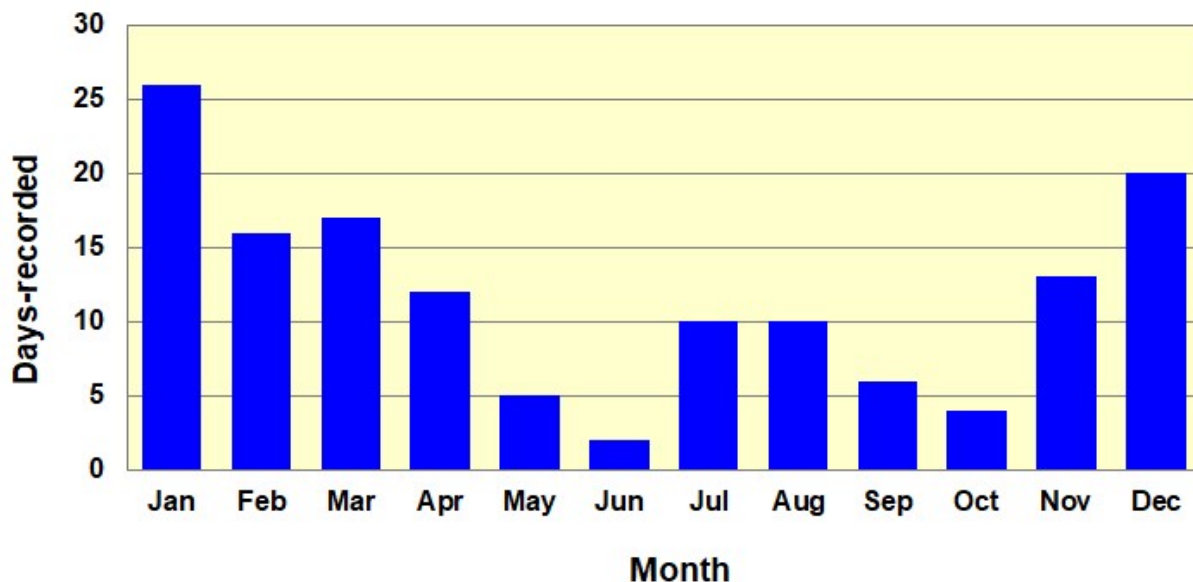


Figure 41. Monthly distribution of days-recorded for Treecreeper *Certhia familiaris* for the period 2007-2018.

Treecreeper *Certhia familiaris* (5, 15, 3)*Resident and probable breeding species.*

Probably an under-recorded species, with this year producing just 10 days-recorded. However, the maximum count of 3 birds on 19th January equals the site-record and is just the 6th count of 3 birds in the period 2004-18. There was no evidence of breeding this year. Summary data for days-recorded and bird-days for the period 2007-18 are shown in the table below and the monthly distribution of days-recorded is shown above in Figure 41.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-recorded	16	19	5	12	12	7	10	15	12	7	16	10
Bird-days	18	23	7	14	16	10	15	17	17	8	20	16

Jay *Garrulus glandarius* (5, 15, 15)*Common resident.*

Reported in all months of the year, with a maximum of 15 birds on 30th September – which equals the previous record count made on the 22nd September 2012. Breeding was also confirmed this year by the observation of recently fledged young on the 18th July. Amazingly, the latter record is the first confirmed breeding in the period 2004-18 – the only other possible record being on the 14th August 2004 when “a presumed family party of five” was noted.

Magpie *Pica pica* (5, 15, 60)*Common resident.*

Present throughout the year with 23 counts of 10 or more birds and a maximum count of 60 birds on 4th November. The latter count was made on birds going into roost in a single tree along the entrance road to Tyttenhanger House and may have actually comprised up to 100 birds. Irrespective, the count of 60 is still a new site record, beating the previous best of 55 on the 5th March 1992! Breeding was also confirmed this year with recently fledged young seen on 5th June. A summary of maximum counts for this and the other common corvids for the period 2007-18 is shown in the table below.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Magpie	22	16	21	28	29	36	22	23	31	36	15	60
Carrion Crow	150	107	50	40	74	44	70	100	150	130	100	110
Rook	67	30	74	21	40	117	80	50	56	50	40	20
Jackdaw	322	300	200	60	50	280	100	70	350	400	300	310

Rook *Corvus frugilegus* (5, 15, 117)*Local breeder and relatively common visitor to the site.*

The number of days-recorded was just 14 with 4 days producing counts of 10 or more birds – all four being in November and December - with the highest count being 20 birds on the 20th November. A summary of days-recorded since 2007 is shown below with a summary of maximum year-counts in the period 2007-18 shown in the table above.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-recorded	44	63	49	32	38	40	18	11	26	8	20	14

Carrion Crow *Corvus corone* (5, 15, 250)*Common resident.*

Present throughout the year with just 2 counts of 50 or more birds (4 in 2017) and a maximum of 110 birds on the 18th November; as usual there were no records of confirmed breeding. A summary of maximum year-counts in the period 2007-18 shown in the table above.

Jackdaw *Corvus monedula* (5, 15, 500)*Local breeder and common visitor to the site.*

Still the commonest corvid on-site which this year produced 6 days-recorded with counts of 50 or more birds (10 in 2017) and a maximum of 310 on the 20th November. As usual, there was no evidence of breeding this year. A summary of maximum counts from the last 12 years are shown in the table above.

Raven *Corvus corax* (5, 8, 2).*Infrequent visitor – seemingly becoming more frequent as the species spreads within the UK.*

There were four days-recorded this year with single birds seen on 24th August, 28th August and 10th December and two birds present on 7th November. There have now been 25 days-recorded on site since the first record in 2009 and, rather surprisingly, 13 of these counts have been of single birds and 12 of two birds. A summary of days-recorded as a function of month is shown in the table below.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days-recorded	0	0	3	6	0	0	3	2	3	2	3	3

Starling *Sturnus vulgaris* (5, 15, 10000)*Common resident and winter visitor.*

Reported throughout the year with just a single count of 100 or more birds (4 in 2017) i.e. 150 birds on the 24th November. A summary of maximum counts for the period 2007-18 is shown below.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Max. count	300	220	200	300	400	500	250	380	500	450	450	150

Tree Sparrow *Passer montanus* (5, 15, 100)

Breeding resident and frequent visitor from other local breeding populations.

This was another good year for this species with a total of 163 days-recorded (138 in 2017) and 31 counts of 10 or more birds (24 in 2017) - including 4 counts of 20 or more birds with a maximum count of 25 birds on 26th October. There were also three reports of recently fledged young this year on 28th May, 11th June and 22nd June.

A summary of daily maxima for the period 2007-2018 are shown in Figure 42 and in the table below, the latter along with data for counts of 10 or more birds and maximum counts for the year.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-recorded	93	76	62	98	63	37	41	179	169	135	138	163
Counts ≥ 10	9	9	4	3	2	2	1	35	36	9	24	31
Max. count	20	18	14	10	12	13	28	19	32	24	26	25

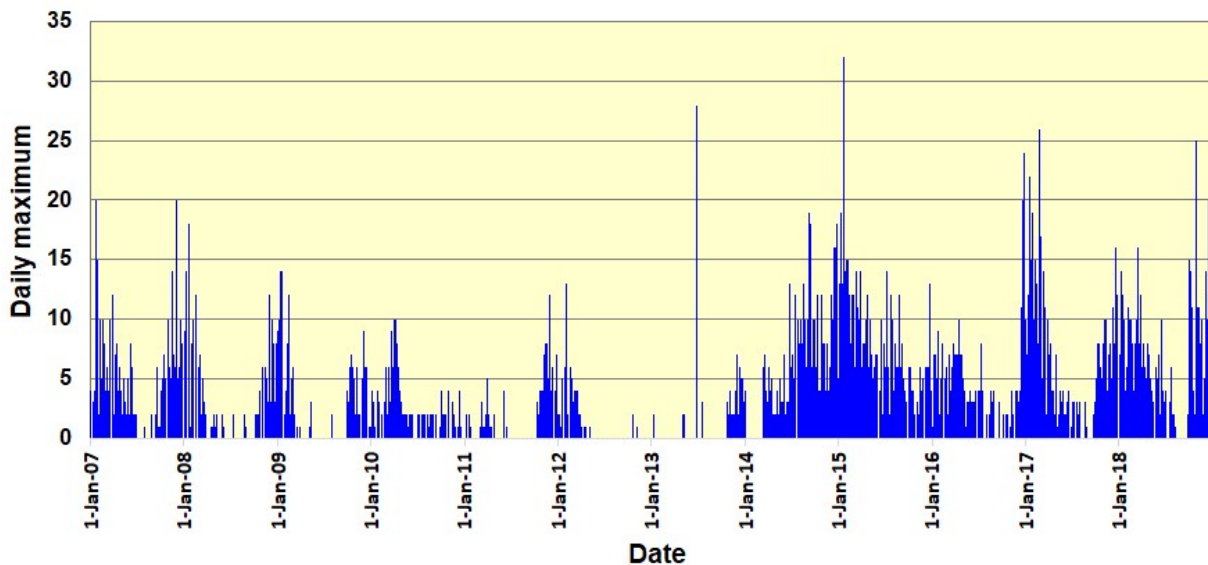


Figure 42. Summary of daily maxima for Tree Sparrow *Passer montanus* during the period 2007-2018.

House Sparrow *Passer domesticus* (5, 15, 36)

Small resident populations around Willows Farm and in Colney Heath.

Reported around Willow's Farm in small numbers through most of the year with the exceptions of August, September and December. There was a maximum count of 15 birds on the 17th February but no records of confirmed breeding this year. A summary of data for the period 2007-18 is shown in the following table.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Maximum	29	14	20	15	20	18	6	10	14	20	15	15
Days-recorded	46	94	70	45	27	12	26	18	37	41	38	23

Chaffinch *Fringilla coelebs* (5, 15; 200)

Common resident and breeding species with winter flocks commonly noted.

A year with numbers typical of the recent past with 6 counts of 20 or more birds (1 in the first winter period and 5 in the second) and a maximum count for the year of 50 birds on the 23rd November. However, atypical was the breeding confirmed this year by observations of recently fledged young on the 9th and 21st June – the only confirmed breeding in the period 2004-2018 despite small numbers of singing birds commonly noted in April and May of most years! A summary of counts of 20 or more birds and maxima from the period 2007-18 is shown below.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Counts of ≥20	14	8	12	16	8	8	5	4	5	9	13	6
Maximum Count	80	110	150	150	150	200	79	80	45	50	60	50

Brambling *Fringilla montifringilla* (3, 11, 9)

Regular/irruptive winter visitor.

After the good numbers of 2017, it was back to a more typical year, with just a single record of a single bird on 5th January. A summary of data from the period 2004-18 is shown in the table below.

	2004-06*	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Birds days	25	46	9	1	29	4	0	0	1	0	0	28	1
Days-rec.	19	13	5	1	16	2	0	0	1	0	0	17	1

* Total number of bird-days and days-recorded for the years 2004-06 inclusive.

Hawfinch *Coccothraustes coccothraustes* (2; 3, 30)

Generally rare visitor but with a major influx in the winter of 2017/18.

The influx of birds that came into the country at the end of 2017 continued into the new year and, as promised in the joint 2016-17 report, the end of 2017 was just the start of things to come. There had been up to 3 birds recorded in Coppice Wood between 30th October and 3rd December 2017 but then a month passed before 10 birds were seen in Garden Wood on the 5th January. From this point, until the last record on the 25th March, birds were recorded on a total of 35 days for a total of 300 bird-days and with a maximum count of 30 birds on the 13th January; Figure 43 shows the distribution of daily maxima through the winter of 2017/18.



Hawfinch Coccothraustes coccothraustes pictured in one of the Yew trees around Tyttenhanger House – a favoured food of this species. Photo courtesy Simon West

In conjunction with the above the following observations are also made:

- The majority of the 2018 records were from Garden Wood with a small number of records from the New Plantation/Tyttenhanger Farm area. There were no records subsequent to 3rd December from Coppice Wood – despite some searching (Ricky Flesher *pers. comm*).
- Elsewhere in Hertfordshire there were counts of 30 or more birds from Bramfield, Fletcher’s Wick Wood, Watery Grove and Broxbourne Woods. But Wormley Wood was the real hot-spot with counts of up to 137 birds being made in February (HNHS, 2018). Tantalisingly there was also a count of 40+ birds seen flying over Highfield Farm towards Tyttenhanger on the 19th February – suggesting that there may have been more birds around through February than the above figure suggests.

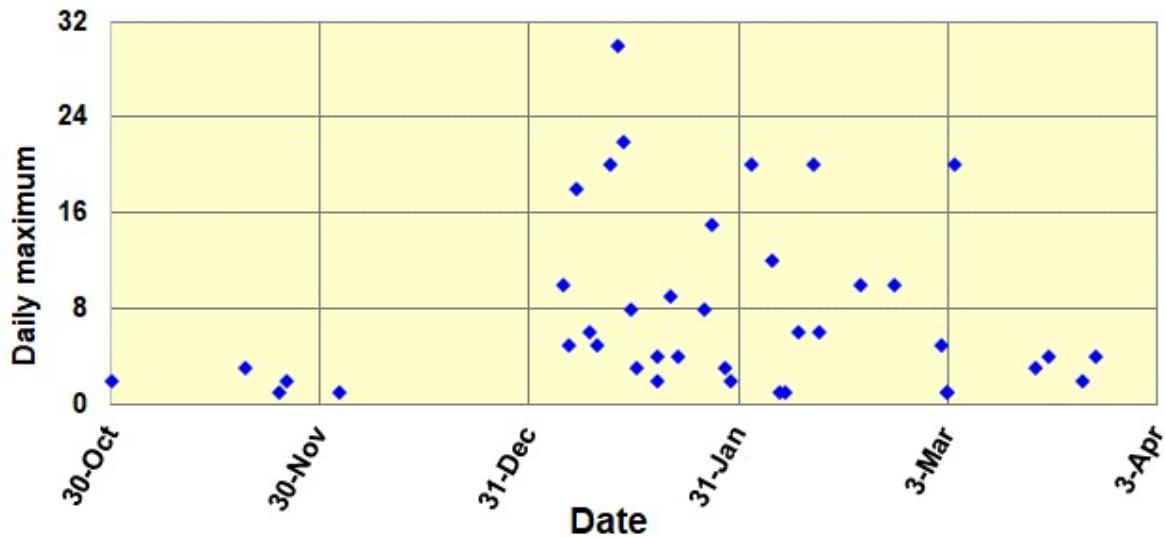


Figure 43. Daily maxima for Hawfinch *Coccothraustes coccothraustes* during the 2017/18 winter period.

Bullfinch *Pyrrhula pyrrhula* (5, 15, 12)

Resident, probably breeds.

Reported from all months of the year, with a maximum of 6 birds on the 10th December. The 52 days-recorded this year

were spread 25 in the first six months of the year and 27 in the last six. The recording frequency for this year was 17.1% (12 records from 70 days-visited by one regular observer). A summary of data from the period 2007-18 is shown in the table below.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Recording frequency	13.1	6.1	9.1	11.6	14.6	26.1	11.5	12.0	17.6	11.0	16.3	17.1
Days-recorded	36	29	27	30	30	35	27	30	49	41	65	52
Bird-days	61	54	44	55	51	58	51	60	88	87	112	100
Average count*	1.69	1.86	1.63	1.83	1.70	1.66	1.89	2.00	1.80	2.12	1.72	1.92
Months recorded	11	9	8	12	11	11	11	8	11	12	12	12

* Average count = Bird-days/days-recorded

Greenfinch *Carduelis chloris* (5, 15, 100)

Common resident and probable breeding species.

A slightly better year for this species with 45 Days-recorded (40 in 2017) and a maximum of 8 birds on the 5th October. Singing males were noted in April, and there was evidence that egg-laying occurred i.e. a used nest containing eggshells was found on the 15th April, but there was no confirmation of whether the young hatched or the eggs were predated. Days-recorded and the maximum counts for the period 2007-18 are shown in the table below.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-recorded	58	73	55	39	45	21	35	26	12	24	40	45
Maximum Count	9	25	21	50	70	4	7	8	5	5	5	8

Goldfinch *Carduelis carduelis* (5, 15, 104)

Common resident and probable breeding species.

Present throughout the year with 6 counts of 20 or more birds (25 in 2017) and a maximum count of 38 birds on the 14th September. As in most previous years there were no confirmed records of breeding this year. Summary data for the period 2007-18 are provided in the table below.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-recorded	71	98	102	84	74	64	84	98	103	113	141	109
Maximum count	30	26	37	52	32	50	89	100	50	104	70	38
Counts ≥	5	3	10	10	4	5	7	17	14	6	22	6

Lesser Redpoll *Carduelis cabaret* (5, 15, 80)

Regular winter visitor. Median spring departure date (2004-18) 21st March; median autumn arrival date (2004-18) 19th October.

A reasonable year for this species with 35 days-recorded (34 in 2017) a maximum count of 18 birds on the 3rd and 16th December and a total of 5 double-figure counts (9 in 2017). Records were spread across the site from the Tree Sparrow Hedge, Fishing Lakes and Willow's Farm and Garden Wood. - but none from Colney Heath Common! The first winter period produced 14 days-recorded with the last bird seen on the 5th of May; this is the first May record for this species in the period 2004-18. In the second winter period the first bird was noted on the 20th October (very close to the long-term median date of the 19th October) with a total of 21 days-recorded for the period. The good figures in the second winter period bode well for the overall 2018/19 winter period – but obviously numbers for this period will not be available until the 2019 report is completed.

Early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure. Figure 44 shows the days-recorded for each of the winter periods from 2004/05 to 2017/18 for this species along with the same data for the following species – Siskin *Carduelis spinus*.

Siskin *Carduelis spinus* (5, 15, 120)

Frequent winter visitor - frequently along the River Colne at Colney Heath and more recently in Garden Wood. Median spring departure date (2004-18) 12th March; median autumn arrival date (2004-18) 14th October.

A relatively good year for this species with 26 days-recorded (22 in 2017) – 10 of which were in the first winter period. The last bird of the spring was seen on the 21st April – which is the latest date recorded in the period 2004-18. The first returning birds of the autumn were seen on the relatively early date 29th September, with 16 days-recorded in the second winter period. The maximum count for the year was of 30 birds – made on several dates through the year i.e. 5th January on the Main Pit and 6th and 12th December on Colney Heath Common.

Early and late dates for the period 2004-18 are shown in Appendix 1 (page 59) along with long-term median dates for arrival and departure while Figure 44 shows the days-recorded for each of the winter periods from 2004/05 to 2017/18 for

this species along with the data for Lesser Redpoll *Carduelis cabaret*.

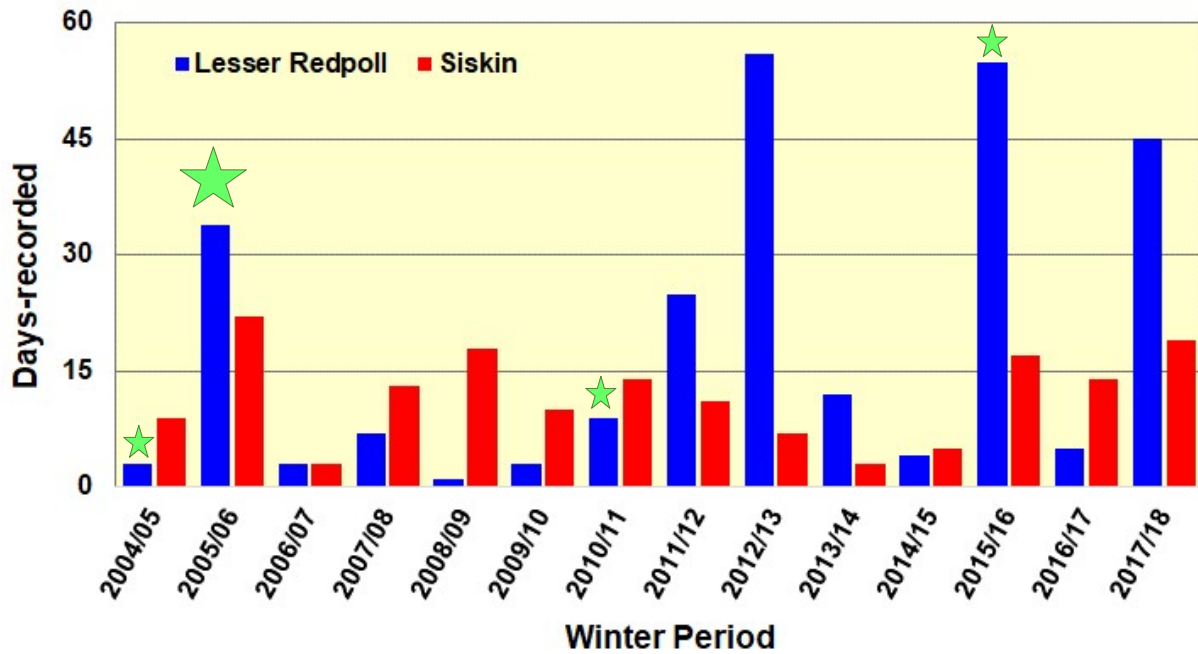


Figure 44. Days-recorded for Lesser Redpoll *Carduelis cabaret* and Siskin *Carduelis spinus* in the winter periods from 2004/05 to 2017/18. Also shown (by the green stars) are those winters in which Mealy Redpoll *Carduelis flammea* has been recorded – the small stars show winter-periods with single records and the larger star the major influx seen at the beginning of 2006 (13 days-recorded with up to 3 birds present).

Linnet *Carduelis cannabina* (5, 15, 350)

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

A reasonable year for this species, although there were no confirmed reports of breeding despite birds present consistently through the April-July window. There were 24 counts of 50 or more birds (14 in 2017) - 2 in the first winter period (maximum count 60) and 22 in the second winter period (maximum count 100 on nine dates in November and December). Figure 45 shows the monthly distribution of counts of ≥50 birds for the period 2004-18.

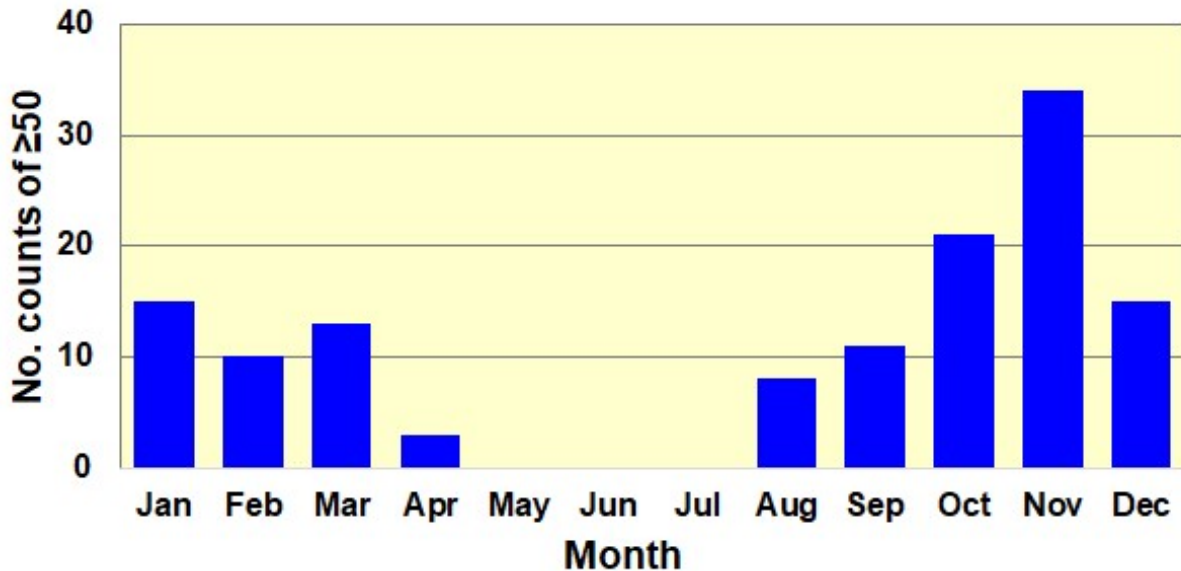


Figure 45. Monthly distribution of counts of ≥50 for Linnet *Carduelis cannabina* during the period 2004-18.

Yellowhammer *Emberiza citrinella* (5, 15, 50)

Regular winter visitor especially around Tythenhanger Farm.

A year that continued the upward trend from the low of 2014, with 26 days-recorded and a total of 39 bird-days (21 days-recorded and 28 bird-days in 2017). There was a maximum count of just 3 birds on the 16th February and the 11th June. A summary of data from the period 2007-18 is shown below.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-recorded	42	46	64	63	48	34	10	2	8	18	21	26
Bird-days	301	366	598	291	276	156	16	8	8	22	28	39
Counts ≥ 10	11	18	23	4	7	3	0	0	0	0	0	0

Reed Bunting *Emberiza schoeniclus* (5, 15, 15)

Resident with a small number of presumed breeding pairs.

Reported throughout the year with the usual 2-3 singing males noted in April/May and with breeding confirmed this year by an adult seen carrying a faecal sac or food on the 16th June There was a maximum of 13 birds on the 21st April, and three other double-figure counts (the same as 2017).

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Days-recorded	72	101	71	76	63	58	67	96	81	82	108	87
Maximum count	8	8	7	12	11	14	12	6	15	10	15	13

Escapes & Birds of Uncertain Origin

Domestic Goose *Anser sp.*

Present throughout the year with a maximum of 25 birds reported on the 7th March. Breeding was confirmed this year when 5 young birds were seen with 2 adults on the 27th May.

Aythya sp.

A presumed Ferruginous Duck/Pochard hybrid was seen on the Main Pit on the 10th February. On the 25th August two *Aythya* hybrids of unstated parentage were seen on the Main Pit.

Indian Peafowl *Pavo cristatus*

Birds recorded on 4 dates this year – 13th and 25th April, 20th June and 25th October.

Spoonbill - Tuesday 22nd May 2018

Steve Blake

After some pretty intense birding, catching up with as many migrant birds as possible for my own Tyttenhanger year list, I hadn't planned to go birding this Tuesday, instead, I planned to have a break from the everyday trek around this very large site... That was until the news broke on 21st of a **Spoonbill** arriving at Amwell-NR.

Now, that altered everything. Instead of having my planned day off, I couldn't resist the thought, that the Spoonbill may... just may ...visit Tyttenhanger if it decided to have a "jolly jaunt" around Hertfordshire.

The next day, I was keen to get to site in the hope of seeing what would be a 'first' for Tyttenhanger. My intention was to view the Main Pit, as this would be the most likely place it would be attracted to. I stood at the high viewpoint which gives the best views over the area. I wasn't sure how long I stood there, but as the Spoonbill had not been reported at Amwell that morning, I was determined to wait it out...and hopefully get lucky!

Referring to my notebook, I had not recorded seeing much else that morning... just the long staying Caspian Gull.

Then my instinct (and patience) paid off... from the other side of the lake, a (larger) white bird was flying from the fishing lakes, over the river and coming towards me. A quick check in the binoculars, (just to eliminate a **Little Egret**). There it was circling the Main Pit, eventually landing on the sand spit!

First priority... get some pictures... then put the news out on Twitter and the Bird News Services.

As usual, it seemed an eternity before anyone turned up. But living locally, Rupert Evershed was soon on site and rang me as he arrived. I advised him to go directly to the Maersk container viewpoint because the bird seemed nervous and had already had a couple of fly-rounds. This was a good call, as he managed to get a quick photo from there, and before he



Photo courtesy Steve Blake.

could join me, the Spoonbill had one last fly around the lake and unfortunately never landed again! Although not seen again at Tyttenhanger, the bird showed intermittently at Amwell until 8th June.

Cetti's Warbler – Tuesday 9th October 2018

Rupert Evershed

The list of 'expected but not yet recorded' birds at Tyttenhanger is getting shorter and shorter each year. Of course, there are always the surprises – birds that no one really predicted – that turn up and make all those hours searching worthwhile. But there are those species that have the regulars scratching their heads and wondering why they have not yet visited Tyttenhanger?

Habitat looks good, other sites have them, conditions seem right and yet no show. The **Cetti's Warbler** fitted exactly into this category: a species that has spread its range over Hertfordshire and is now a resident at many not-so-far away locations. Its 'shouty' call is a familiar sound to most birders and yet until 9th October 2018 no shouts had been heard at Tyttenhanger.

So, it was more with a sense of relief than excitement that I was privy to the first **Cetti's Warbler** 'shout' at Tyttenhanger. Walking my usual route in the late afternoon and as I crossed the causeway between the main pit and the lagoon, I heard the unmistakable call of a Cetti's Warbler from the small reed bed next to the causeway.

I put the news out immediately on Twitter and a few people were able to not only hear but also catch glimpses of it that evening. Thankfully the bird stayed for the next two weeks allowing most people a chance to add it to their Tyttenhanger list.

To date and to my knowledge Cetti's Warbler has not yet returned but it was a welcome 204th addition to the Tyttenhanger list and I'm sure it won't be long before we have some resident Cetti's.

Editors' note: Rupert's finding of Cetti's Warbler at Tyttenhanger was also the subject of an article that first appeared in the Herts Advertiser (<https://notingnature.files.wordpress.com/2018/11/tyttenhanger-gravel-pits.pdf>) and is also reproduced on his blog-site – Noting Nature (<https://notingnature.wordpress.com/2018/11/01/a-little-brown-birds-shout-of-approval/>).

Hen Harrier - Sunday 28th October 2018

Rupert Pyrah

This afternoon I had filled the Tree Sparrow feeder at Coursers Farm and had parked at the entrance to Tyttenhanger Farm on Coursers Road at around 3.00 pm, so that I could scan the new pits. I was about to leave and was taking off my boots, when I noticed two large raptors flying together over Coursers Farm, parallel with the road.

Both birds flew in the easy, elastic manner of a **Red Kite** with narrower wings than the other common local raptor, **Common Buzzard**. But as they approached it became apparent that one of the birds was smaller and darker than the other, and lacking in the rufous plumage tones of a **Red Kite**. As they passed, I could see that the smaller bird had the rather owl-like face of a harrier. As the two birds continued southwards the **Red Kite** peeled away, and the Harrier began to be mobbed by the resident **Carrion Crows**. It veered to the right, allowing me a clear view of its crescent-shaped white rump, and dropped down into a rough field which was awaiting excavation. The Crows were clearly not going to let it rest, and in less than a minute, the ringtail **Hen Harrier**, flew up and across Coursers Road in a westerly direction towards Willows Farm escorted by a gang of Crows, disappearing from view around 100 yards to the south of Garden Wood.

Red-breasted Merganser - Saturday 17th November

Ricky Flesher.

Steve Blake and I met on the corner of the main pit as usual on Saturday 17th November from where we scanned the pit a couple of times before moving on. I'd already mentioned to Steve that may need to go to Hilfield Park Reservoir as there were two **Red-breasted Merganser** over there and I needed the species for my Herts list. We walked half way across the field north of the main pit and decided to go the bottom of the field to scan from there. We both scanned the pit a couple of times when on the third scan I came across a male Red-breasted Merganser I said to Steve "I've got a Merganser", which he quickly confirmed, before we put the news out on Twitter. We were taking a few photos when Terry Smith arrived and saw the bird and then two other regulars got onto the bird before it flew off east at 9.15am.

The *Birds of Hertfordshire* (Smith et al., 2015) summarises the first appearance dates of the 29 records between 1983 and 2012 and the Herts Bird Club website (<http://www.hnhs.org/herts-bird-club/herts-bird-club/home>) lists another 6 records (including the current one) up until the end of 2018. Interestingly the last record involves a male bird on the River Colne at Troy Mill on the 16th and 17th December 2018 ... tempting to speculate that maybe the Tyttenhanger bird didn't go too far away for a few weeks after leaving so abruptly.

APPENDIX 1

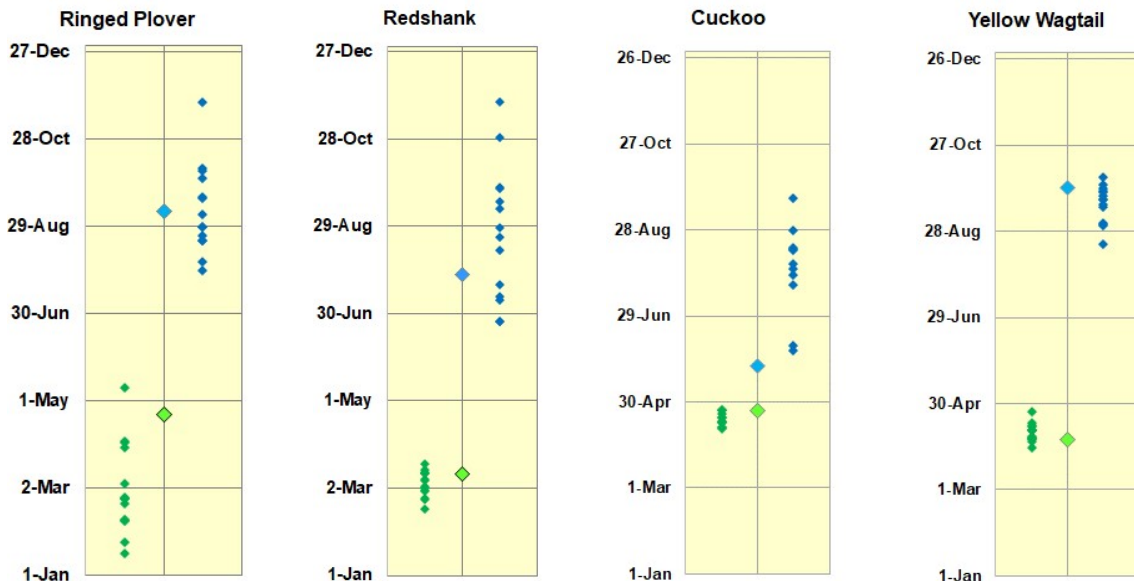
Appendix 1A – Summary of spring arrival dates and autumn departure dates for common migrants and breeding visitors at Tyttenhanger GP covering the period 2004-2018. The earliest spring (E) and latest autumn (L) dates recorded on site are shown in the column labelled E/L – these dates and the corresponding dates in the body of the table (if present) are shaded green and blue respectively; where E/L date is from prior to 2009 it is shaded in yellow. Median dates are shown for the period 2004-18. Where no dates (ND) are available these are indicated by the grey shaded boxes.

Species	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	E/L	Median
Hobby	28 th Apr	6 th May	24 th Apr	5 th May	8 th May	21 st Apr	2 nd May	1 st May	18 th May	29 th Apr	1 st Apr	30 th Apr
	29 th Sep	7 th Oct	2 nd Oct	21 st Sep	7 th Oct	15 th Oct	11 th Oct	3 rd Oct	11 th Sep	28 th Sep	7 th Oct	28 th Sep
Ringed Plover	23 rd Feb	5 th Mar	8 th Feb	19 th Feb	10 th May	30 th Mar	2 nd Apr	3 rd Apr	8 th Feb	22 nd Apr	16 th Jan	23 rd Feb
	29 th Aug	5 th Aug	30 th Jul	19 th Aug	29 th Aug	22 nd Nov	23 rd Aug	19 th Aug	6 th Sep	8 th Sep	22 nd Nov	6 th Sep
Little Ringed Plover	20 th Mar	30 th Mar	29 th Mar	2 nd Apr	15 th Apr	17 th Apr	9 th Apr	3 rd Apr	20 th Mar	9 th Mar	9 th Mar	30 th Mar
	4 th Sep	24 th Jul	10 th Aug	30 th Aug	17 th Aug	17 th Aug	9 th Aug	30 th Jul	12 th Jul	14 th Aug	1 st Oct	10 th Aug
Redshank	23 rd Feb	2 nd Mar	22 nd Feb	1 st Mar	7 th Mar	8 th Mar	13 th Mar	19 th Mar	12 th Mar	12 th Mar	16 th Feb	7 th Mar
	28 th Aug	22 nd Aug	24 th Sep	12 th Jul	10 th Sep	25 th Jun	9 th Jul	23 rd Nov	25 th Sep	27 th Jul	23 rd Nov	22 nd Aug
Common Sandpiper	14 th Apr	23 rd Apr	23 rd Apr	11 th Apr	16 th Apr	30 th Mar	12 th Apr	19 th Apr	17 th Apr	16 th Apr	28 th Mar	15 th Apr
	9 th Sep	24 th Sep	8 th Nov	28 th Sep	7 th Oct	27 th Oct	14 th Sep	13 th Nov	15 th Sep	7 th Oct	13 th Nov	28 th Sep
Common Tern	8 th Apr	19 th Apr	8 th Apr	11 th Apr	7 th Apr	9 th Apr	16 th Apr	11 th Apr	15 th Apr	19 th Apr	3 rd Apr	11 th Apr
	14 th Sep	4 th Sep	4 th Sep	3 rd Sep	26 th Aug	22 nd Sep	15 th Sep	24 th Sep	22 nd Aug	14 th Sep	27 th Sep	4 th Sep
Cuckoo	12 th Apr	24 th Apr	12 th Apr	19 th Apr	24 th Apr	19 th Apr	16 th Apr	19 th Apr	22 nd Apr	24 th April	25 th Mar	19 th Apr
	14 th Aug	15 th May	1 st Aug	NA	16 th Aug	19 th Sep	5 th Jul	4 th Jun	2 nd Jun	NA	25 th Sep	9 th Aug
Swift	28 th Apr	30 th Apr	30 th Apr	26 th Apr	27 th Apr	3 rd May	6 th May	18 th Apr	29 th Apr	21 st Apr	18 th Apr	27 th Apr
	1 st Aug	20 th Aug	30 th Jul	21 st Jul	28 th Jul	26 th Aug	29 th Aug	10 th Aug	9 th Sep	18 th Aug	9 th Sep	10 th Aug
Sand Martin	15 th Mar	22 nd Mar	23 rd Mar	17 th Mar	13 th Apr	20 th Mar	18 th Mar	25 th Mar	11 th Mar	16 th Mar	11 th Mar	22 nd Mar
	12 th Sep	17 th Sep	20 th Sep	1 st Sep	15 th Sep	4 th Sep	14 th Sep	23 rd Sep	23 rd Sep	16 th Sep	7 th Oct	15 th Sep
Swallow	25 th Mar	29 th Mar	26 th Mar	31 st Mar	13 th Apr	29 th Mar	3 rd Apr	26 th Mar	29 th Mar	3 rd Apr	25 th Mar	31 st Mar
	9 th Oct	11 th Oct	15 th Oct	20 th Oct	6 th Oct	12 th Oct	19 th Oct	14 th Oct	20 th Oct	7 th Oct	22 nd Oct	11 th Oct
House Martin	31 st Mar	3 rd Apr	5 th Apr	17 th Apr	13 th Apr	10 th Apr	11 th Apr	8 th Apr	1 st Apr	6 th Apr	31 st Mar	10 th Apr
	11 th Oct	6 th Oct	8 th Oct	2 nd Oct	22 nd Sep	24 th Sep	24 th Sep	1 st Oct	5 th Oct	23 rd Sep	5 th Nov	3 rd Oct
Yellow Wagtail	7 th Apr	30 th Mar	5 th Apr	17 th Apr	15 th Apr	11 th Apr	11 th Apr	5 th Apr	14 th Apr	5 th Apr	30 th Mar	11 th Apr
	24 th Sep	5 th Oct	27 th Sep	19 th Sep	14 th Sep	1 st Sep	19 th Sep	30 th Sep	16 th Sep	27 th Sep	5 th Oct	19 th Sep
Whinchat	ND	24 th Apr	8 th May	ND	19 th Apr	ND	1 st May	ND	29 th Apr	18 th Apr	14 th Apr	29 th Apr
	18 th Sep	1 st Sep	9 th Sep	26 th Sep	31 st Aug	19 th Oct	13 th Sep	13 th Sep	16 th Sep	8 th Sep	19 th Oct	13 th Sep
Wheatear	14 th Mar	20 th Mar	25 th Mar	17 th Mar	30 th Mar	19 th Mar	9 th Apr	2 nd Apr	3 rd Apr	16 th Apr	14 th Mar	25 th Mar
	1 st Oct	12 th Sep	8 th Oct	4 th Oct	18 th Sep	25 th Sep	1 st Sep	21 st Sep	17 th Sep	19 th Sep	8 th Oct	21 st Sep

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

Species	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	E/L	Median
Sedge Warbler	11 th Apr	7 th Apr	8 th Apr	13 th Apr	15 th Apr	19 th Apr	11 th Apr	12 th Apr	14 th Apr	10 th Apr	7 th Apr	13 th Apr
	12 th Sep	31 st Aug	29 th Aug	21 st Aug	17 th Sep	6 th Sep	25 th Aug	NA	21 st Aug	31 st Aug	17 th Sep	30 th Apr
Reed Warbler	29 th Apr	24 th Apr	10 th Apr	20 th Apr	16 th Apr	18 th Apr	15 th Apr	19 th Apr	15 th Apr	20 th Apr	10 th Apr	20 th Apr
	5 th Sep	7 th Aug	19 th Sep	28 th Sep	6 th Aug	19 th Sep	17 th Aug	12 th Sep	6 th Sep	16 th Sep	28 th Sep	5 th Sep
Blackcap	3 rd Apr	1 st Apr	30 th Mar	30 th Mar	14 th Apr	2 nd Apr	7 th Apr	1 st Apr	30 th Mar	5 th Apr	28 th Mar	2 nd Apr
	1 st Oct	30 th Sep	2 nd Oct	30 th Oct	6 th Oct	18 th Oct	27 th Sep	14 th Sep	7 th Oct	30 th Sep	30 th Oct	1 st Oct
Garden Warbler	25 th Apr	25 th Apr	17 th Apr	5 th May	23 rd Apr	22 nd Apr	24 th Apr	23 rd Apr	20 th Apr	21 st Apr	17 th Apr	25 th Apr
	2 nd Sep	17 th Sep	13 th Aug	25 th Aug	28 th Jul	14 th Aug	21 st Aug	4 th Sep	5 th Aug	31 st Jul	17 th Sep	16 th Aug
Whitethroat	4 th Apr	17 th Apr	8 th Apr	16 th Apr	15 th Apr	11 th Apr	15 th Apr	7 th Apr	10 th Apr	13 th Apr	4 th Apr	13 th Apr
	18 th Sep	4 th Sep	4 th Sep	30 th Aug	24 th Sep	19 th Sep	6 th Sep	29 th Aug	16 th Sep	26 th Sep	2 nd Oct	14 th Sep
Lesser Whitethroat	15 th Apr	3 rd May	21 st Apr	2 nd May	21 st Apr	18 th Apr	22 nd Apr	23 rd Apr	23 rd Apr	16 th Apr	15 th Apr	22 nd Apr
	22 nd Aug	1 st Sep	24 th Jul	25 th Aug	NR	9 th Sep	27 th Sep	7 th July	14 th Sep	2 nd Sep	27 th Sep	1 st Sep
Willow Warbler	3 rd Apr	30 th Mar	26 th Mar	12 th Apr	15 th Apr	5 th Apr	10 th Apr	3 rd Apr	2 nd Apr	1 st Apr	26 th Mar	3 rd Apr
	18 th Sep	7 th Oct	5 th Sep	3 rd Sep	28 th Aug	4 th Oct	26 th Sep	24 th Sep	23 rd Sep	12 th Sep	4 th Oct	18 th Sep
Chiffchaff	15 th Mar	17 th Mar	13 th Mar	12 th Mar	28 th Mar	10 th Mar	13 th Mar	12 th Mar	11 th Mar	14 th Mar	10 th Mar	15 th Mar
	21 st Oct	6 th Oct	12 th Nov	30 th Oct	19 th Oct	20 th Oct	25 th Oct	17 th Oct	29 th Oct	17 th Oct	30 th Oct	19 th Oct
Spotted Flycatcher ⁽¹⁾	4 th Sep	19 th Sep	9 th Sep	5 th Sep	17 th Sep	10 th Sep	2 nd Sep	5 th Sep	12 th Sep	21 st Sep	25 th Sep	10 th Sep

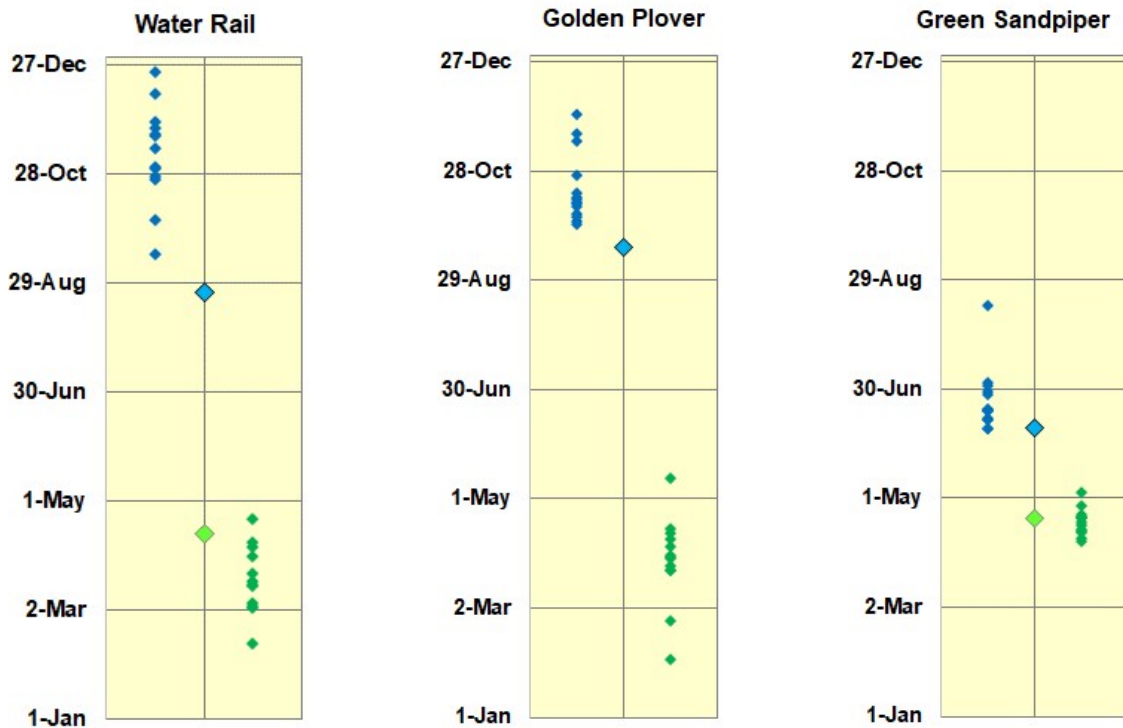
⁽¹⁾ Spring Arrival dates are not provided for this species as there is no spring passage generally noted.



Graphical representation of the data presented in Appendix 1A for Ringed Plover *Charadrius hiaticula*, Redshank *Tringa totanus*, Cuckoo *Cuculus canorus* and Yellow Wagtail *Motacilla flava*. Dates for 2018 are shown on the centre (vertical) axis – where appropriate - spring arrival dates are shown in green and autumn departure dates in blue.

Appendix 1B. Summary of spring departure dates and autumn arrival dates for regular winter visitors at Tyttenhanger GP for the period 2004-2018. The latest spring (L) and earliest autumn (E) dates recorded on site are shown in the column labelled L/E – these dates and the corresponding dates in the body of the table (if present) are shaded green and blue respectively; where E/L date is from prior to 2009 it is shaded in yellow. Median dates are shown for the period 2004-18. Where no dates (ND) are available these are indicated by the grey shaded boxes.

Species	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	L/E	Median
Water Rail	6 th Apr	6 th Mar	15 th Mar	8 th Apr	NA	16 th Mar	12 th Feb	18 th Mar	22 nd Mar	13 th Apr	21 st Apr	18 th Mar
	11 th Nov	1 st Nov	25 th Oct	27 th Oct	11 th Dec	26 th Nov	22 nd Nov	3 rd Oct	14 th Sep	24 th Aug	24 th Aug	6 th Nov
	29 th Mar	23 rd Mar	30 th Mar	9 th Apr	12 th May	23 rd Mar	2 nd Feb	NA	31 st Mar	NA	12 th May	30 th Mar
Golden Plover	5 th Oct	10 th Oct	16 th Oct	26 th Oct	11 th Oct	28 th Nov	3 rd Oct	14 th Nov	18 th Nov	16 th Sep	16 th Sep	11 th Oct
	18 th Apr	9 th Mar	4 th May	20 th Apr	20 th Apr	22 nd Apr	14 th Apr	13 th Apr	12 th Apr	20 th April	4 th May	20 th Apr
Green Sandpiper	13 th Jun	29 th Jun	27 th Jun	4 th Jul	18 th Jun	13 th Jun	15 th Aug	2 nd Jul	19 th Jun	9 th Jun	8 th Jun	18 th Jun
	7 th Mar	27 th Mar	8 th Apr	9 th Apr	12 th May	31 st Mar	30 th Mar	12 th Apr	16 th Mar	7 th Apr	12 th May	7 th Apr
Fieldfare	29 th Oct	18 th Sep	9 th Oct	27 th Oct	15 th Oct	1 st Nov	7 th Nov	19 th Oct	15 th Oct	22 nd Oct	18 th Sep	22 nd Oct
	17 th Mar	29 th Mar	26 th Mar	10 th Mar	13 th Apr	23 rd Mar	21 st Mar	3 rd Apr	15 th Mar	3 rd Apr	14 th Apr	26 th Mar
Redwing	28 th Oct	9 th Oct	13 th Oct	14 th Oct	7 th Oct	16 th Oct	16 th Oct	12 th Oct	8 th Oct	12 th Oct	7 th Oct	14 th Oct
	18 th Oct	17 th Oct	1 st Oct	14 th Oct	2 nd Nov	NA	18 th Sep	25 th Nov	26 th Sep	29 th Sep	14 th Sep	14 th Oct
Siskin	21 st Mar	31 st Jan	20 th Mar	18 th Mar	23 rd Apr	16 th Mar	NA	30 th Apr	1 st Apr	4 th May	4 th May	21 st Mar
	NA	12 th Dec	14 th Oct	19 th Oct	19 th Oct	8 th Nov	2 nd Oct	29 th Oct	9 th Oct	20 th Oct	2 nd Oct	19 th Oct



Graphical representation of the data presented in Appendix 1B for Water Rail *Rallus aquaticus*, Golden Plover *Pluvialis apricaria* and Green Sandpiper *Tringa ochropus*. Dates for 2018 are shown on the centre (vertical) axis – where appropriate - spring departure dates are in green and autumn arrival dates in blue.

APPENDIX 2

SPECIES YEARLISTS FOR TYTTENHANGER GRAVEL PITS 2004-2018

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 2018. Some records for 2014 onwards may still be pending but the list is indicative of the species reported for the year. Species shaded in yellow have not been seen in the period 2004-2018 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 for which we are able to find records for each species. Most of these dates are drawn from the Hertfordshire Bird Report – but we would suggest that anybody with earlier records for any of the species listed contact the editors.

Species	First Record	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Mute Swan	1987	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bewick's Swan	1985	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
Whooper Swan	2004	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0
White-fronted Goose	1993	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Bean Goose (Tundra)	2011	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Greylag Goose	1986	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Canada Goose	1984	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Barnacle Goose	2006	1	0	1	1	1	0	1	1	0	0	1	1	1	1	1
Brent Goose	1996	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0
Egyptian Goose	1993	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1
Shelduck	1986	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mandarin Duck	1988	1	0	1	0	1	1	0	0	1	0	1	1	1	1	1
Wigeon	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gadwall	1987	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Teal	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mallard	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pintail	1985	1	1	1	1	0	1	1	1	1	0	1	1	1	0	1
Garganey	1986	0	0	1	0	1	0	0	1	0	0	0	0	1	1	0
Shoveler	1986	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Red-crested Pochard	1988	1	0	0	0	0	1	1	1	0	0	0	0	1	1	1
Pochard	1986	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tufted Duck	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Scaup	2007	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Lesser Scaup	1996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Common Scoter	2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Goldeneye	1983	1	1	1	0	1	1	1	1	1	1	0	1	1	0	1
Smew	1997	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
Goosander	1988	0	1	1	1	1	1	1	1	1	0	1	0	1	1	1

Species	First Record	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Red-breasted Merganser	2018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Ruddy Duck	1989	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0
Red-legged Partridge	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Grey Partridge	1983	0	1	1	1	1	1	1	1	0	1	0	0	1	0	1
Pheasant	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Little Grebe	1984	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Great Crested Grebe	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Black-necked Grebe	2002	0	0	0	0	0	0	1	0	0	1	1	0	1	0	0
Cormorant	1989	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Shag	1988	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spoonbill	2018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Bittern	1996	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0
Great White Egret	2013	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Little Egret	1999	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Grey Heron	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Black Stork	1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
White Stork	2006	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
Glossy Ibis	2009	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
Honey-Buzzard	1987	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Kite	2004	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Montague's Harrier	2011	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Marsh-Harrier	1991	1	0	0	1	0	1	1	1	0	0	0	1	1	0	1
Hen Harrier	2018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Goshawk	1996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sparrowhawk	1985	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Buzzard	1991	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Osprey	1988	0	1	1	1	1	1	1	0	1	1	1	1	1	0	1
Kestrel	1984	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Merlin	1996	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0
Hobby	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Peregrine Falcon	1994	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Water Rail	1994	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Moorhen	1992	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Coot	1987	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Oystercatcher	1985	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Black-winged Stilt	1998	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Species	First Record	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Avocet	1988	1	1	0	0	1	1	0	1	1	0	1	1	0	1	0
Stone Curlew	2002	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Little Ringed Plover	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ringed Plover	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Golden Plover	1985	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Grey Plover	1987	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0
Lapwing	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Knot	1986	1	0	1	1	0	1	0	0	1	0	1	0	0	0	0
Sanderling	1986	1	1	1	0	1	1	1	0	0	1	1	1	0	1	1
Little Stint	1987	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0
Temminck's Stint	1988	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
Curlew Sandpiper	1987	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Dunlin	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ruff	1984	0	1	1	1	1	0	1	1	1	1	0	1	0	1	1
Jack Snipe	1985	1	1	1	1	1	1	0	1	0	1	0	0	1	0	1
Snipe	1985	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Woodcock	1995	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1
Black-tailed Godwit	1987	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bar-tailed Godwit	1987	1	0	1	0	0	0	0	1	1	0	1	0	0	1	1
Whimbrel	1986	1	0	1	1	1	1	1	1	1	0	0	0	0	1	1
Curlew	1986	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
Spotted Redshank	1985	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0
Redshank	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Greenshank	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Green Sandpiper	1984	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wood Sandpiper	1985	0	0	0	1	0	1	0	0	0	0	1	1	1	0	1
Common Sandpiper	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Turnstone	1991	1	1	1	0	1	0	0	0	0	1	0	0	0	0	0
Mediterranean Gull	2001	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1
Little Gull	1987	0	0	0	0	1	0	0	0	1	1	0	0	1	1	0
Black-headed Gull	1984	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Common Gull	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lesser Black-backed Gull	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Yellow-legged Gull	1996	0	1	1	0	1	1	0	1	1	1	1	1	1	1	1
Caspian Gull	2006	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1
Herring Gull	1984	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Species	First Record	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Iceland Gull	1998	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Great Black-backed Gull	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Kittiwake	1993	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Little Tern	1988	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0
Black Tern	1987	1	1	0	0	1	1	0	1	1	0	0	1	0	1	0
White-winged Black Tern	2017	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Sandwich Tern	1996	1	0	0	0	0	0	1	1	1	0	0	1	0	0	1
Common Tern	1984	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Arctic Tern	1992	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0
Feral Pigeon	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Stock Dove	1984	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Woodpigeon	1987	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Collared-Dove	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Turtle-Dove	1986	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ring-necked Parakeet	1993	0	1	1	0	1	0	1	1	1	1	1	1	1	1	1
Cuckoo	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Barn Owl	1997	0	0	1	0	1	0	0	0	1	1	0	1	1	1	1
Little Owl	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tawny Owl	1985	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Long-eared Owl	1993	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Short-eared Owl	1998	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Swift	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Kingfisher	1984	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hoopoe	2013	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Green Woodpecker	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Great Spotted Woodpecker	1990	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lesser Spotted Woodpecker	1984	1	1	1	1	0	1	1	1	1	1	0	0	0	0	1
Wryneck	2010	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Short-toed Lark	1991	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skylark	1995	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sand Martin	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Swallow	1988	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
House Martin	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tree Pipit	1987	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Meadow Pipit	1984	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rock Pipit	1992	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1

Species	First Record	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Water Pipit	1992	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0
Yellow Wagtail	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Grey Wagtail	1989	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pied Wagtail	1994	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Waxwing	2010	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0
Wren	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dunnock	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Robin	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Nightingale	1998	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Black Redstart	1988	1	0	0	0	1	0	1	1	0	0	0	0	1	1	0
Redstart	1989	0	0	1	1	1	1	1	0	1	1	1	0	1	1	1
Whinchat	1989	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Stonechat	1985	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wheatear	1984	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ring Ouzel	1987	0	0	0	1	1	0	1	0	1	0	0	0	1	0	0
Blackbird	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Fieldfare	1984	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Song Thrush	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Redwing	1987	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mistle Thrush	1984	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cetti's Warbler	2018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grasshopper Warbler	1985	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Sedge Warbler	1984	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Reed Warbler	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Blackcap	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Garden Warbler	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lesser Whitethroat	1987	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Whitethroat	1984	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dartford Warbler	2006	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Wood Warbler	1994	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chiffchaff	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Willow Warbler	1990	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Goldcrest	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Firecrest	1987	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Spotted Flycatcher	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pied Flycatcher	1998	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0

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Penduline Tit	2018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Long-tailed Tit	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Blue Tit	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Great Tit	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Coal Tit	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Willow Tit	1991	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marsh Tit	1990	1	1	1	1	0	0	1	0	0	0	1	0	0	1	0
Nuthatch	1986	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Treecreeper	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Red-backed Shrike	1996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jay	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Magpie	1992	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Jackdaw	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rook	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Carrion Crow	1988	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Raven	2009	0	0	0	0	0	1	0	1	0	1	1	1	1	1	1
Starling	1988	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
House Sparrow	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tree Sparrow	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chaffinch	1991	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Brambling	1999	1	1	1	1	1	1	1	1	0	0	1	0	0	1	1
Greenfinch	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Goldfinch	1984	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Siskin	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Linnet	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lesser Redpoll	1994	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mealy Redpoll	2005	0	1	1	0	0	0	0	1	0	0	0	0	1	0	0
Crossbill	1991	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Bullfinch	1996	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hawfinch	2011	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
Snow Bunting	1988	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellowhammer	1983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Reed Bunting	1986	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Corn Bunting	1987	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
TOTAL		137	136	142	132	137	135	139	140	138	133	132	129	139	144	144