A Million Birds from an Inland Hill
Autumn Visible Migration at Tweseldown, Hampshire 2005 to 2020

Graham Stephenson

Dawn at Tweseldown Hill (Graham Stephenson)

Abstract

Tweseldown Hill, located in the far north-east 'corner' of Hampshire, has become an established area for observing visible migration ('vis mig') during the autumn. This follows many years (and many hundreds of hours) of observation, primarily by two local observers. The data arising from this effort and commitment is available on the open source, visible migration website/database, Trektellen, and records from this site regularly appear in the annual, county bird report. Preparation of this paper was prompted by the site exceeding a million birds counted during 2020, and it sets out to outline the establishment of 'vis mig' at this location, and to explain the conditions that are thought to influence the movements of the main migrant groups seen. Totals of each species recorded are presented, along with summaries and highlights for the majority of them. Comparisons with migrant numbers observed at other such sites registered with Trektellen, both inland and coastal, are also included.

Background

Tweseldown first came to the notice of north-east Hampshire birders around 2004 as a potential watch point to observe the regular, late autumn visible migration of Woodpigeons which had often been recorded in the wider local area[1]. This potential was soon realised by John Clark (JMC) when on 5th Nov 2005 a visit to the site produced an impressive 23,600 SW in two hours 40 minutes (still the second highest count here). This prompted a handful of further visits by JMC in October and November 2006 and 2007. However, other local "vis mig" sites continued to attract more attention, particularly Fleet Pond just to the north. It wasn't until autumn 2009 that the Tweseldown bug began to bite, with more regular watches carried out by JMC and the author and the period of coverage extending from September through to December. Another important ingredient was the availability of the open source, visible migration website/database, Trektellen www.trektellen.org, for collating and sharing counts. Originally developed in the Netherlands by Gerard Troost and Jethro Waanders ("Trektellen" meaning migration count in Dutch), it is an excellent tool for quick and efficient data entry whilst also providing analysis tools such as year totals, record counts per species and charts of

[1] None of this group knew at the time of some pioneering visits to the area by local birder Norman Pratt during the early 1960s, recently brought to light by research by John Clark and involving observations of visible migration on 20 dates during late Oct/early Nov 1961-63. These include notable movements of Woodpigeon, Starling and Chaffinch (particularly considering the optics and reference materials available at the time) as well as a reminder that Tree Sparrow was once a fairly common passage migrant locally (but sadly not so after 1976). This activity overlapped the BTO Inland Observation Points project that ran between1962 and1965, at a time of "considerable interest in bird migration and how it progressed through the country".

annual migration patterns. Trektellen's popularity in the UK increased during the late 2000s, meaning that the Tweseldown counts could be quickly and easily compared with those from other sites (on the same day!) and placed in a national context. The counts are uploaded to BirdTrack at the end of each day, and so are automatically included in the local bird recording network.

Comparisons of our counts with those of other Trektellen sites demonstrated the benefit of focussed observations at a 'bespoke' watch point. Coverage levels were maintained in 2010, including the first August visit and by 2011 the aim of achieving daily coverage, at least in October, had been reached.

Early year watches largely set out to record the more predictable and well-known movements, usually in the 'best' weather conditions and on the 'right' dates: hirundines in late September, followed by winter thrushes in October, and Wood Pigeons in November. However, with experience and better knowledge of the area and bird movements, enthusiasm levels rose and the focus has broadened to encompass visits in almost any weather (only fog is the killer!) and for longer periods (two hours seems the minimum to be almost certain it's a quiet day). Interest (and maybe some belief) in the early autumn has grown too in the last two years, leading to many July and August visits and high counts of both Swift and Tree Pipit, and this remains a 'growth' area for the future. By the end autumn 2020, and an all-time season high for coverage (see Figure 1), the total number of birds recorded moving during the autumn period had passed the one million mark (see Figure 2).

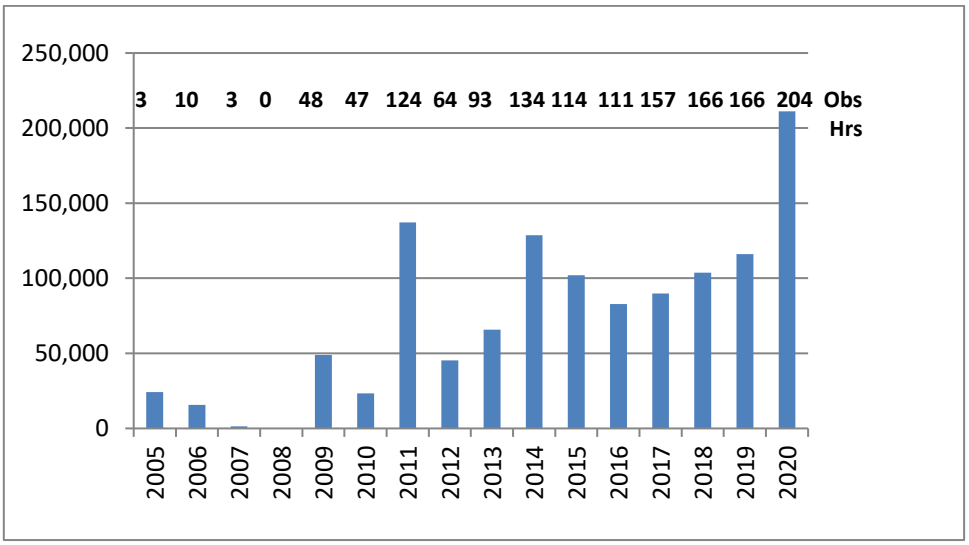

Figure 1 – Total birds moving and observation hours per autumn

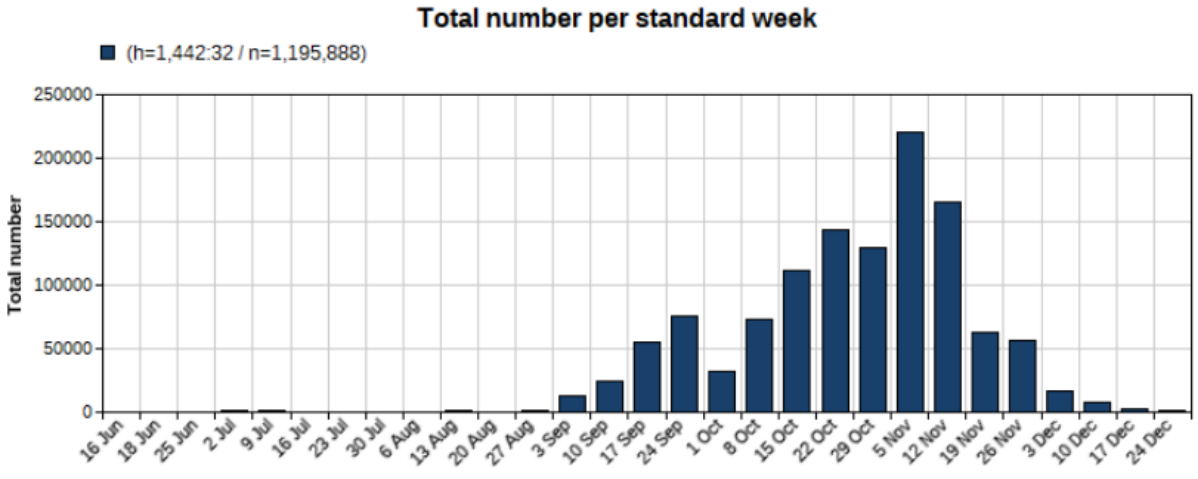

Figure 2 – Total number of birds recorded moving per standard (Trektellen) week

Location and Watch Points

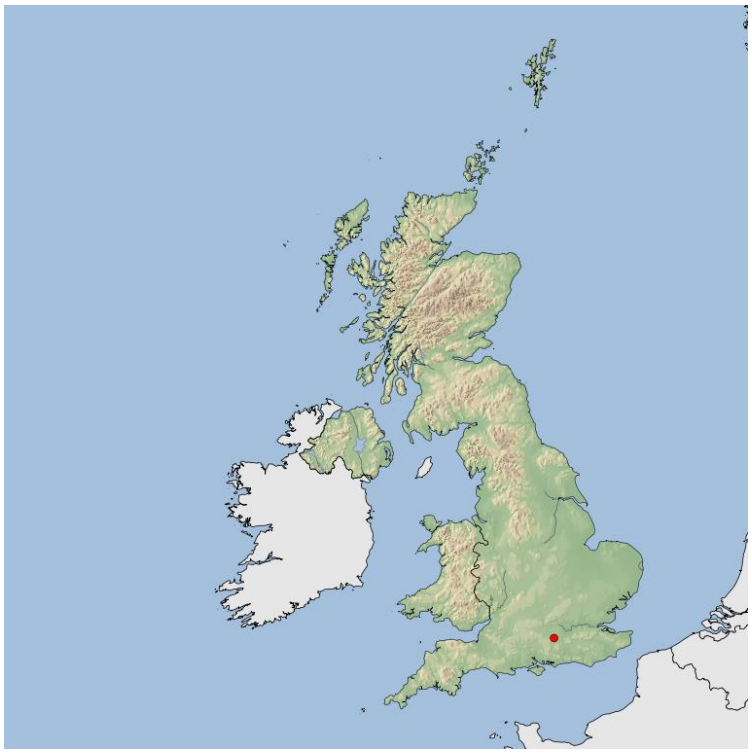

Figure 3 – Tweseldown's Location on the UK map

The Tweseldown area is in the far north-east of Hampshire, close to the borders of Surrey (to the south) and Berkshire (to the north) and about 64 kms from the Sussex coast (due north of Selsey Bill). In terms of topography, the area lies at the north-east 'point' of the Hampshire Downs (a large area of chalk downland in central, southern England, mainly in Hampshire), at the west end of the North Downs (a long chalk ridge that extends to Surrey from Dover, Kent), and in the south-west 'corner' of the Thames Basin (a low plain that extends north to the Chiltern Hills and east beyond London).

Tweseldown Hill (101 m asl) has been the main watchpoint since October 2012, and sits within the site of an old racecourse which is now used only for horse trials. The observation/commentary tower, just five minutes from the nearest car park, provides excellent shelter in almost all weathers. This spot enjoys uninterrupted views to the eastern horizon (the BT Bagshot Heath radio station clearly visible 12.3km to the north-east), but views north, west and south are restricted by nearby treelines.

An alternative, higher watch point, Bricksbury Hill (aka Caesar's Camp, 188m asl, 2km to the SSE), has also been used since November 2015, particularly in light winds and clear skies. This north-east facing ridge dominates the local skyline and affords stunning views in clear weather, especially between the north-west (the now demolished towers of Didcot Power station once visible 53km away) and the east (the London Shard visible 58km to the north-east) but low scrub restricts viewing to the south and west. This site is good for picking up high moving birds that might be missed at Tweseldown Hill, as well great for giving head height views, but can be challenging in dull light when birds passing below the hill are difficult to see against the surrounding woodland. Factor in limited shelter in poor weather and/or strong winds, and less convenient car parking, and the attraction of Tweseldown Hill is hard to ignore.

Watching first began in 2005 at a third watchpoint, Miles Hill (87 m asl, 1.6 km to the north-east), a site with a similar perspective to Tweseldown, albeit from a slightly lower vantage point. Nicely placed for watching movement to the west, this spot produced several good birds (e.g. Lapland Bunting) and decent days. However, it offers very little shelter and probably only its convenient location (only two

minutes from the car park) delayed the switch to other sites in 2012 (and a return is now unlikely due to security fencing put up in 2019 making it difficult to access).

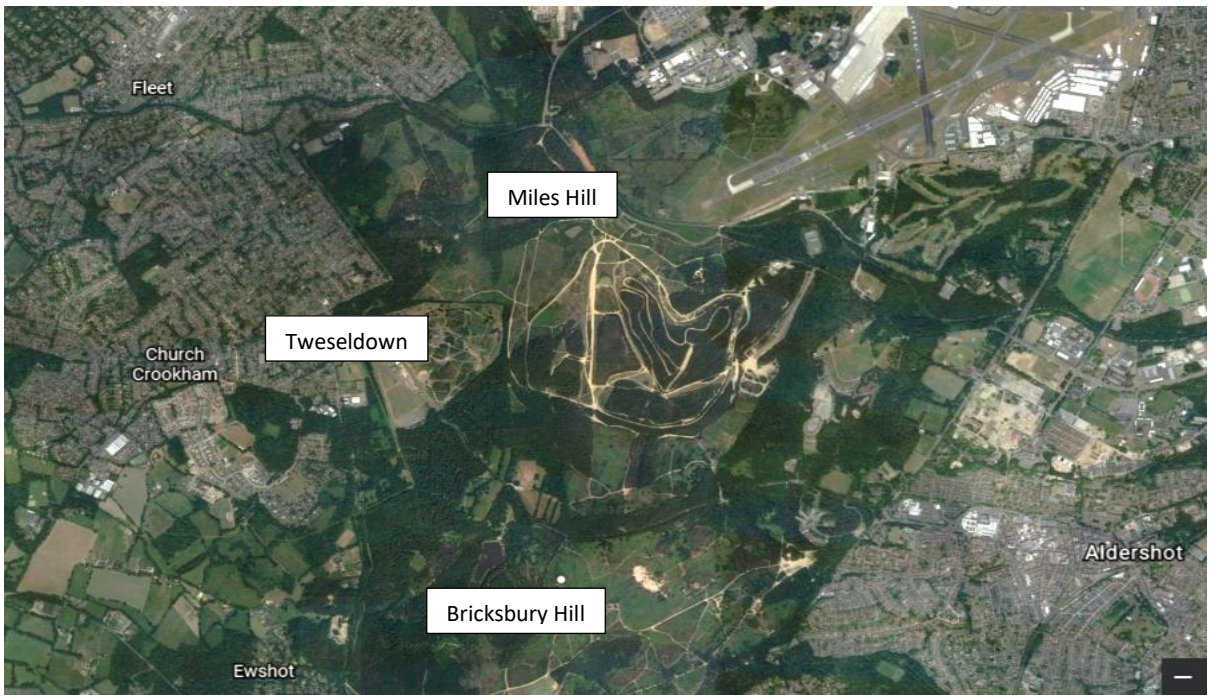

Figure 4 – Watchpoint locations map

Winds, Birds and Migration Tracks

The majority of birds passing through the area during autumn arrive from between the north and south-east. Sizeable movements can be observed in any wind, although a light or gentle breeze from between north-west and south-west is generally the most reliable. Easterly winds produce a mixed bag; a gentle north-easterly/easterly with origins on the near continent can be very productive later in the autumn, whereas anything south of that is often quite poor. Like many sites, particularly inland, flat calm and clear skies are almost always dire, often resulting here in persistent foggy conditions, especially over the Blackwater valley to the east.

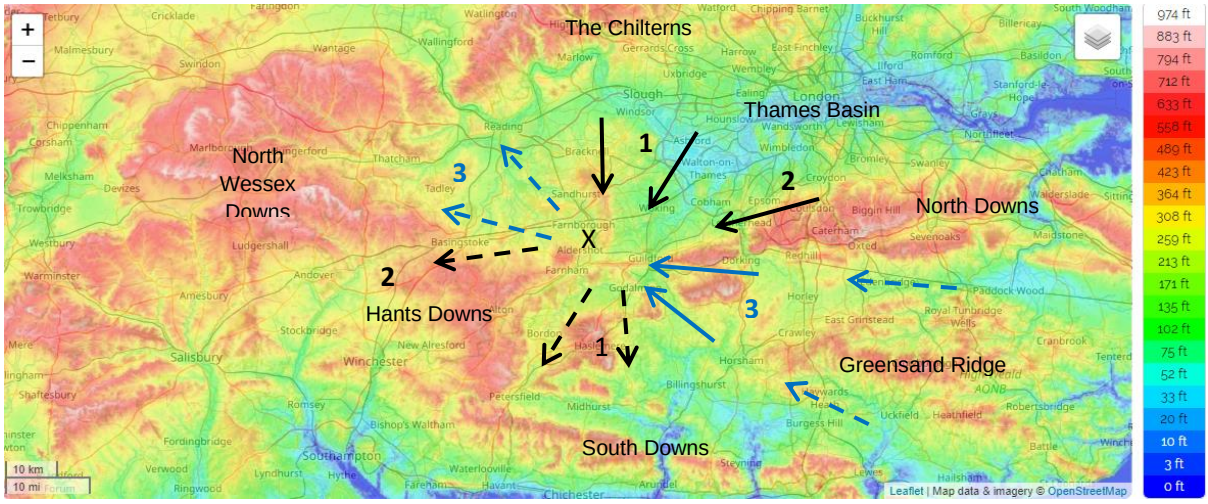

Figure 5 – Observed arrival routes (solid arrows) and assumed arrival and departure routes (dotted arrows)

Broadly speaking, there are three clear migration tracks across the site, each with its own particular blend of migrants at certain stages of the autumn (see Figure 4 above):

1. **S/SW** - Mostly hirundines and Meadow Pipits during September, followed in October by Siskins, Goldfinches and Linnets and in November (and sometimes December) by Woodpigeons and Redwings. These birds appear to be crossing the Thames Basin on a wide front and then heading directly for Bricksbury Hill, potentially using this as a sight marker to find the eastern slope of the Hampshire Downs, and then onward over the South Downs. This may explain why, apart from Woodpigeons, very little is picked up moving south when scanning far to the east.

2. **W** - Typically in September Stock Doves, Grey and Yellow Wagtails, and later in the autumn *alba* wagtails, Skylarks and Reed Buntings. This track appears to follow the North Downs westwards, but could equally be a "habitat line", i.e. birds of open country following open habitat. Birds remaining on this line, once past Tweseldown, would pass between the Hampshire Downs and southern edge of the North Wessex Downs, picking up the start of the Test Valley to the west of Basingstoke.

3. **NW** - Mainly observed from October onwards and typically involving Redwings, Song Thrushes, Fieldfares, Starlings and Chaffinches. These birds are thought to follow the North Downs or maybe the Greensand Ridge to its south and (particularly thrushes) can be moving strongly on this track from first light. Migrants on this distinct and well-used track are presumed to be making for either the Kennet Valley/Kennet & Avon Canal (that cuts through the North Wessex Downs near Hungerford), or the Thames Valley that runs between the North Wessex Downs and the Chiltern Hills.

Of these three, the majority (if not all) of those migrants following the NW track (track 3) originate directly from the continent and are en route to more westerly wintering grounds, following arrival via Kent or East Sussex, either during the night or early morning. This “continental track” differs from the other two where there is a mix of migrants departing UK breeding grounds for the winter, as well as arrivals from the continent filtering through the UK, following arrival well to the north and east.

Species List and Accounts

The list of 98 species recorded moving (see Table 1[2]) comprises a diverse mix of passage migrants (moving to and through the UK), partial migrants (from within the UK) and 'locals' (residents and annual visitors presumably dispersing short distances only). The latter, such as Great Spotted Woodpecker and Jackdaw, frequently generate endless debate in terms of when is a mover a mover!

No	Species Name	Total		No	Species Name	Total
1	Dark-bellied Brent Goose	41		51	Peregrine	10
2	Canada Goose	675		52	Rose-ringed Parakeet	4
3	Greylag Goose	137		53	Jay	746
4	Eurasian White-fronted Goose	27		54	Magpie	271
5	Mute Swan	104		55	Jackdaw	4,729
6	Egyptian Goose	124		56	Rook	70
7	Shoveler	18		57	Carrion Crow	754
8	Wigeon	17		58	Raven	48
9	Mallard	107		59	Waxwing	4
10	Teal	7		60	Coal Tit	4
11	Tufted Duck	1		61	Blue Tit	117
12	Goosander	19		62	Great Tit	18
13	Spoonbill	2		63	Wood Lark	201
14	Grey Heron	61		64	Skylark	2,099
15	Great White Egret	6		65	Sand Martin	293
16	Little Egret	50		66	Swallow	22,294
17	Gannet	1		67	House Martin	130,585
18	Cormorant	1,270		68	Chiffchaff	2
19	Osprey	3		69	Goldcrest	3
20	Honey Buzzard	5		70	Starling	75,041
21	Sparrowhawk	36		71	Ring Ouzel	18
22	Marsh Harrier	3		72	Blackbird	462
23	Hen Harrier	1		73	Fieldfare	35,702
24	Red Kite	70		74	Redwing	199,676
25	Common Buzzard	28		75	Song Thrush	2,445
26	Lapwing	127		76	Mistle Thrush	697
27	Golden Plover	51		77	Black Redstart	1
28	Ringed Plover	1		78	Wheatear	1
29	Dunlin	4		79	Dunnock	9
30	Snipe	75		80	Yellow wagtail sp.	151
31	Green Sandpiper	2		81	Grey Wagtail	134
32	Greenshank	1		82	alba wagtail sp.	2,356
33	Black-headed Gull	2,855		83	Meadow Pipit	22,288
34	Common Gull	149		84	Tree Pipit	85
35	Great Black-backed Gull	5		85	Chaffinch	32,493
36	Herring Gull	3,376		86	Brambling	502
37	Yellow-legged Gull	5		87	Hawfinch	163
38	Lesser Black-backed Gull	1,539		88	Bullfinch	72
39	Common Tern	4		89	Greenfinch	2,028
40	Feral Pigeon	23		90	Twite	1
41	Stock Dove	12,176		91	Linnet	10,802
42	Woodpigeon	568,702		92	Lesser Redpoll	2,217
43	Collared Dove	38		93	Crossbill	793
44	Short-eared Owl	3		94	Goldfinch	10,007
45	Swift	3,449		95	Siskin	3,390
46	Great Spotted Woodpecker	421		96	Lapland Bunting	1
47	Green Woodpecker	2		97	Yellowhammer	26
48	Kestrel	11		98	Reed Bunting	307
49	Merlin	7				
50	Hobby	16				
					Total Recorded Moving	**1,199,687**

Table 1 – Species list and totals, Tweseldown 2005-2020 (autumn only)

[2] The species order used in this paper follows that used by the Trektellen database.

Numbers wise, the list is dominated by Woodpigeon, House Martin and Redwing, three iconic autumn migrants that account for 78% of the total logged. Day counts and totals for all species are held on the Trektellen database which also has analysis of variations in numbers over autumn (via 'number per standard week' graphs), comparisons with many other visible migration watchpoints (both inland and coastal), record count listings (both national and site-specific) and year-to-year variations.

The movements of the majority of species listed are summarised below, largely in discrete family groups, but also including a few combinations that reflect similar migration approaches and/or circumstances. Summaries for the commoner (more regularly encountered) species aim to highlight variations in the numbers recorded over the autumn period (with reference to 'number per standard week' graphs created on, and extracted from, Trektellen), as well as to provide some context for their pattern of occurrence (with occasional reference to *Birds of Hampshire* (Clark & Eyre 1993), county bird reports and other sites on Trektellen). Surface pressure charts from the Met Office archive have been included for a handful of species where this helps to explain the background for record counts. Variations from year to year are heavily skewed by the year on year increases in the levels of coverage, so this analysis has on the whole been avoided, although any changes in status locally have been noted.

All records are included for rare and scarce migrants except for a few notable 'orphans' that fall outside of the groupings used, including Gannet (a second year bird moving slowly low >NW to the east of Tweseldown, 0710-0714 on 23rd Aug 2020 stands out as one of the all-time highs), a few Ring-necked Parakeets (still a local rarity with one on 31st Oct 2014, two on 30th Sept 2015 and one on 24th Sept 2017), Waxwing (four on 2nd Dec 2012 during an invasion year) and two Black Redstarts (one on 24th Oct 2013 and one on 23rd Nov 2020 that subsequently towered off high E).

Wildfowl

Given the proximity of many gravel pits and ponds, the number and variety of wildfowl seen is disappointing. The majority of records probably relates to local movements between these waters (sometimes noted as movement, sometimes as present, depending on the mood of the observer(s) and/or how busy a session it was! 18 Shoveler >W on 10th Nov 2017 being a good example).

Genuinely 'wild' geese have been seen on eight occasions, most associated with poor visibility and an easterly of some sort, the more memorable being a flock of 25 White-fronts that arrived from, and left to the east on 6th Oct 2016 (an early record tying in with reports from Kent that morning). Another two went high >NW on 19th Oct 2020 and flocks of Dark-bellied Brent >W on 26th Oct 2018 (17) and 27th Oct 2011 (16).

Small flocks of Wigeon on two good days for migration could have been birds returning to winter in the area, as could the Goosanders seen on three dates in November (including a great flock of 12 redheads on 6th 2017). Lastly, a flock of *ca*.20 duck seen distantly and very briefly low >W on 28th Sept 2012 appeared to be a mix of Pintail and Wigeon, and a lone merganser (Red-breasted?) went high >NW on 17th Oct 2019.

Herons and Cormorants

By far the standout heron record occurred on 30th Sep 2019 when two Spoonbills flew steadily >SW at 1040, mid height and just to the north of Tweseldown (the icing on the cake at the end of a record Meadow Pipit movement and a great morning's watch!).

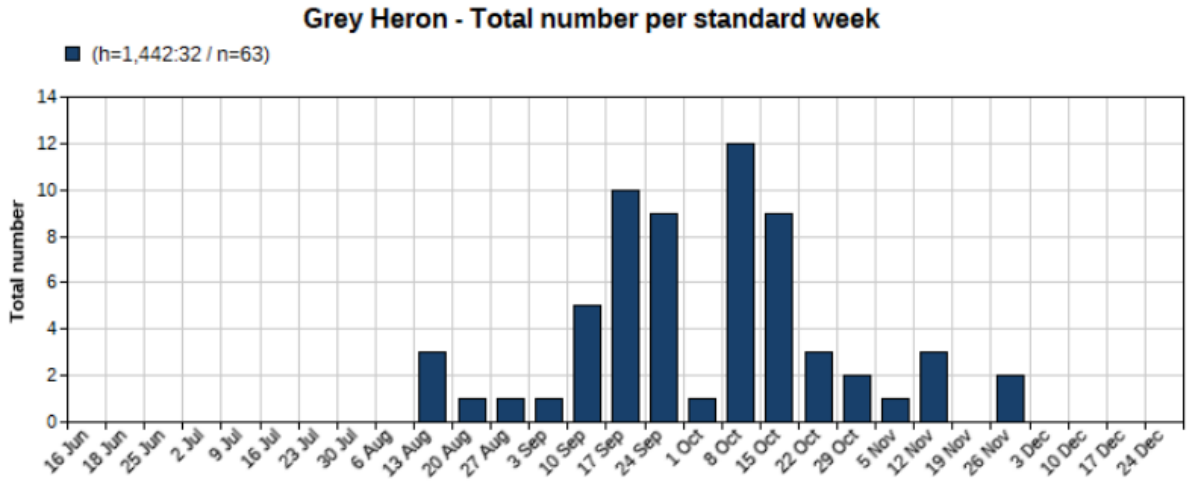

Figure 6 – Grey Heron cumulative numbers moving per week (2005-2020)
(h = total observation hours; n = cumulative total)

Grey Heron is the most regularly encountered migrating heron species, but it is a common, local resident so the provenance of over flying birds can be difficult to determine. Up to a dozen or so birds are logged per year, the most convincing of which involve high, “sky wide” flyers such as groups of three and two on 23rd Sep and five >W on 16th Oct 2017, and four >NW on 15th Oct 2020.

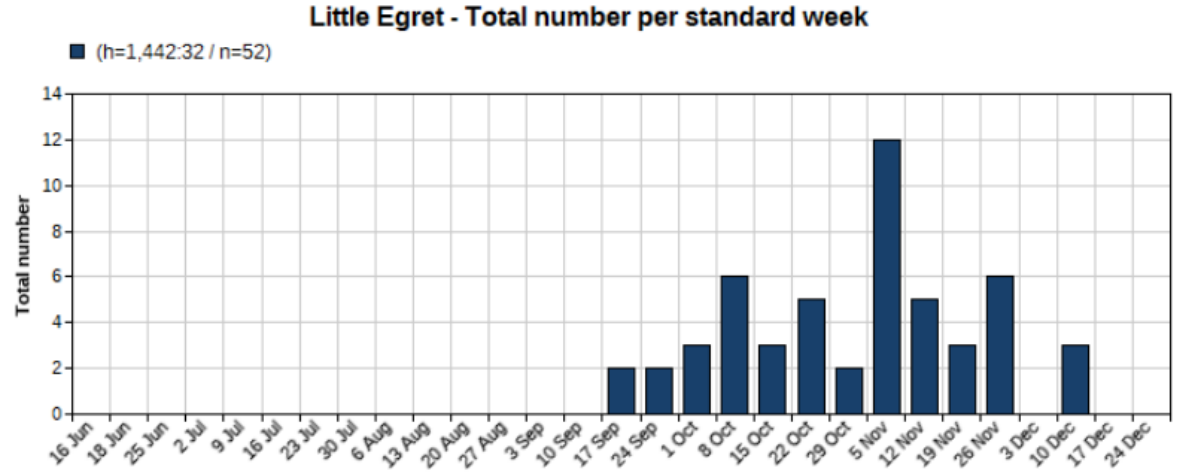

Figure 7 - Little Egret cumulative numbers moving per week (2005-2020)

The expansion of Little Egret as a resident into north-east Hants was well underway by the early 2000s, but the first “mover” was not logged until 23rd Oct 2011, and it remains surprisingly irregular with usually less than five per year (exceptionally 12 in 2017, including a flock of eight >NW down the Blackwater valley on 7th Nov, and 12 in 2020). Great White Egret too has become more frequent in the county in recent years and has been regular locally through the winter since 2017, so the first in 2019 (potentially returning winterers on 20th and 29th Oct, then on Nov 16th) were not unexpected. Three followed in 2020, one early bird on 10th Jul and two on 4th Nov.

A sizeable Cormorant roost (regularly 50+ birds) to the north at Fleet Pond muddied the migration waters for this species until 2018 when the roost tree collapsed, and birds re-located elsewhere. Roost dispersal movements to the south-west and south-east prior to this were often recorded, but not always commented upon, and most other movement was assumed to be related to the ‘local’ population so, again, attracted little comment. Flocks of ten and eight high >SW on 5th Oct 2014 were notable exceptions and such movements became a more apparent (and commented on) feature once the roost had ceased, mainly between mid-September and the first week of October.

Hawks, Falcons and Owls

Considering the large number of hours invested, the number of large, migrant birds of prey recorded seems rather poor – although this is typical for inland UK vis mig sites. Tweseldown migrant raptor totals are as follows: four Ospreys (singles >SW on 18th Sep 2010, 10th Sep 2012, and 5th Oct 2020, and on 4th/ 5th Nov 2006 - present locally and visiting the area to fish the Basingstoke canal) two records of Honey Buzzard (four >W/SW on 28th Aug 2010 – early for migrants and presumed to be wandering birds that bred locally somewhere - and >SW on 31st Aug 2012), three Marsh Harriers (singles >N on 18th Sep 2010, >W on 2nd Oct 2011, >E 11th Oct 2016) and one Hen Harrier (a ringtail >W on 21st Oct 2018). However, of these records, seven were from Miles Hill, two from Bricksbury Hill and only one from Tweseldown (the most visited site), suggesting perhaps that the track for these larger raptors is to the east and a number are being missed as they skirt round or over Bricksbury Hill.

This may also explain why Short-eared Owl is such a rarity here with the first not until 2017 (singles 8th and 14th Nov, the latter noted heading towards the area from the author's house) and only one since (15th Oct 2020). Merlin, on the other hand, has become more regular with seven noted, all but one from Tweseldown and all >SW between 7th and 30th Oct in 2011, 2017 (two), 2018, 2019 and 2020 (two).

Otherwise, six locally breeding species have been logged in varying numbers and with varying levels of confidence. Both Red Kite and Common Buzzard are now common residents seen virtually daily hunting and roaming across the area, the incidence of moving birds perhaps mirroring the level of coverage rather than any true pattern. The former has become more numerous since 2011 (in line with increasing numbers and breeding in the east of the county) whilst almost half of the latter (13 out of 28) have been logged in the first two weeks of October. Similar questions of provenance remain for the small numbers of Sparrowhawk, Kestrel, Peregrine and Hobby noted moving each year, although the latter include several individuals associated with strong hirundine passage.

Waders and Terns

With little suitable shoreline close by and most coverage after the peak wader migration, the handful of records each year are largely restricted to three regular and expected species, namely Golden Plover, Lapwing and Snipe. Otherwise, the list so far includes Ringed Plover (5th Oct 2019), Dunlin (four, 4th Aug 2013), Green Sandpiper (5th Sep 2010 and 9th Oct 2019) and Greenshank (21st Aug 2019). Golden Plover has been logged on nine occasions between 30th Sept and 17th Nov (five times 30th Sep to 7th Oct and largest flock of 24), although a wintering flock, often of several 100, to the west has occasionally been seen ('present') in flight in the distance during November and December visits.

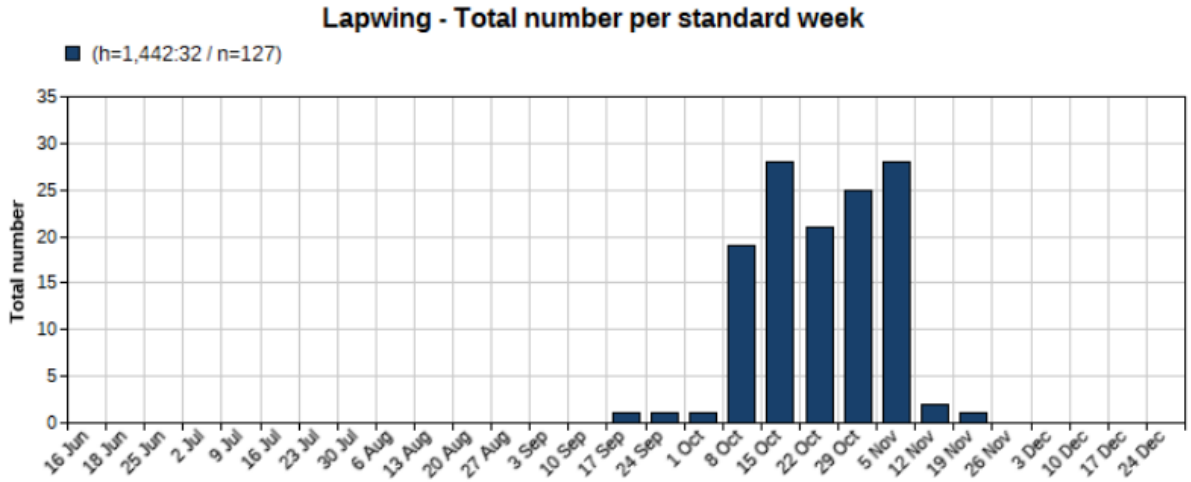

Figure 8 - Lapwing cumulative numbers moving per week (2005-2020)

Lapwing is a genuine, almost annual, passage migrant usually high >W singly or in small groups (with more than nine on only four occasions, max 20), as is Snipe, which is often seen in small, high flying

groups (max seven), although the presence of a small winter population on damp heath near Miles Hill may explain some records and its apparently protracted migration period.

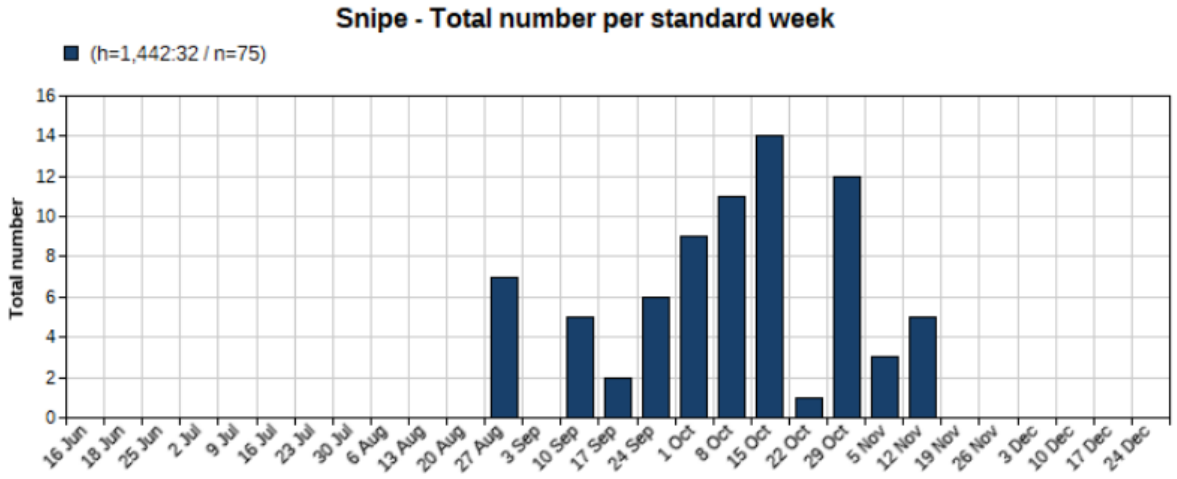

Figure 9 - Snipe cumulative numbers moving per week (2005-2020)

Assessment of tern records (or the lack of them; only three of Common between 2010 and 2011 probably of local, post breeding wanderers) alongside waders makes some sense since their scarcity can also be explained to some degree by the relative lateness of regular autumn coverage. Additionally, experience of birds departing nearby Fleet Pond shows that terns often migrate overland at great height, and so would be very difficult to spot over Tweseldown.

Gulls

All three of the commoner gull species (Black-headed, Herring & Lesser Black-backed) are seen in good numbers but any pattern in their migrations has always been complicated by post-roost and feeding movements (the former from both the London reservoirs and, more recently, local waters). Birds associated with these movements were routinely logged in early years, but the norm these days is to count only those moving later in the morning and/or off the beaten, 'post-roost' track.

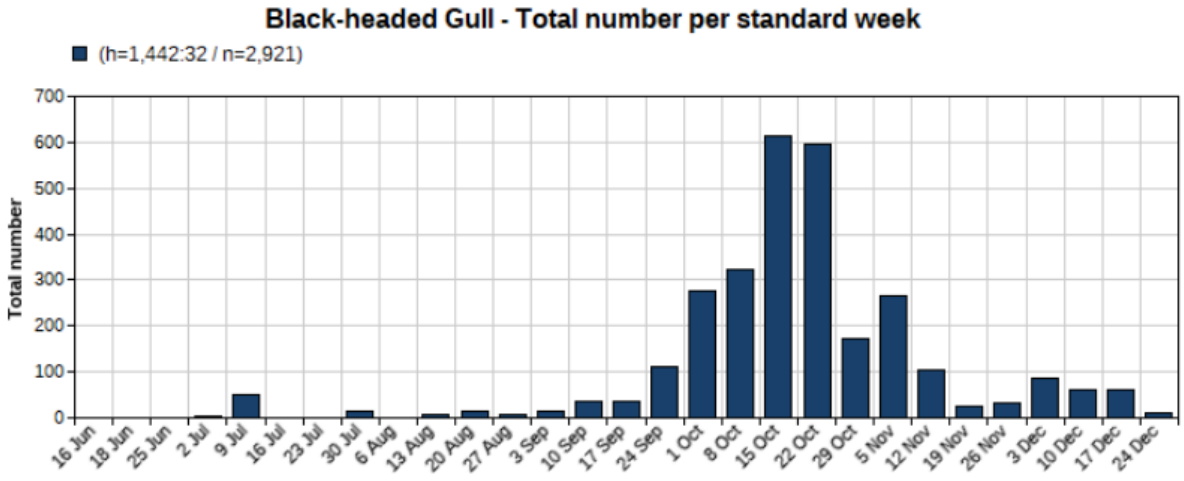

Figure 10 - Black-headed Gull cumulative numbers moving per week (2005-2020)

Black-headed Gull shows this anomaly well with a clear, mid-October peak largely due to regular, post roost movement counts through Fleet Pond to the north in 2011. Otherwise, changes in numbers during the mid/late autumn probably reflect coverage as much as anything and it is probably a relatively scarce migrant at this time. However, watches in July 2020 detected a small, westerly post breeding movement (e.g. 32 >SW on 11th) that may well involve continental birds.

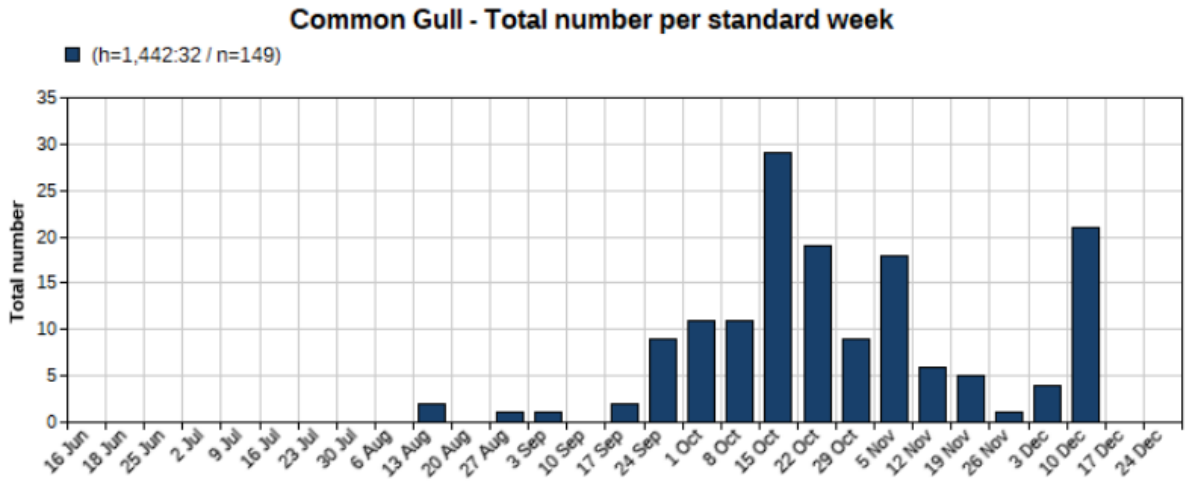

Figure 11 - Common Gull cumulative numbers moving per week (2005-2020)

Common Gull occurs in relatively low numbers on passage and in winter throughout the local area, and is less associated with roost movements than other species. As such, its occurrence on watches probably reflects a true passage of migrants, although the highest day count of 19 >W on 12th Dec 2017 was actually a cold weather movement.

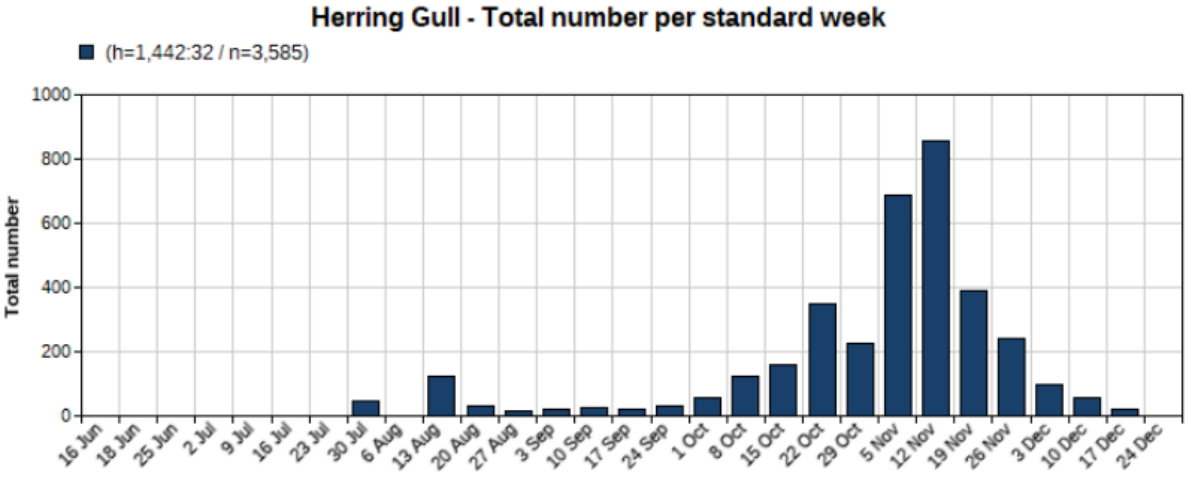

Figure 12 - Herring Gull cumulative numbers moving per week (2005-2020)

Herring Gull is very much a November bird with most of the top counts during this month, including what appeared to be a genuine movement of 125 >W on 15th Nov 2015. However, the majority of the larger movements (particularly in Nov 2016, 2018 and 2020, and Aug/Oct 2018) have been short-lived, early morning flights >NE, suggestive of birds leaving a roost. Since the nearest known roost is to the north at Moor Green Lakes, the origins and purpose of these birds remains something of a mystery.

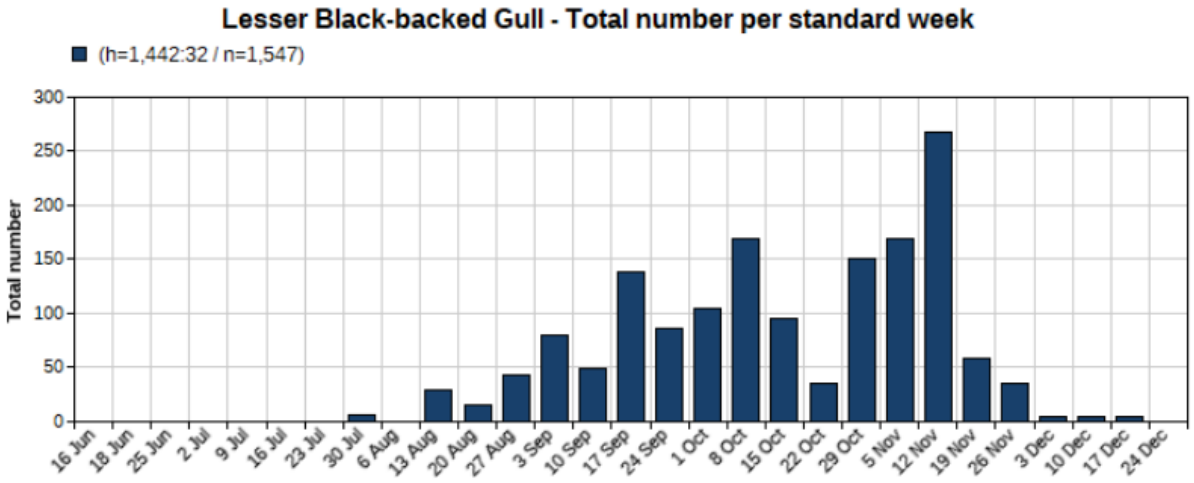

Figure 13 - Lesser Black-backed Gull cumulative numbers moving per week (2005-2020)

Ignoring a mid-November peak that relates to an afternoon movement to roost of 200 in 2015, then the weekly distribution of Lesser Black-backed Gull is fairly even and, removing the same count from the stats, gives a total moving SW that is more than double that heading NE.

Otherwise, there have been three October records of Yellow-legged Gull (on 3rd and 7th 2011, and 16th 2016) and four of Great Black-backed Gull (two on 10th Aug 2010 and singles on 15th Oct 2014, 8th Nov 2015 and 28th Oct 2018). The former is a regular in winter locally and presumably occasionally missed in flocks of large gulls, whereas the latter is now a rarity in this part of the county.

Pigeons and Doves

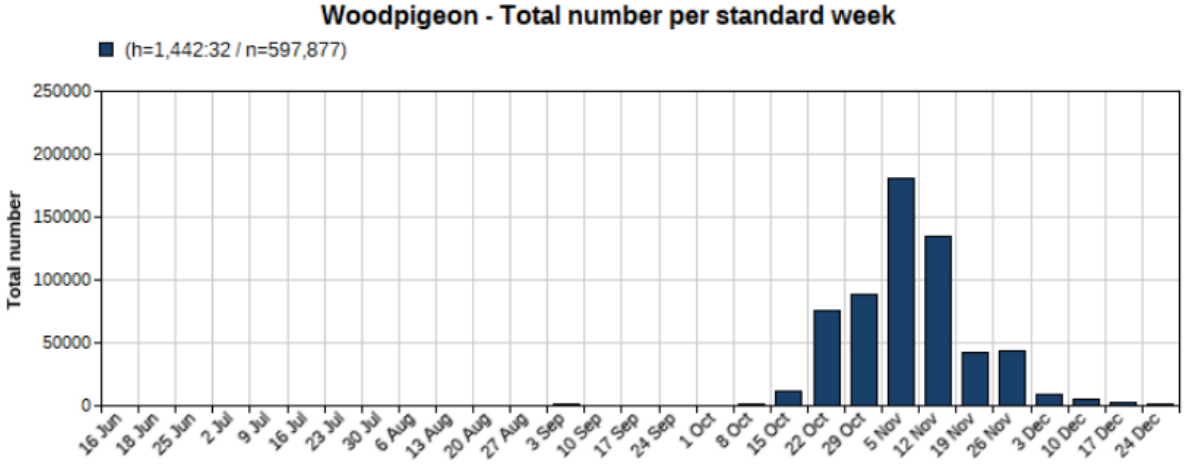

Figure 14 - Woodpigeon cumulative numbers moving per week (2005-2020)

Far and away the most numerous migrant, its late autumn, mass movements are always much anticipated. A typical season will see the first noteworthy count >S/SW from around the third week of October (6,800 on 22nd 2014 was exceptional, and on a day of notable counts as far afield as Yorks, Staffs, S Wales and Suffolk), followed by a peak during the first half of November (seven of the 11 five figure counts have been between 2nd and 9th Nov), and a protracted 'tail' of smaller numbers, often into December.

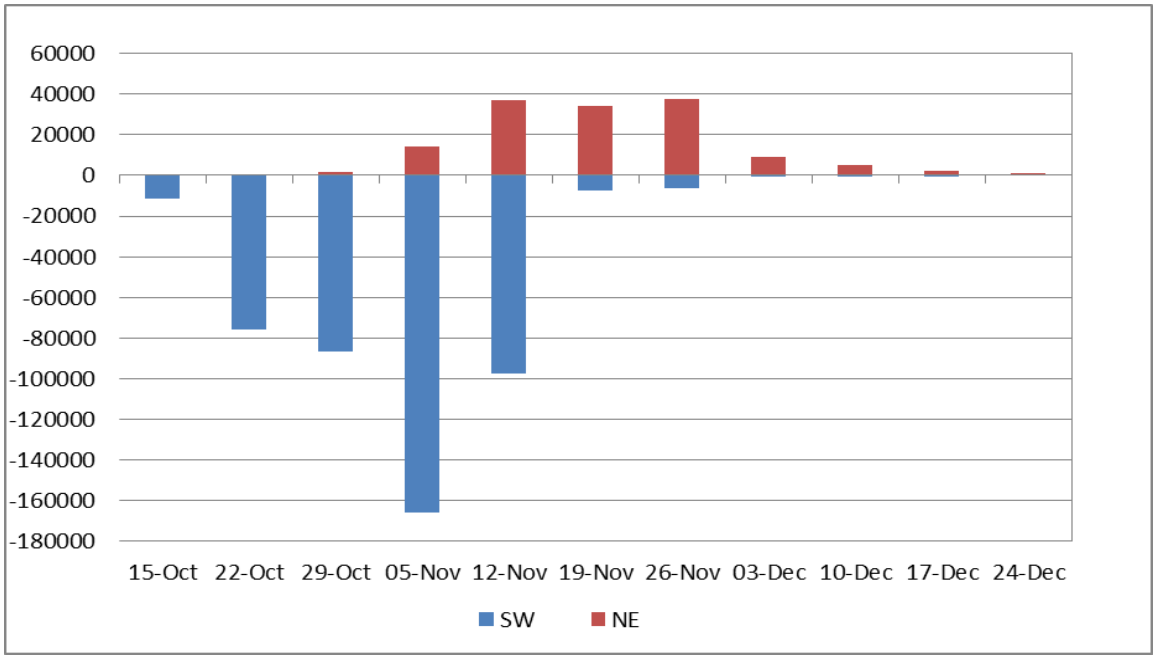

Figure 15 – Weekly totals of SW and NE movements of Woodpigeon 2005-2020

Later movements include increasing numbers of birds heading to the N/NE with flocks in both directions a regular sight in mid-November (Figure 14). This apparent 'return' movement accounts for about 20% of totals annually and continues in small numbers through to Christmas. Southbound flocks typically show more purpose, moving high and wide, whereas northbound flights are generally low, short lived and involve flocks making short, woodland stops. With surprisingly little correlation with counts from other UK Trektellen sites to the N/NE, and virtually no evidence of continental, migrant Woodpigeons reaching the UK in autumn, there is not much to suggest were these birds originate from and how far they have travelled. Counts from sites to the south-west suggest that birds reach the south coast and head west, joining others that have presumably originated further east, but to date there is little correlation between coastal counts and those from Tweseldown, and no evidence of birds 'returning' from the coast to the N/NE.

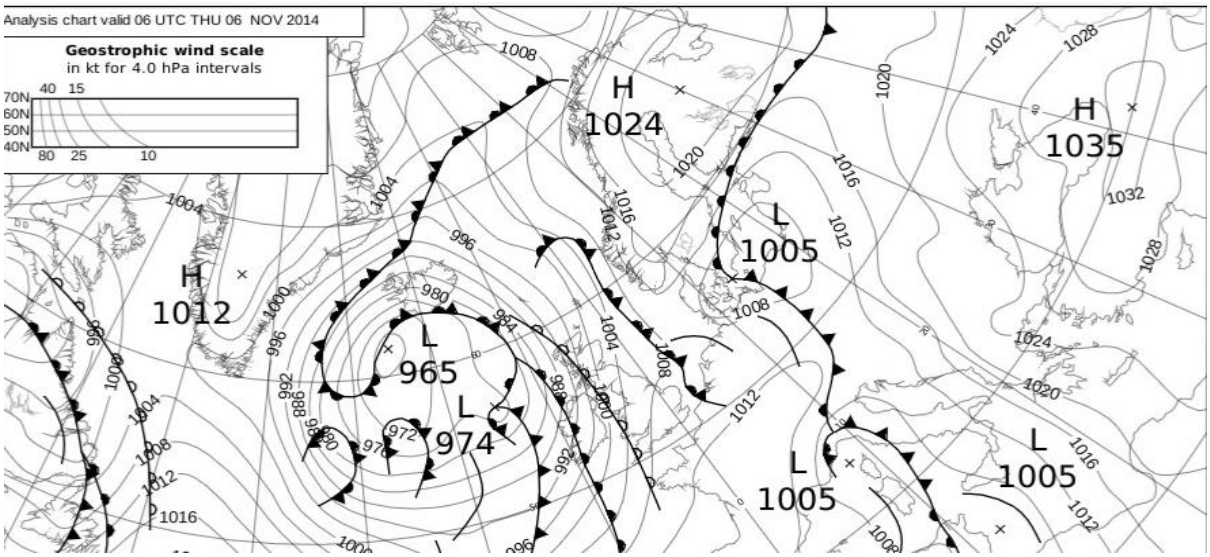

Figure 16 – Pressure chart for 6th November 2014

The largest ever movement of 37,900 SE/SW (along with little else) on 6th Nov 2014 represents at the time of writing the ninth highest count on Trektellen for a UK inland site (the largest counts

typically being at coastal sites). This massive movement was typically short-lived, starting about half an hour after a cold (0^{o}C), clear dawn and virtually finishing by 09:00. Not for the first time a high pressure ridge across the UK and slow-moving fronts from the west proved ideal. This was consistent with a belief at the time that frosty days were the best for 'big' days. However, experience since has shown that a dry morning with a gentle to moderate S/SW headwind will deliver Woodpigeons by the thousand, even in temperatures touching 11^{0}C. Annual totals peaked in 2011-2015 and then fell subsequently, despite apparently good migration conditions, until a bumper autumn in 2020 when almost 129,000 were logged including exceptional reverse movements of over 47,000.

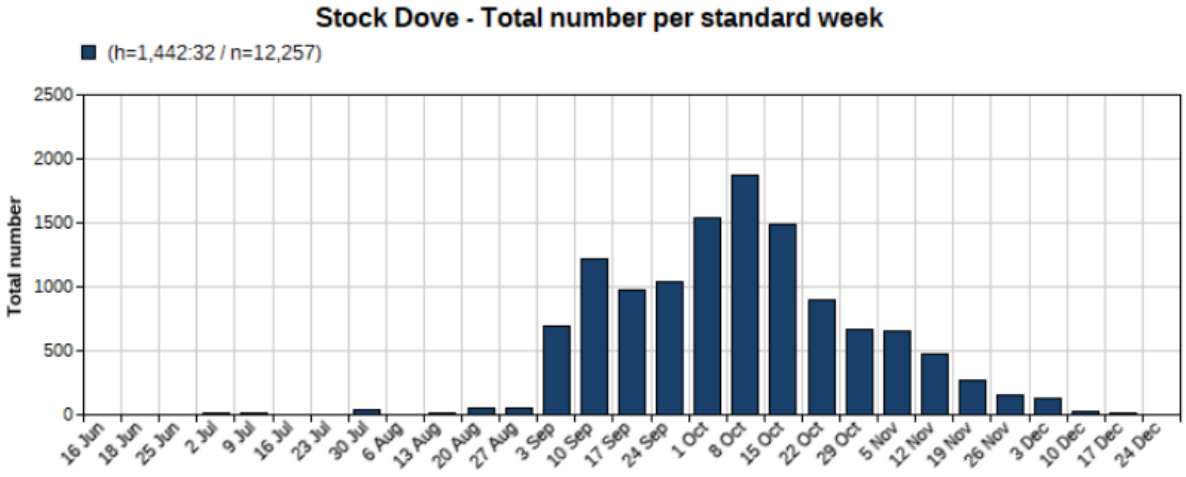

Figure 17 – Stock Dove cumulative numbers moving per week (2005-2020)

This is a Tweseldown 'signature' species, mainly seen during early autumn when almost daily, and often quite large, movements to the west can occur through to mid-October (max. 223 on 22nd Sept 2018). This differs from the national picture of larger movements generally from late October to mid-November (associated with Woodpigeons), but ties in with Trigpoint Hill, another well watched Hampshire site. Good days are difficult to predict, some when little else is moving, but autumn totals have risen steadily since 2017, as have local breeding numbers. This pattern, coupled with a lack of recent evidence for continental immigrants, suggests that these are UK breeders on relatively short journeys to wintering grounds to the west.

Feral Pigeons are usually only seen in small numbers moving to the west, and are largely ignored other than to rule out Stock Dove, whereas Collared Doves still retain some value with rarely more than a handful noted passing through each autumn (max 12 2017 and only six in all years prior).

Swift

Relatively large, summer gatherings of Swifts are not unknown in the local area, but with little evidence for large, early autumn movements on a scale seen regularly along the coast (1,250 >W at Fleet Pond over 10th and 11th July 2016 a notable exception), 'the hill' has largely been ignored at this time.

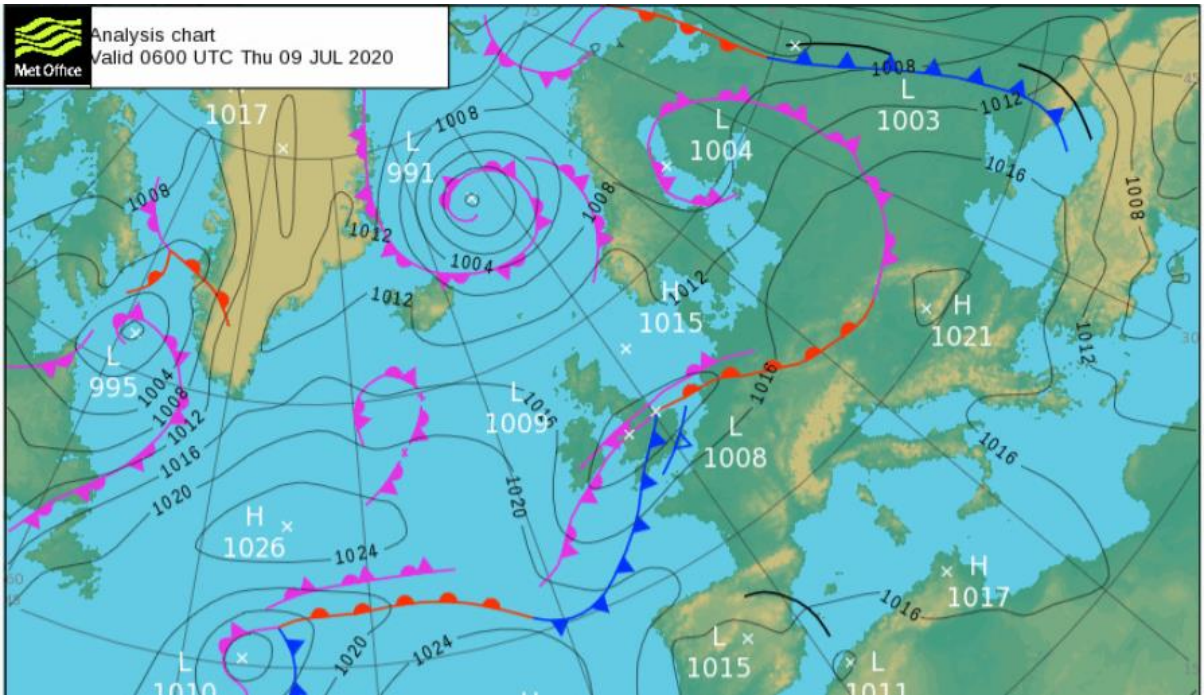

Figure 18 – Pressure chart for 9th July 2020

However, heavy movement >W noted in July 2020 (1,172 >W in two hours 30 minutes late morning of the 8th and 1,206 in three hours early morning on the 9th), coinciding with low pressure, F3 SW/W winds and rain, suggests that this might be worth more attention in the future. Prior to this only small numbers were logged through August with three seen in September, the last on 16th.

Crows

Five species breed and roost commonly within a few miles of the site and are all frequently seen over in small numbers. Occasional 'crow' days occur when high flying, 'sky wide' groups give a good impression of genuine migration but, apart from Jackdaw movements that often tie in with other sites and periodic Jay irruptions, it is difficult to rule these out as anything but local.

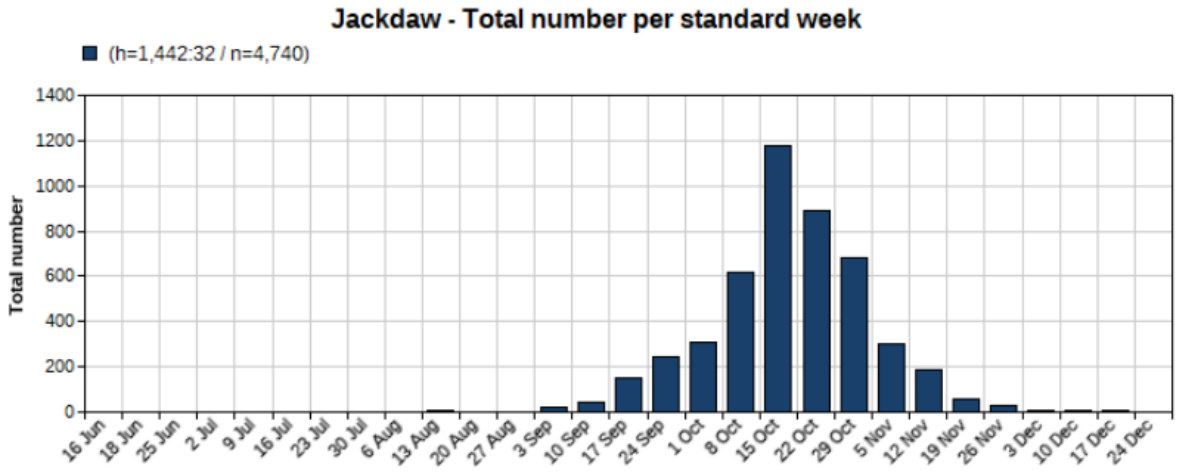

Figure 19 - Jackdaw cumulative numbers moving per week (2005-2020)

Fast moving, tight flocks of Jackdaw high across the sky are an iconic, late autumn sight and usually coincide with a good passage of genuine migrants, such as a maximum 246, mainly >NW, on 15th Oct 2020 during a significant continental arrival of Starling, Redwing and Chaffinch. However, noteworthy movements anywhere between NW and SE suggest that a proportion is of more local (UK) origin. The

numbers recorded annually have also steadily risen alongside the local breeding and non-breeding populations, again suggesting that some local roaming birds are involved.

Moving Jays are rarely noted but were confidently logged during the most recent UK wide irruptions in 2012 (237, max 45 on 13th Oct), 2014 (395, max 25 on 5th Oct) and 2019 (82, max 28 on 25th Oct).

Sightings of Raven were once a rarity, with the first not until 2010, but have become annual and more frequent since 2016 in line with a gradual increase in breeding pairs across the wider area. Many, if not all, of the small numbers now recorded annually are assumed to be local pairs or young undertaking post-breeding dispersal.

Larks

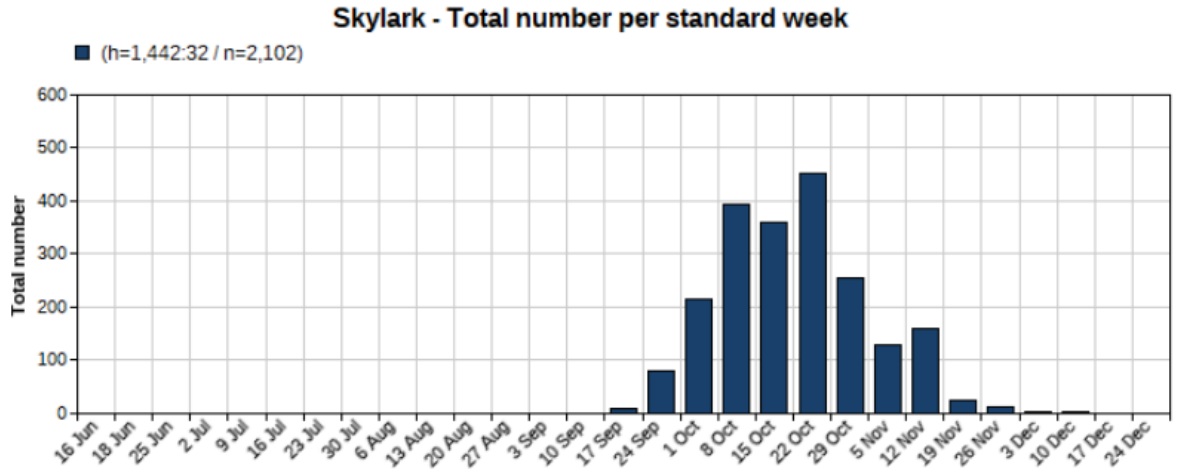

Figure 20 - Skylark cumulative numbers moving per week (2005-2020)

Skylark passage is remarkably similar from year to year with small numbers (<30) virtually daily during the main period, always on the east-west track and in most weather conditions, after the first appear around the end of September. Larger counts have occurred on only seven occasions, the top two in north north-east and east winds (130 >NNW on Oct 28th 2018 and 95 >E on 13th Nov 2011). Movement typically picks up from late morning, raising the potential to miss birds on days with an early finish, and suggesting a continental origin for most of these birds.

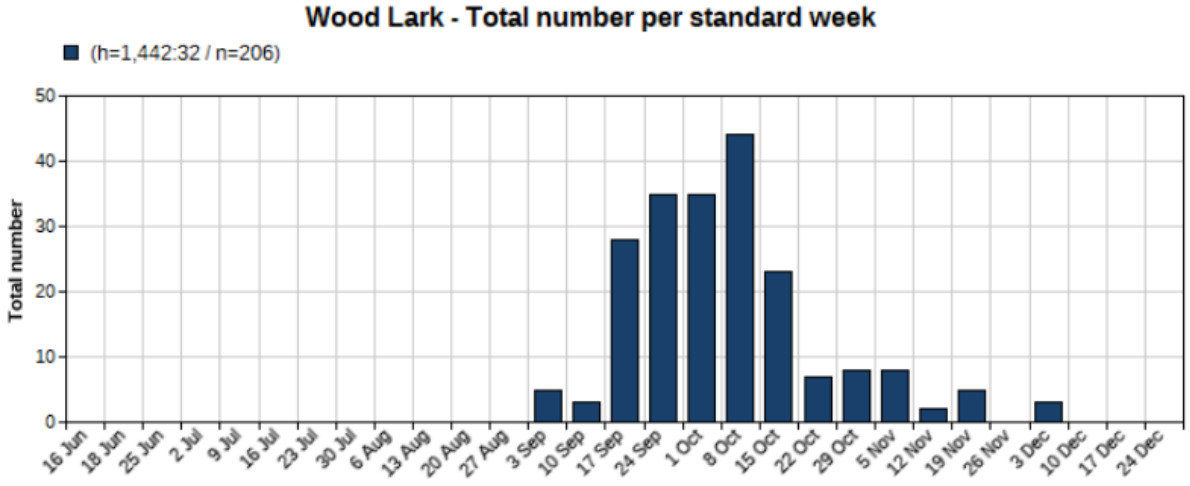

Figure 21 – Wood Lark cumulative numbers moving per week (2005-2020)

Although often moving on 'good' days, the small number of Woodlark logged each autumn (max 45 in 2017 including the best day count of 13, the fourth highest UK count on Trektellen) are assumed to be short, post breeding movements and dispersal of the local, Thames Basin Heaths breeding

population, en route to as yet unknown winter quarters (potentially on farmland not too far to the west). A small, post breeding gathering is also usually present around Tweseldown through October, with good years for this and 'migrant' numbers usually coinciding with good breeding seasons (such as 2017 and 2020). Tweseldown and another inland Hampshire site, Trigpoint Hill in Hants, account for 20 of the UK top 100 Woodlark counts, and have most high counts for inland sites, so these are both significant locations for this species.

Martins and Swallow

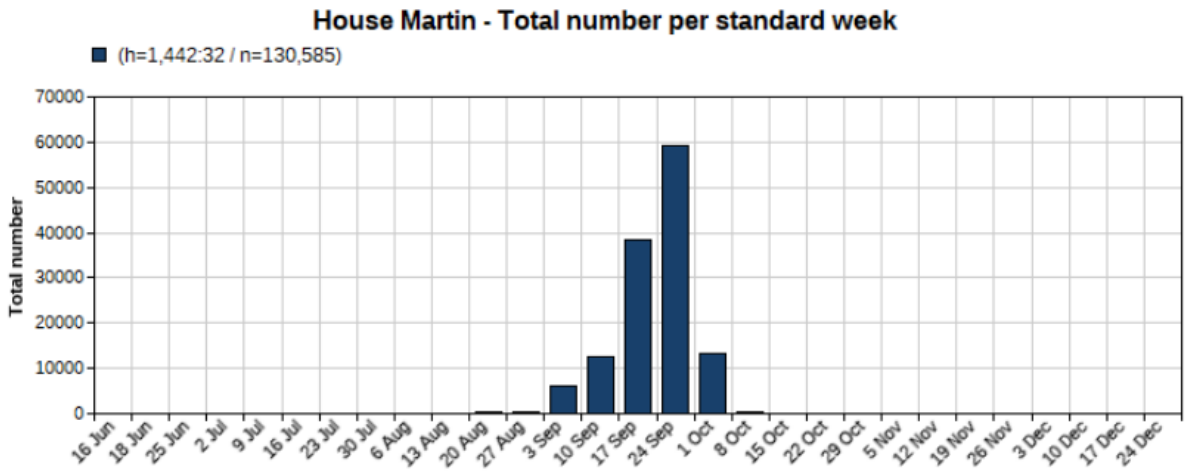

Figure 22 – House Martin cumulative numbers moving per week (2005-2020)

House Martin is the third most numerous migrant recorded (after Wood pigeon and Redwing) with an average of around 11,500 per year since regular September watches began in 2010. Connecting with a large movement is one of the prize targets each autumn; days when birds can pour through low and fast, and, at times, in unbroken streams hugging the landscape, but picking the right weather is never easy. Four figure counts typically occur three to four times a season, any time from the second week of September (with the top ten all between 20th Sep and 2nd Oct), usually into a gentle SW or WSW breeze (F3) and under cloudy skies, but a few have occurred in clear, almost calm conditions.

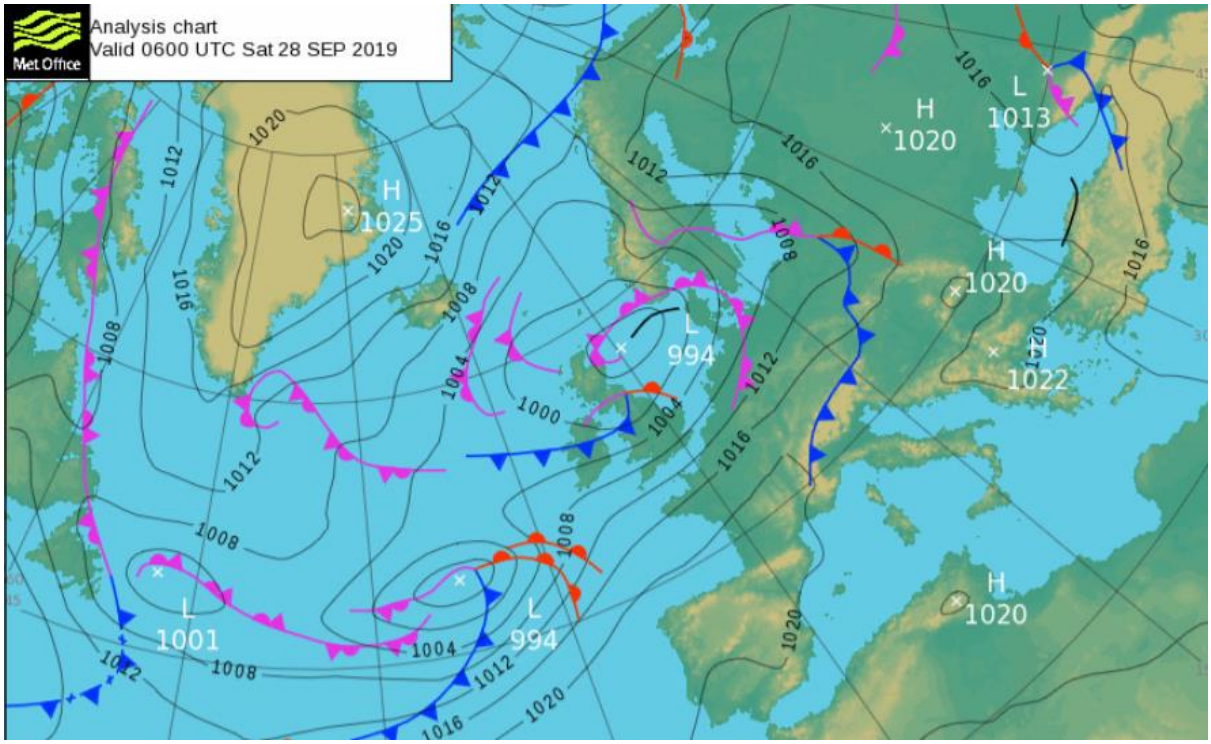

Figure 23 – Pressure chart for 28th September 2019

An exceptional 15,150 >W in to a F4 wind over four hours on 28th Sep 2019 (nearly twice the previous best and at the time of writing the 13th highest UK count on Trektellen), a conservative estimate given the intensity of this spectacle, and potentially as a result of birds having been 'squeezed' into SE England ahead of slow, south moving fronts.

Numbers tail off rapidly after mid-October and there is only one November record, on the 11th 2018.

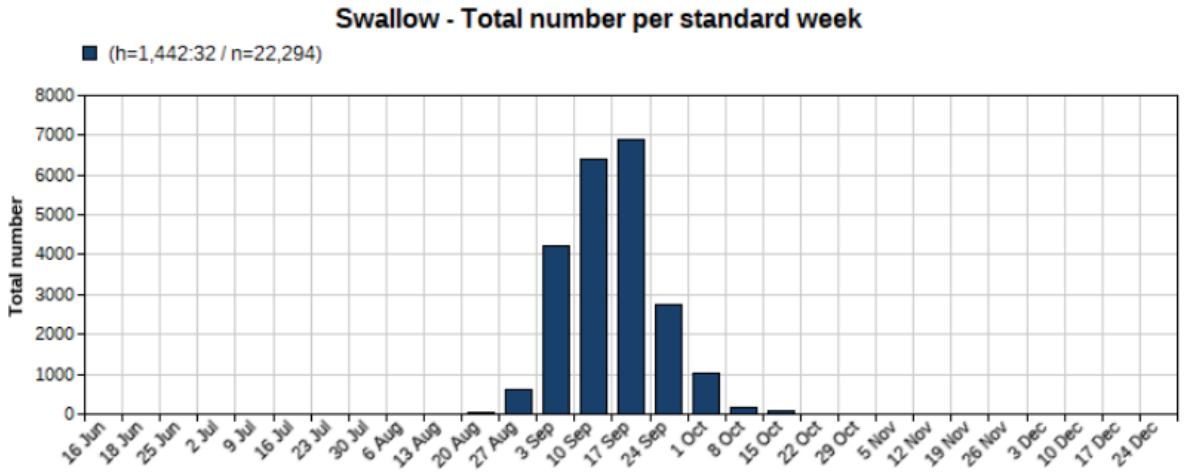

Figure 24 – Swallow cumulative numbers moving per week (2005-2020)

Swallow migration peaks earlier than it does for House Martin and numbers are lower (about 2000 per year on average since 2010), with only five four figure counts, all between 5th and 20th Sept (max 2,700 in two hours 30 minutes on 11th Sep 2011). In contrast to the large, often swirling flocks of House Martins, movement is typified by small, fast moving groups, low to the ground and on a wide front, making it easy to miss birds on busy days. Optimum wind direction too seems to differ, four of the top counts occurring into S or E wind, suggesting perhaps a more westerly origin for these birds. Daily counts typically fall to less than ten after mid-October with the latest on 2nd Nov 2012.

Sand Martin is relatively unusual compared to the other hirundines and almost always recorded in low numbers (11 per year on average since 2010 ignoring the two best counts), its scarcity owing something to its early departure (from the end of June), prior to the start of our autumn watches, and the potential 'draw' of Fleet Pond nearby to the north. The two largest counts by far were reasonably late on and both well above the next highest day count of 15 (a single flock of 120 on Sep 15th 2015 and 50 on 20th Sep 2017). Only recorded five times into October, the last on the 28th 2018.

Starling

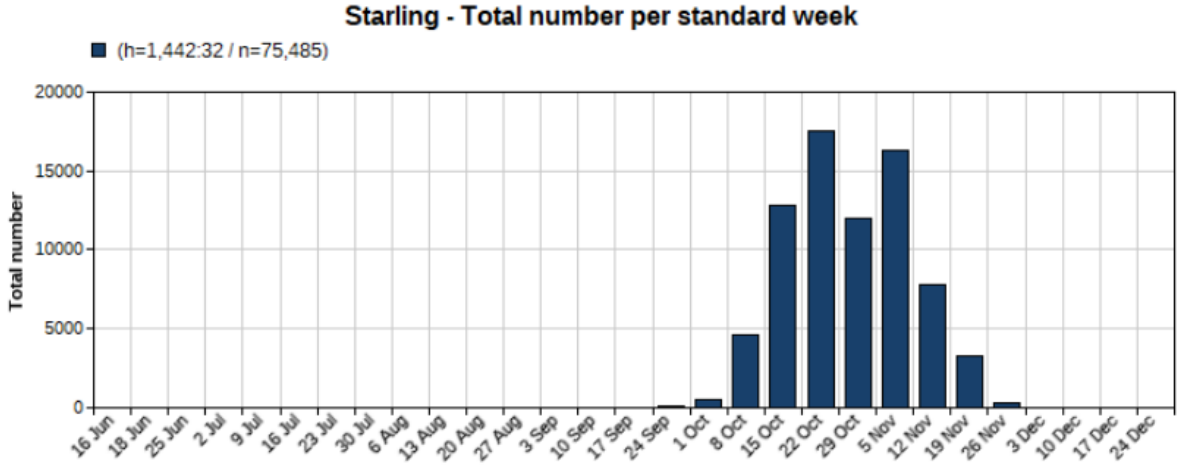

Figure 25 – Starling cumulative numbers moving per week (2005-2020)

Tight flocks of Starling moving arrow-like low above the tree-line and high across the sky, doggedly following the "continental track" (see Figure 3), is another much anticipated and appreciated late autumn sight. Each year's migration is characterised by a one to three week rush, anytime from 8th October to 12th November, with smaller numbers either side. The total from year to year varies considerably (max. 8,678 in 2019; min. 3,409 in 2015), due in part to varying coverage and birds missed on days when movement picked up post watch.

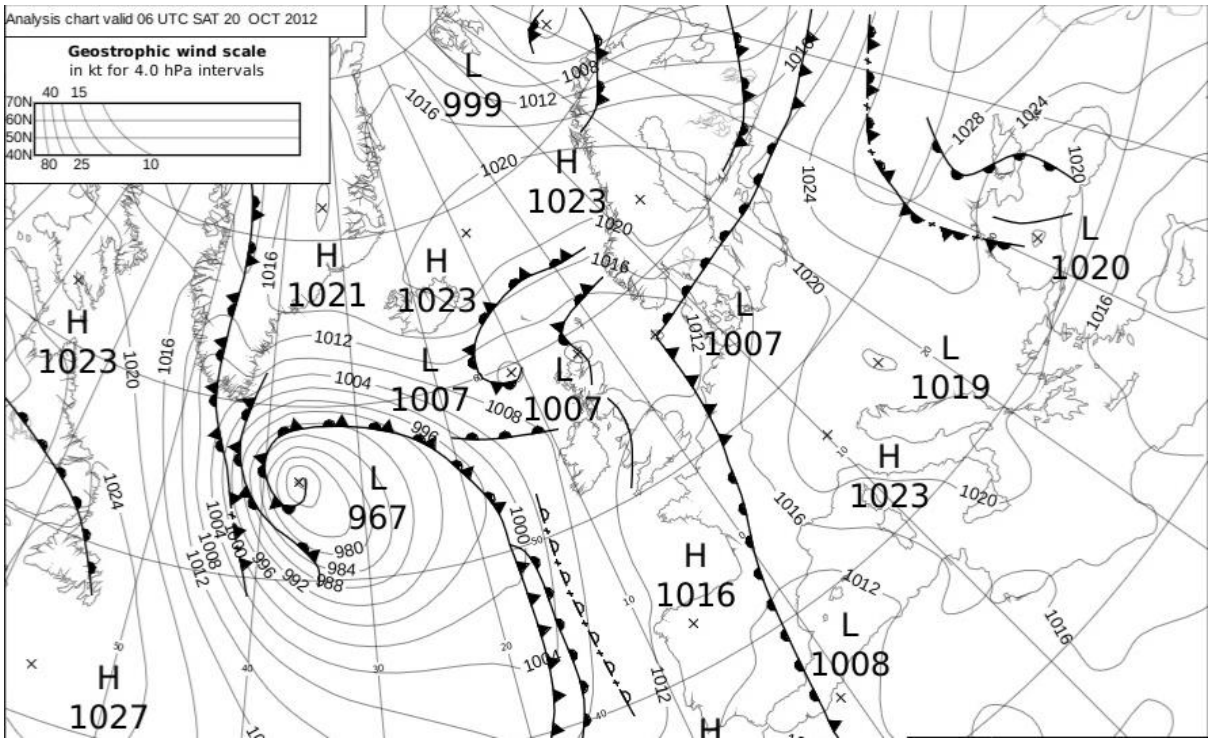

Figure 26 – Pressure chart for 20th October 2012

Most autumns include at least one four-figure day. The highest was 4,625 in 4hr 45 min on 20th October 2012 (almost twice the next highest) coinciding with settled weather well to the east and large movements at many sites on the Dutch coast. However, Starlings will move in any weather providing there is a clear route to the WNW.

Thrushes

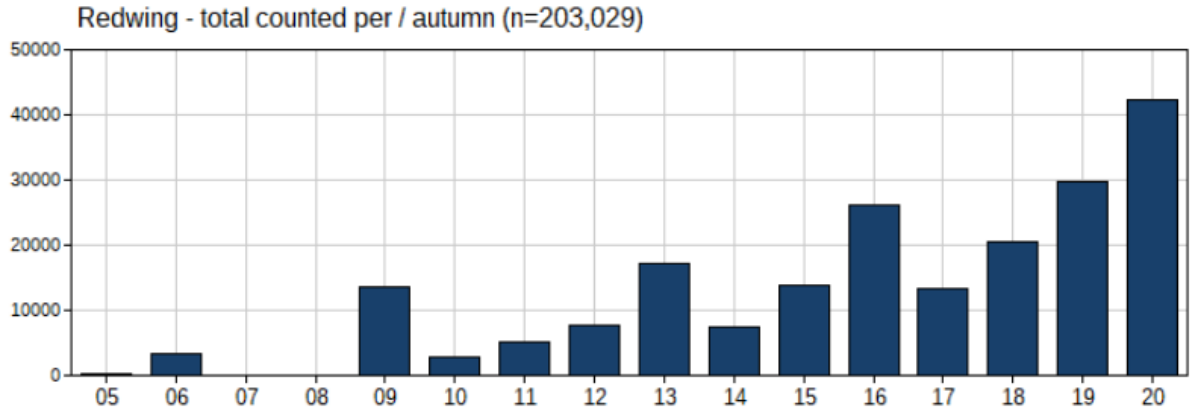

Figure 27 – Redwing totals moving per autumn (2005-2020)

Redwing is by far the commonest thrush and the second most numerous migrant recorded overall. The potential for large, four figure counts, much higher than any noted elsewhere locally at the time, was clear from the 'early years' despite limited visits during October. Regular watching from Tweseldown Hill from October 2013 placed us squarely on the main, continental arrivals track and produced an impressive total of 10,654 from 10th to 12th. Numbers have grown steadily since, most likely due to increased coverage, a better understanding of the factors determining a 'big' day, and some ideal weather during the peak arrival period.

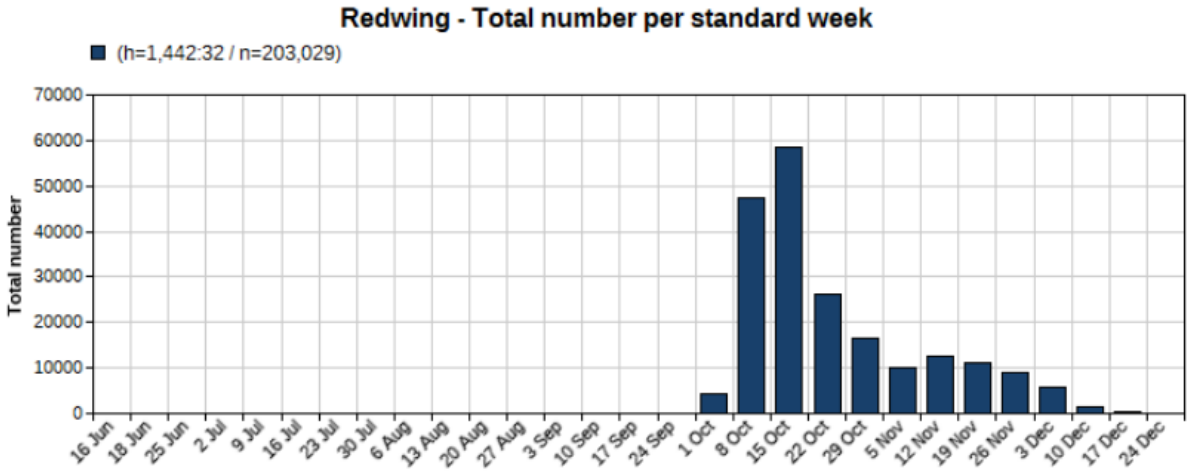

Figure 28 – Redwing cumulative numbers moving per week (2005-2020)

The first returns have been recorded at the end of September in all but one year since 2013 (earliest 27th) and the first movements of note have followed quickly within the first week of October (e.g. 909 on 4th in 2016). Heaviest passage is typically through October and mainly involves birds arriving direct from the continent on a well-defined track heading NW. These movements sometimes build as the morning progresses and can continue into the afternoon. Similar, but smaller scale, arrivals can continue well into November, or even early December (as evidenced by a total of 3,298 on 3rd and 4th Dec 2018) and are supplemented by birds relocating >S/SE from arrival sites further north.

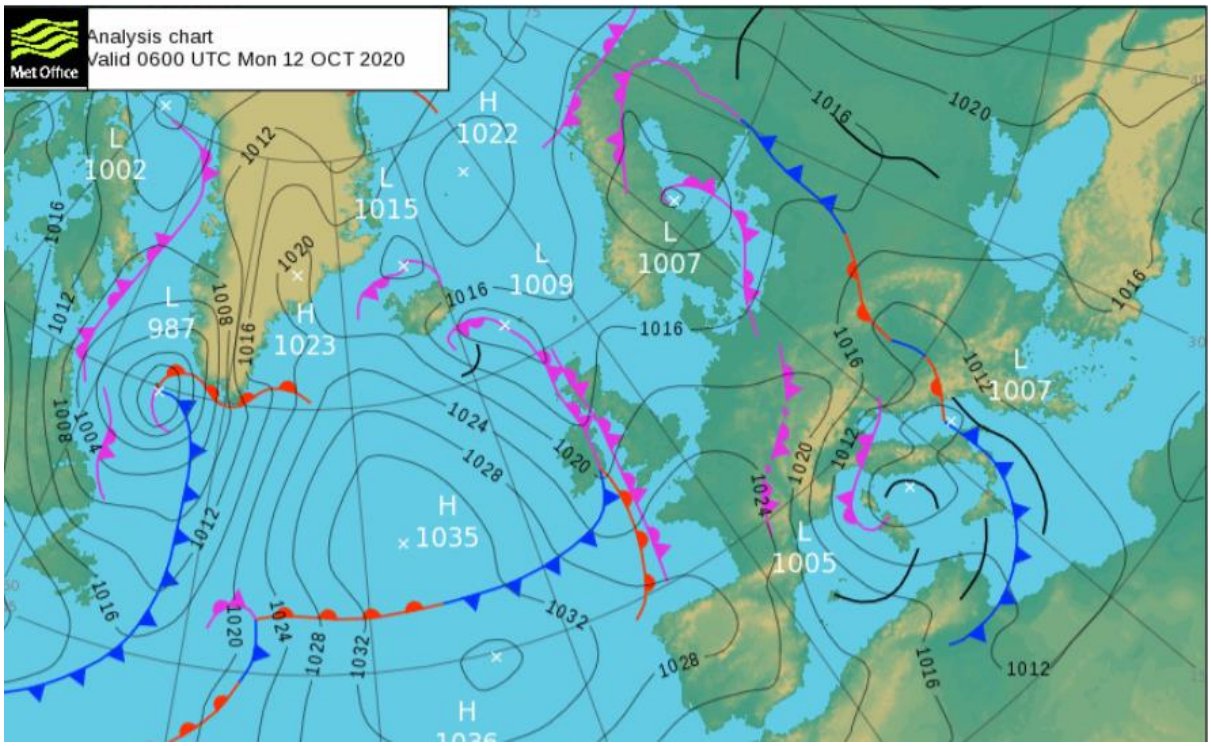

Figure 29 – Pressure chart for 12th October 2020

Classic October weather produces low pressure centred to the south-east of the UK, with clear weather to its north, and generally dry, settled conditions over southern England. This combination has delivered the five highest counts, most notably in 2020 when a staggering 17,100 flew W/NW in eight hours on the 12th (at the time of writing the eighth highest UK count on Trektellen and on a day of strong movement on the Dutch coast) followed by 11,125 in five hours 45 minutes on the 15th (with only modest numbers at two inland Dutch sites). Conversely, almost continuous W/SW winds during October 2014 resulted in a daily maximum of only 1,831 (also on 15th). Weather later in the autumn seems less crucial with almost any conditions, bar heavy rain and strong winds, potentially capable of encouraging lesser movements into the wind.

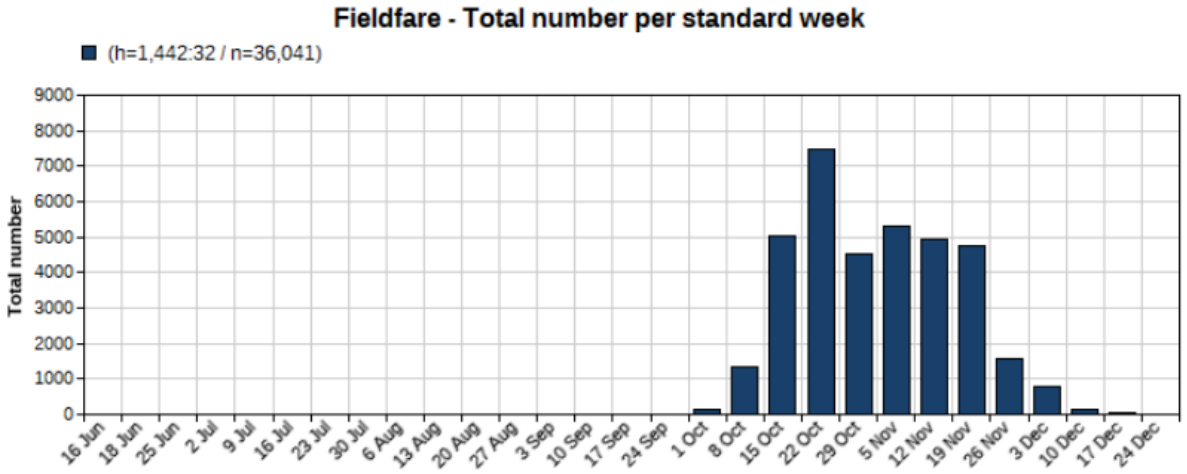

Figure 30 – Fieldfare cumulative numbers moving per week (2005-2020)

In keeping with many inland sites, particularly south of the Wash, recorded in much lower numbers than Redwing, typically only in the low hundreds per day, with a maximum of 1,202 (in 2.5 hr on 7th Nov 2017) and only two other four-figure counts. This relative scarcity may be exaggerated by a tendency to move later in the day, and sometimes at great height, which results in many being

missed. It is also later to arrive, being seen only three times by the first week of October (earliest on 1st in 2020) and typically not until the second or third week. Thereafter significant arrivals can occur throughout November and even in early December (e.g. 452 on 4th Dec 2018).

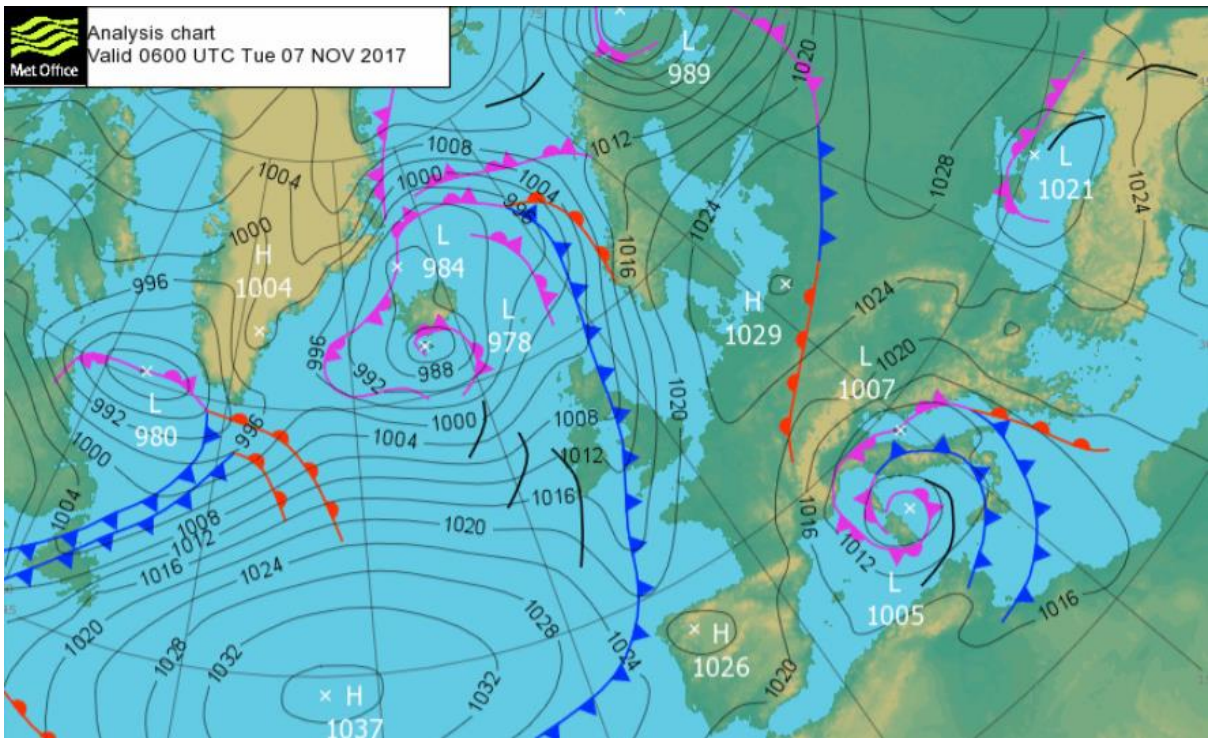

Figure 31 – Pressure chart for 7th November 2017

Movements tend to be less predictable in terms of the optimum weather conditions and expected flight line (arriving anywhere from N, through E, to S), perhaps reflecting a variety of arrival points and less reliance on significant topography for navigation.

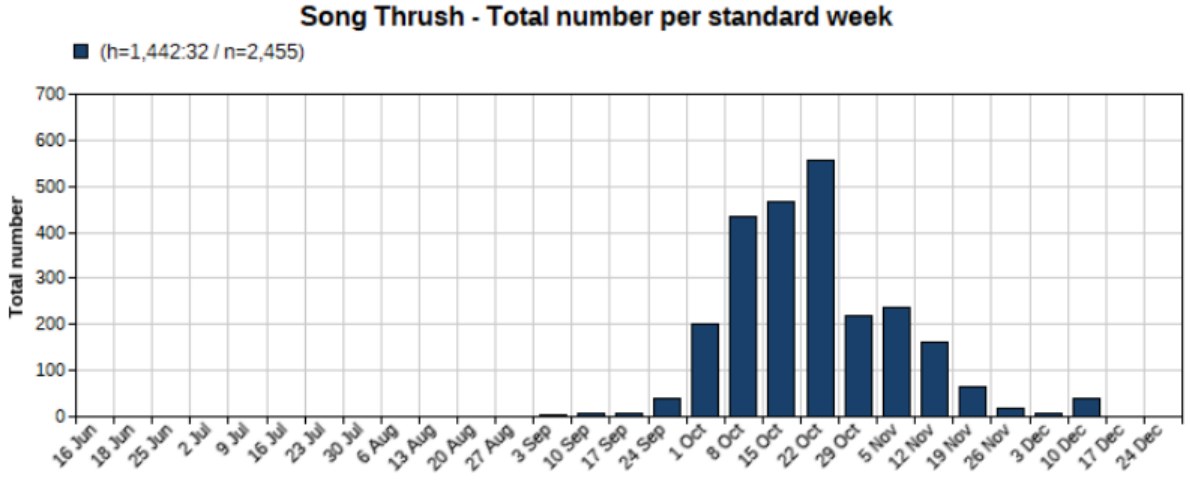

Figure 32 – Song Thrush cumulative numbers moving per week (2005-2020)

Apparent migrant Song Thrushes have appeared as early as the 6th Sept but more typically occur in single figures during the last ten days of that month. These earlier arrivals tie in with the first significant, autumn counts on the near continent, although double figure counts at Tweseldown are rare before the first week of October. Thereafter, our assumption that the majority are continentals is supported by several top counts occurring during significant arrivals of Redwing in October (such as the max of 240 on 28th 2012, cf. 3007 Redwing), and a tendency to associate with Fieldfare flocks.

However, good numbers have also been recorded on quieter days (such as 88 on 7th Oct 2018, cf. only 399 Redwing, and 45 on 15th Oct 2017, cf. only 260 Redwing). It should be noted too that reliable counts are dependent on having reasonable views and/or mixed flocks (to separate Song Thrush from Redwing – the use of 'Thrush sp' on Trektellen was abandoned early on with a default of Redwing, or forgotten if Song Thrush is suspected but not certain). Numbers dwindle quickly at the end of November with very few noted in December, apart from a cold weather movement of 38 SW on 12th Dec 2017.

Mistle Thrush has been recorded as moving between 5th Aug and 12th Dec, a spread of dates that reflects its status as both a local breeder and passage migrant. Double figure counts are uncommon (max 25 on 29th Sept 2017) with the majority around the end of September and early October presumably related to post breeding dispersal and/or feeding movements of some local family groups (also often noted as present in early autumn). Later concentrations have often been associated with movements of winter thrushes so may involve some of continental origin.

Ring Ouzel has proved to be a scarce October migrant recorded between 6th and 29th with the first a group of three W on 13th Oct 2012. At least one or two have been recorded moving over in most years since, with a maximum of seven in 2019 including another group of three (on 22nd). Arrivals are typically from the N/E later in the morning, with several seen to land and pause briefly in the treetops below Bricksbury Hill before continuing on. Additionally birds were present, feeding on rowan berries, in this area for a number of days in 2014, 2016 (six) and 2017.

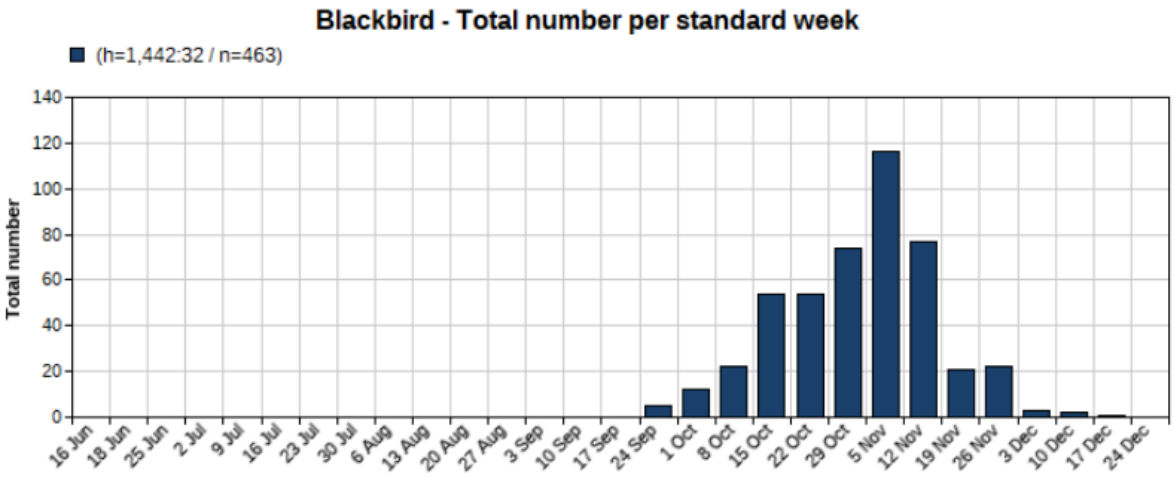

Figure 33 – Blackbird cumulative numbers moving per week (2005-2020)

Blackbird is one of the latest migrants, appearing in low numbers typically on days with a good arrival of Redwings and Fieldfares, almost always travelling in ones and twos and only occasionally in small groups or with other thrushes. Double figure counts have occurred on only eight occasions, between 28th Oct (the max of 21 in 2012) and 18th Nov.

Wagtails and Pipits

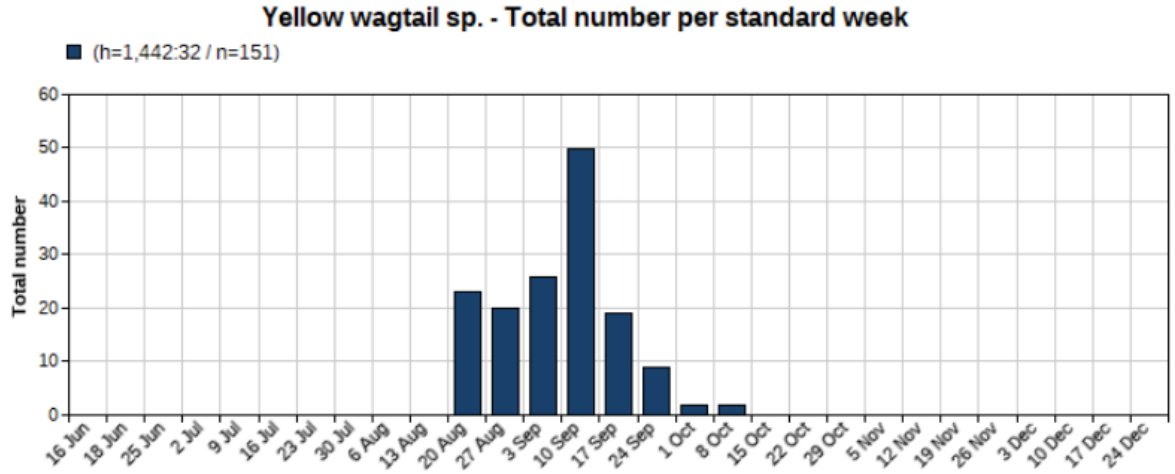

Figure 34 – Yellow Wagtail cumulative numbers moving per week (2005-2020)

Yellow wagtail is an early migrant in low numbers (all logged as 'Yellow Wagtail sp' to be on the safe side although we have never seen anything that didn't look like a standard *flavissima*), with double figure totals first recorded during extended September coverage in 2010 and 2011. However, only one to four were seen in each of the next seven years before a 'return to form' in 2018, and an all-time autumn high of 52 in 2020 (max 13 on 24th Aug). These fluctuations are due at least in part to patchy August coverage and a tendency for birds to move throughout the morning, after watching had stopped on a 'quiet' day. Movement is typically to the west, low to the ground and into a fine weather headwind. There have only been three October records with the latest on 12th 2020.

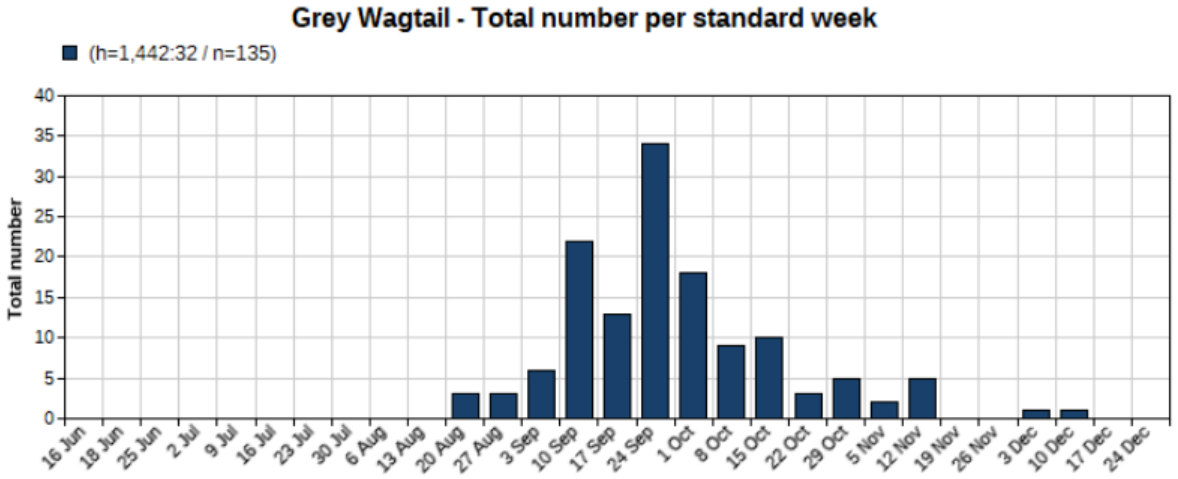

Figure 35 – Grey Wagtail cumulative numbers moving per week (2005-2020)

Grey Wagtail is another species seen across a wide range of dates (cf. Mistle Thrush), reflecting a mix of local, dispersing breeders and partial migrants from farther afield, with no doubt a number just moving between local feeding sites. Rarely is more than a handful logged over any one session, the best count eight on 30th Sept 2017.

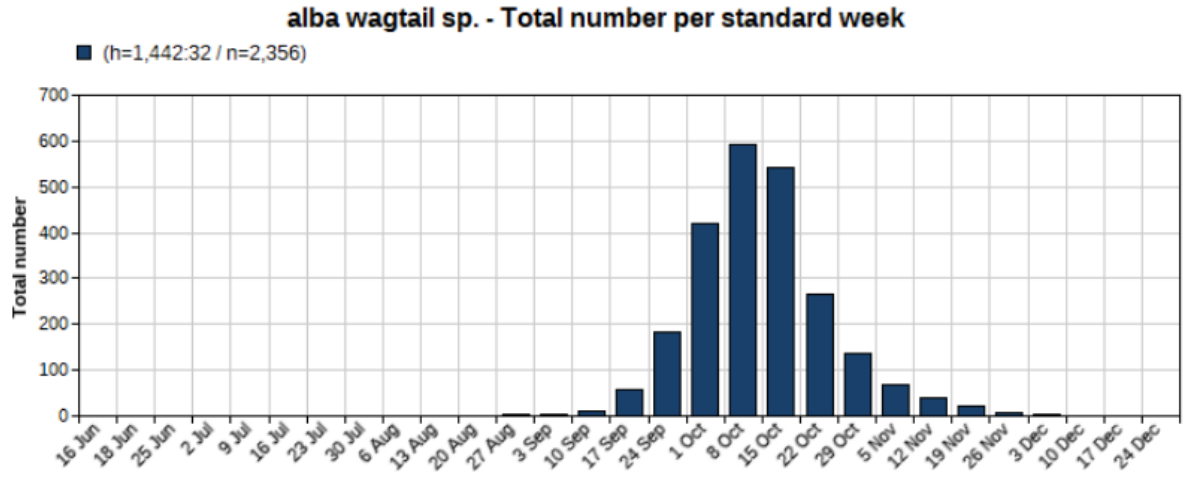

Figure 36 – Alba Wagtail cumulative numbers moving per week (2005-2020)

The weekly profile for alba Wagtail (sp - the default for all Pied types despite no obvious Whites to date) is nicely underlined by a paltry 18 in 2010 when there was no coverage during the peak weeks. Typical annual totals are around 100 to 200 with high day counts in the range of 20 to 40, apart from 2014 when a massive 698 was logged, including eight of the top ten counts (max 59 W on 17th and 19th Oct, and almost 40% w/c 15/10). Far exceeding any other autumn, and not reported elsewhere in the county (although Painswick Beacon, Gloucs, also shows record numbers on Trektellen), this exceptional year is difficult to explain, apart from coinciding with an unusually prolonged spell of W/SW winds and fine weather. Movements are almost exclusively to the W/SW and usually heaviest within the first couple of hours of a watch.

The migrant status of Tree Pipit is still a work in progress after focussed visits during the second half of August only in the last two years. Results so far suggest that it is more frequent and numerous than realised with, for example, double figure counts (plus about 20 'possible/probables') on three dates in 2020 (23rd-27th, max 15, 62 for the autumn). To what extent these originate from breeding populations on the Thames Basin Heaths (including Surrey, 120-150 pairs) is hard to say. Passage fades early in September with the latest on 23rd 2017 (apart from a heard only 'tree' pipit on 15th Oct 2017).

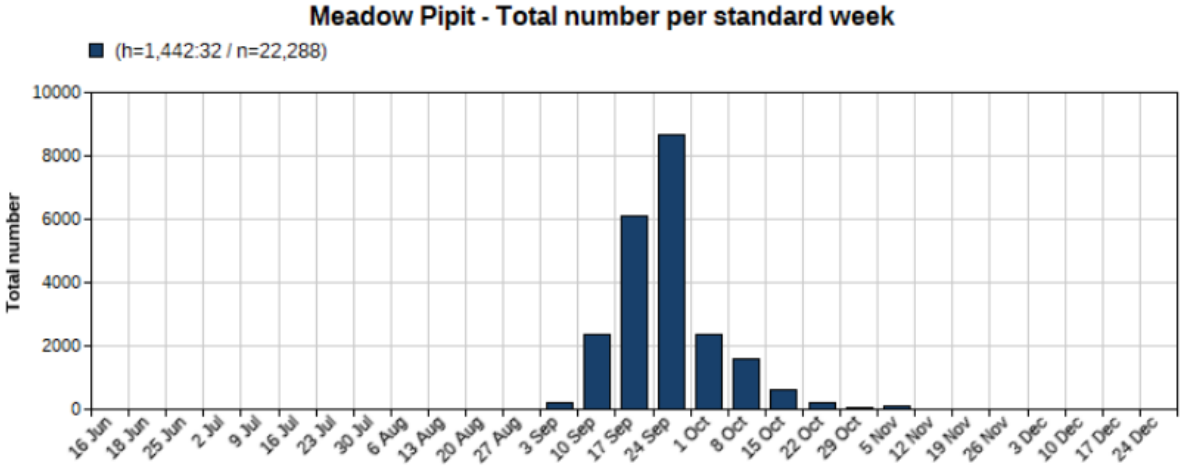

Figure 37 – Meadow Pipit cumulative numbers moving per week (2005-2020)

Peak Meadow Pipit migration, in optimum conditions, is typically short lived, with a large proportion within one week some time during the last ten days of September and often including at least one 'stand out' day. Prior to 2016, the highest day total was a modest 332. A significant step change has occurred since with four counts in excess of 1000 including 3,456 in four hours 20 minutes on 30th Sep 2019 and 2,136 in four hours 15 minutes on 22nd Sep 2017. This is attributed to a combination of

some ideal weather (fine with a light SW wind) and a better understanding of how and when to watch for them. We have realised that heavy movements can continue into late morning and also that very high flocks are most easily detected at Bricksbury Hill. Passage usually tails off rapidly into October, the dozen or so three figure counts (max 413 10th Oct 2019) presumably consisting of birds that have staged further north.

Finches

The main finch movements at Tweseldown are broadly comprised of three groups; passage migrants from the continent (Chaffinch, Brambling & Hawfinch), partial migrants originating from the UK (Linnet, Goldfinch & Greenfinch), and irregular, irruptive migrants largely from the UK (Siskin, Lesser Redpoll & Crossbill). In all cases, bar the continental passage, the timing and size of migration has always been muddied to some extent by local, post breeding dispersal, post-roost movements and feeding flocks. Additionally, and particularly in the early years of limited knowledge and low confidence levels, a proportion of birds remain unidentified, particularly on days when the light is poor and/or birds are moving on a broad front (and logging these as 'Finch sp' on Trektellen never felt useful and was dropped after a few years).

Records outside of the three migrant groups include a handful or so of relatively late moving Bullfinches each year (typically mid Oct through Nov), always convincing despite it breeding locally, and a Twite seen and heard moving >W close to the tower at Tweseldown on 13th Nov 2018, a once common winter visitor to the Hampshire coast but now a rarity, and even more so inland.

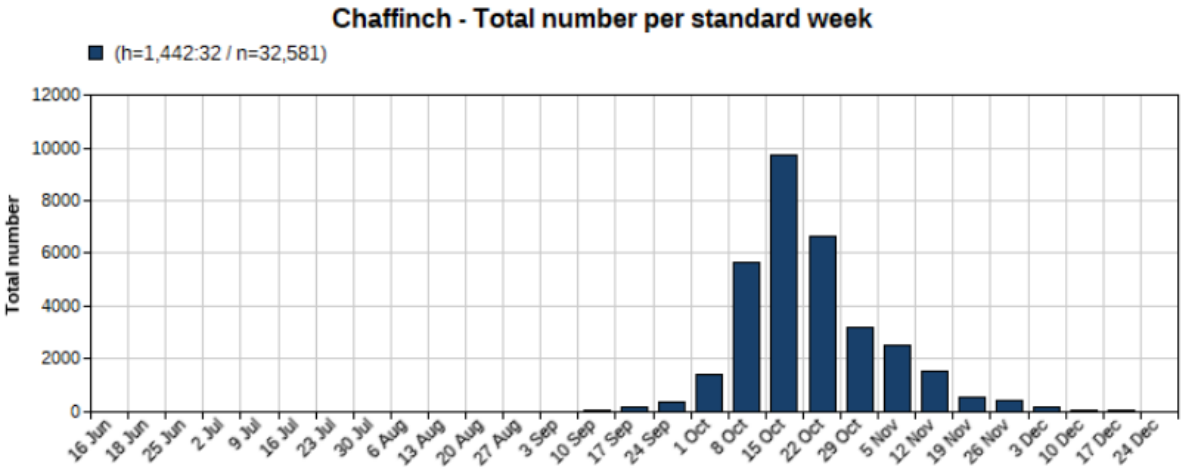

Figure 38 – Chaffinch cumulative numbers moving per week (2005-2020)

Chaffinch is a predominantly continental migrant that rarely strays off the "continental track". 'Big' days often coincide with notable movements of Redwing and Starling during October (e.g. 1,775 in five hours 45 minutes on 15th and 1,675 in eight hours on 12th 2020). Daily movement patterns come in a variety of shapes and sizes, sometimes well underway from dawn, while others suddenly pick up from mid-morning, with birds travelling at all heights and, unlike many October migrants, occasionally continuing well in to the afternoon. A steady increase in numbers in recent years (to a max 5,880 in 2020) is attributed to a combination of more hours watching, greater knowledge of migration patterns and good weather.

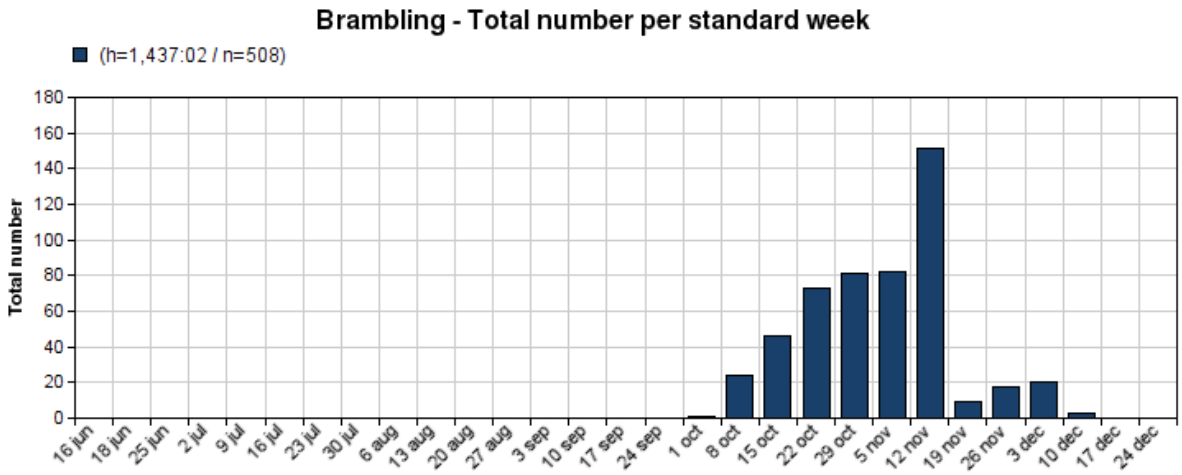

Figure 39 – Brambling cumulative numbers moving per week (2005-2020)

Brambling has occurred from 4th Oct but overall the record suggests it to be later in the autumn than Chaffinch, although the picture may be skewed a little if birds are being missed amongst flocks of that species. Watching from Bricksbury Hill has certainly detected mixed, high flying flocks (e.g. the second highest day count of 43 on 22nd Oct 2019), and it is likely that these would be missed from Tweseldown. However, the record day count of 74 >SW on 14th Nov 2018 included an early morning, low flying, pure flock of 60, of which there are several other, lesser examples. Numbers from year to year are notoriously unpredictable, ranging from 227 in 2018 to only eight (from more than 100 hours of watching through Oct and Nov) in 2014.

Putting aside the autumn of 2017, Hawfinch has occurred four times in late autumn between 10th and 19th Nov (singles in 2010, 2018 and 2019, and groups of two and four on 10th 2020). Given that the UK population is thought to be largely sedentary, and there are no known breeding and wintering sites close by, it seems fair to consider these continental migrants. This was certainly the case in 2017 when huge numbers arrived in the UK from Eastern Europe. A total of 154 that autumn (74 in Oct from 7th plus 54 in Nov to 26th) included day totals of 18 on 17th Oct and 21 on 5th Nov, and a complete lack of coverage 22nd - 27th Oct when sites elsewhere were busy with Hawfinches!

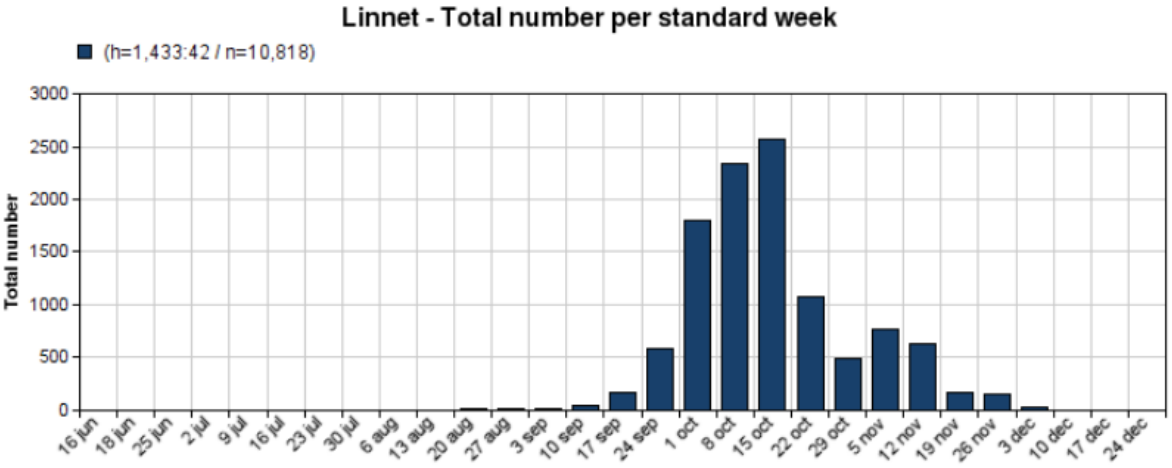

Figure 40 – Linnet cumulative numbers moving per week (2005-2020)

The numbers of Linnets recorded is either an under or over count depending on your opinion of the daily, pre-sunrise movements low W/NW during the main migration period that, at their peak, may involve a few 100 birds. These are most likely post-roost flights from nearby heathland (in gorse?) to

feeding areas close by and have, in the main (in recent years at least), been ignored from the counts of moving birds, but who's to say that a proportion are not migrants. This was less of a consideration when watching from Miles Hill prior to 2012 (with little heathland close to the east) and the maximum day count of 363 there on 12th Oct 2011 occurred well after sunrise (08.45-10.15). Genuine movement is usually evidenced by tight flocks (of <50) moving fast >S/SW into a headwind. Numbers per autumn fluctuate considerably presumably linked to the success of the UK breeding population.

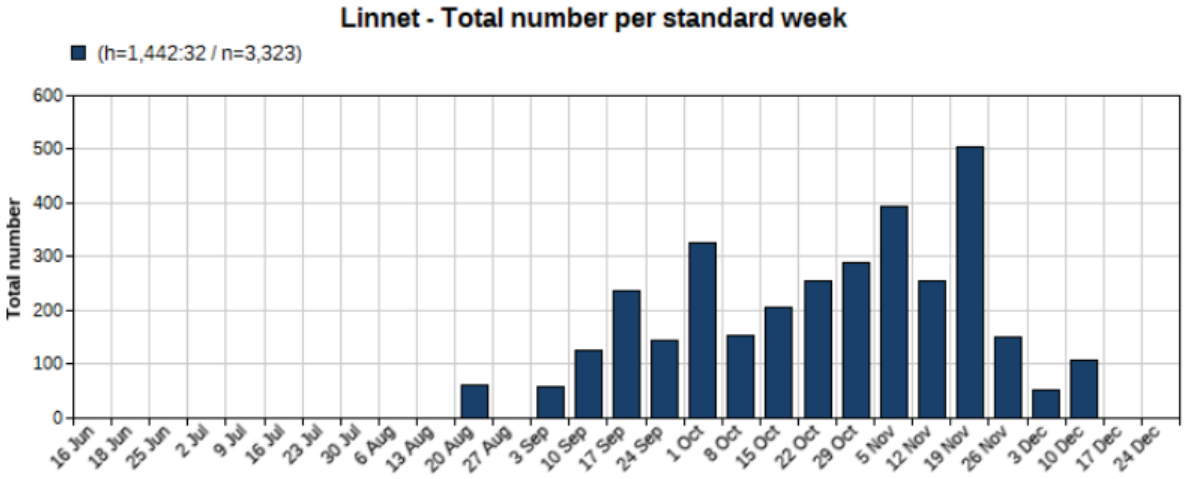

Figure 41 – Linnet cumulative numbers present (not moving) per week (2005-2020)

This is also a common breeder in the local area (with close to 100 pairs on the Thames Basin Heaths in recent years), and a sizeable feeding flock is often present, especially around the Tweseldown racecourse (max 200 on 19th Nov 2017). Short journeys by these birds can also complicate counts of moving birds, although the data suggest an interesting gap between the migration peak (mid Oct) and the build-up of feeding flocks (late Oct/early Nov).

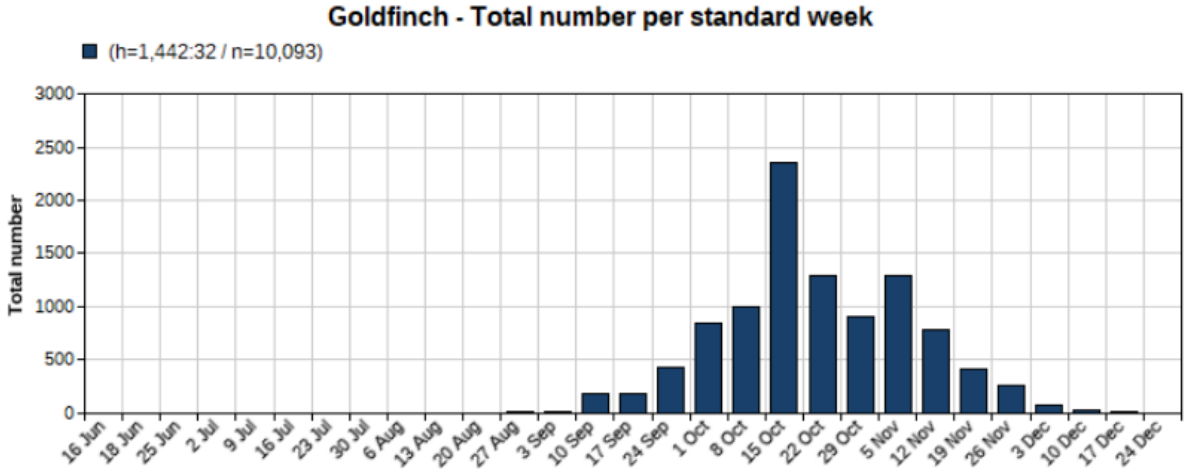

Figure 42 – Goldfinch cumulative numbers moving per week (2005-2020)

The overall total for Goldfinch is remarkably similar to that of Linnet, and the good years for both usually coincide. The post roost question is also a factor when determining genuine migrants, and the presence of feeding birds more so, with flocks building quickly post breeding. This species is also often noted taking short, local journeys at great height, just to confuse the watcher! Genuine movements are like those of Linnets; fast and low >S/SW into the wind and including highs of 196 on 17th Oct and 193 on 31st Oct 2019, and 170 on 11th Nov 2020, although not necessarily on the same days and potentially later into the autumn.

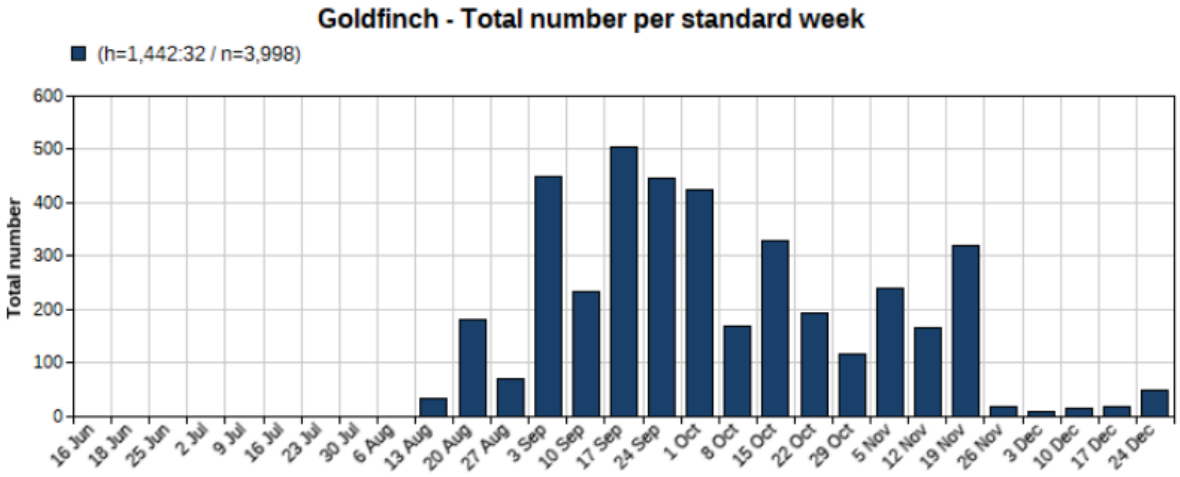

Figure 43 – Goldfinch cumulative numbers present (not moving) per week (2005-2020)

A feeding flock of at least 200 in late September 2020 reflects an explosion in the numbers present during 2019 and 2020, mirroring a large increase in the breeding population in recent years across local rural and suburban habitats.

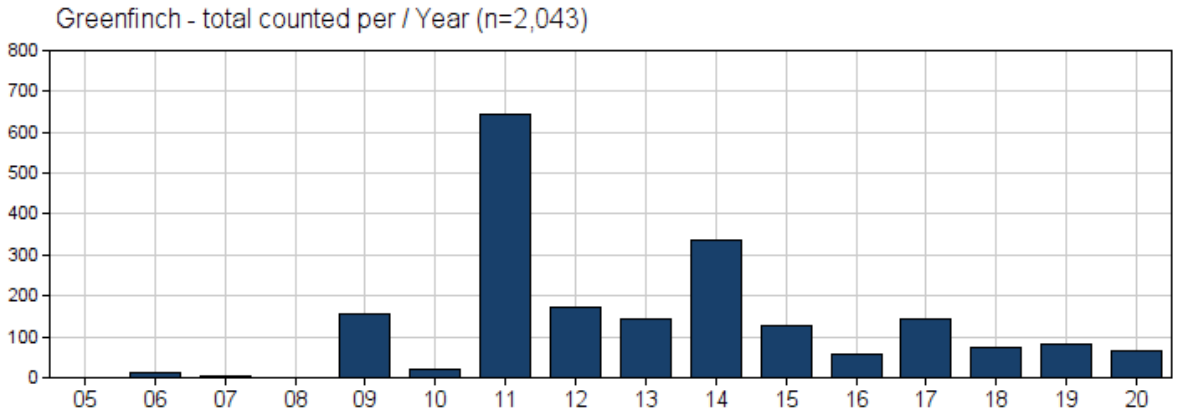

Figure 44 – Greenfinch totals moving per autumn (2005-2020)

The national decline in Greenfinch numbers during the period (largely resulting from Trichomonosis epidemics in 2006 and 2007) is clearly illustrated by the totals for 2011 (646 for the autumn, including a max of 124 >W on 12th Oct) and 2020 (67 for the autumn, max 11 >W on 22nd Oct). Distinguishing migrants from birds leaving local roosts was once a challenge when numbers were high, whereas, today, there is only a small breeding population to consider. The latter (alongside coverage well into late autumn) may also explain an end of October to mid-December peak in recent years, a shift from a mid-October peak in 2011 when migrant numbers were higher.

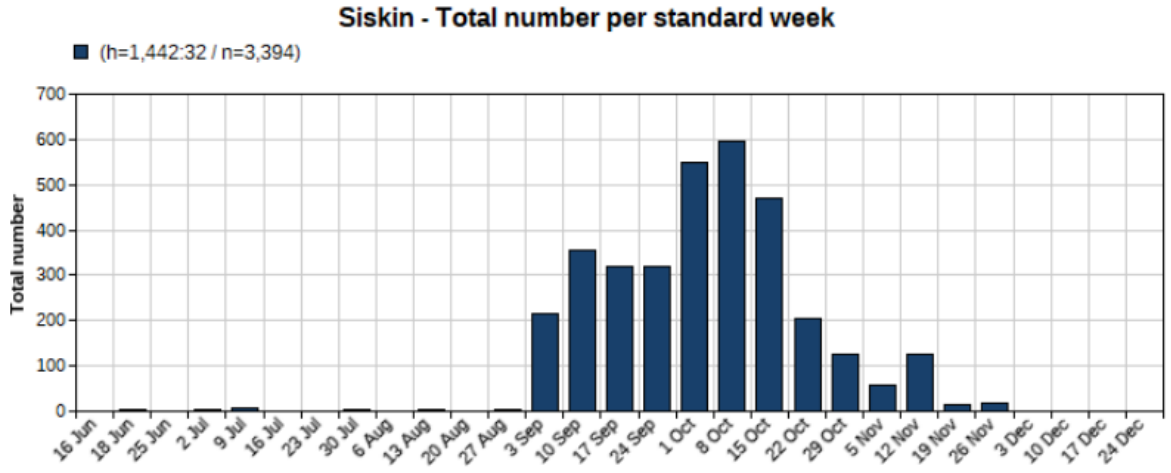

Figure 45 – Siskin cumulative numbers moving per week (2005-2020)

Although common locally most winters, the autumn totals for Siskin are usually small to modest, ranging between 21 (2014) and 334 (2012) per autumn in all but two of the past ten years (2011 and 2020) when large, country wide irruptions occurred. In both these years, passage was sustained across an eight week window (w/c 3rd Sep to 29th Oct), although peak numbers for each were a month apart. A total of 1,046 logged in 2011 peaked during w/c 8th Oct (max 144 >SW on 8th) whereas 1,111 in 2020 peaked a month earlier in w/c 10th Sept (max 131 >SW on 13th). Feeding flocks (in Scots pine) tend to be short-lived and small, with an exceptional 100 on 8th Oct 2018 and 10th Sep 2020. Small numbers breed annually in the local area, perhaps explaining the occasional early autumn bird, whereas the local wintering population usually builds from late November as movement ends.

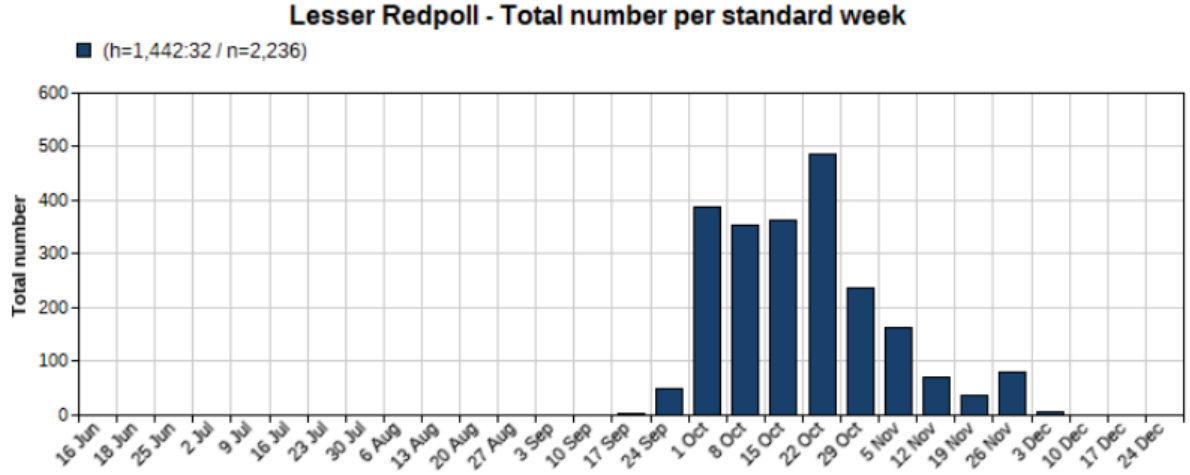

Figure 46 – Lesser Redpoll cumulative numbers moving per week (2005-2020)

Lesser Redpoll[3] is generally scarce both locally in winter and on migration, with autumn totals in the range of seven (2013) to 266 (2017) over the past ten years, apart from the two irruption years noted for Siskin (i.e. 852 in 2011 and 537 in 2020). The 2011 irruption began early, the first appearing from 24th Sep and reaching a peak intensity w/c 1st Oct (max 82 >SW on 7th), whereas migration in 2020, although also starting strongly early in October (max 68 >SW on 6th), hit a later peak w/c 22nd. Feeding flocks are more likely to be encountered (in Silver birch) than for Siskin, notable gatherings including 100 on 13th Nov 2016 (cf.170 recorded moving that autumn) and 60 on 10th Nov 2018 (cf.28 moving).

[3] The majority of birds seen moving are assumed to be of this species since the occurrence of other redpoll species is very unlikely (but not impossible).

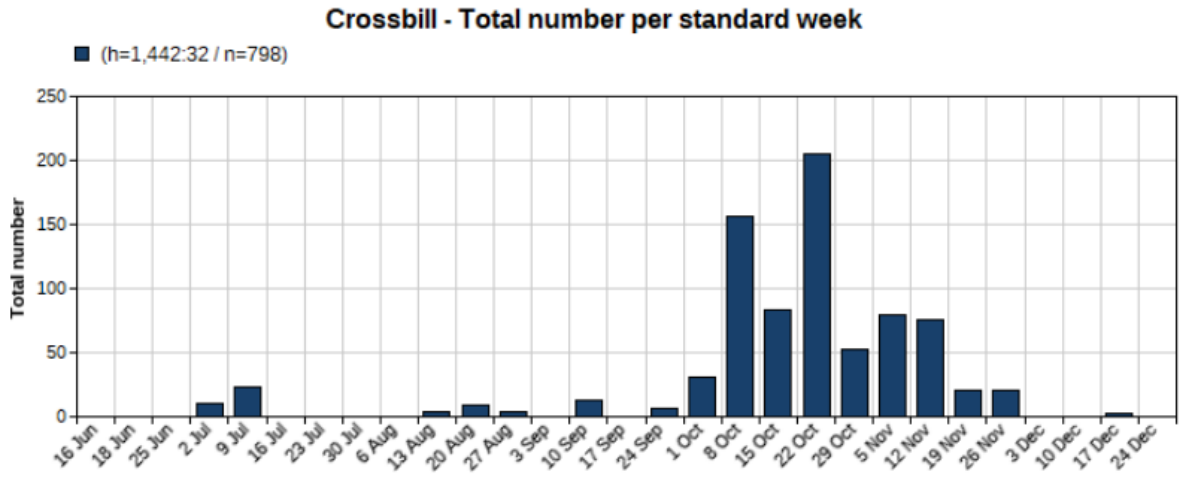

Figure 47 – Crossbill cumulative numbers moving per week (2005-2020)

Large Crossbill irruptions, alongside those of Siskin and Lesser Redpoll, occurred locally in 2011 and 2020, with smaller influxes in 2005, 2013, 2015 and 2018. Otherwise this is a scarce bird during the autumn with less than five in seven of the remaining years. Of the two irruption years, 2020 (417 logged) appears to have been much larger than 2011 (161 logged), although the totals hours watched was higher (204 versus 123) and there was coverage in July and August. 2020 also included a record, off passage flock of 40-50 from mid-August to mid-September. However, from similar coverage during October, both years saw the most intense movement during the same week (w/c 8th) and a maximum day count later in the month (33 on 28th 2020, 28 on 23rd 2011), and both recorded a smaller, second peak in the second half of November.

Buntings

A calling Lapland Bunting low overhead >W at Miles Hill at 0935 on 29th Oct 2011 is the only confirmed record of this inland rarity (and county scarcity), and a great example of being in the right place at the right time. Possible/probables on three other occasions (once with Skylarks and twice with Meadow Pipits, including two on 9th Oct 2020), were unfortunately not!

Yellowhammer is recorded most years with a total of 16 >W on 21 dates between 2nd Oct and 22nd Nov and most during the second half of October. This is a declining resident locally (now gone from the Thames Basin Heaths) so the lateness of these movements alongside those of Skylarks, alba wagtails and Reed Buntings is always intriguing.

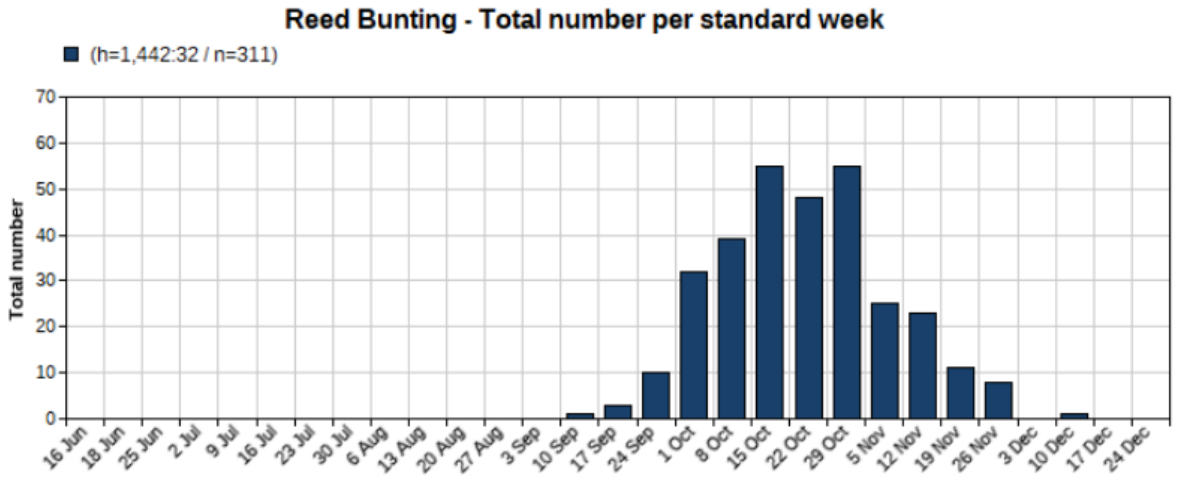

Figure 48 – Reed Bunting cumulative numbers moving per week (2005-2020)

Reed Bunting is another late migrant that regularly moves W in small numbers (on average 20-30 per year, max 70 in 2019), usually only in ones and twos and normally less than ten on any one day (max 15 on 3rd Nov 2019). One or two pairs breed annually on adjacent heathland and may account for the odd bird noted on the ground in September.

Woodland Wanderers

With woodland close by in most directions, determining the migrant credentials of a handful of common residents on the 'moving' list is a perennial discussion point. In all probability few of these birds are likely to be involved in anything more than localised, post breeding dispersal and feeding movements, but occasional movements are so pronounced and definite that they cannot be ignored.

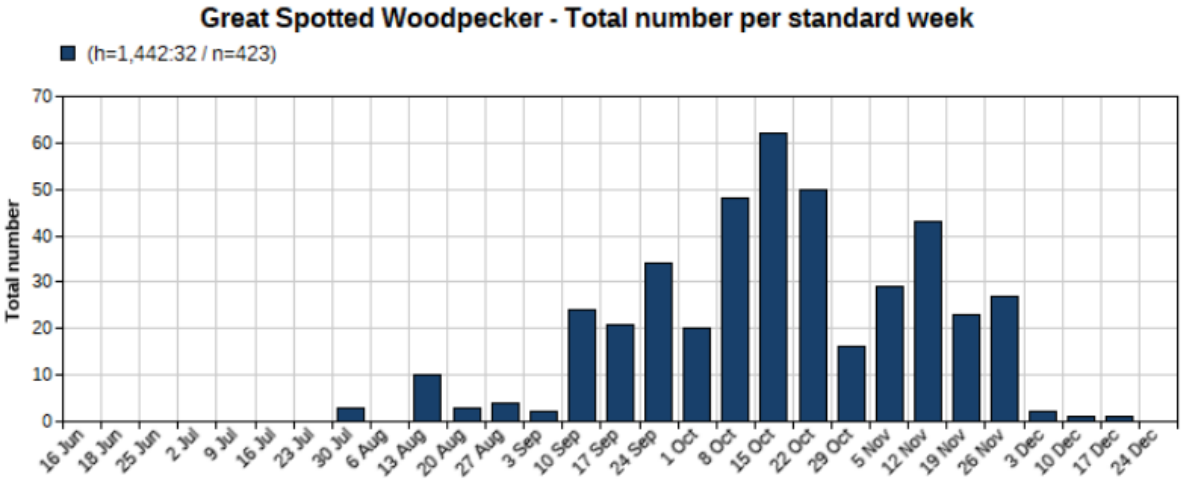

Figure 49 – Great Spotted Woodpecker cumulative numbers moving per week (2005-2020)

Great Spotted Woodpecker is by far the most regularly noted species of this group. Any bird moving across the area and well above the trees is likely to draw attention, with the majority of those counted heading SW (max autumn total 95 in 2014). Tweseldown has reported some of the highest vis mig totals for this species in the UK, with 19 on 20th Oct 2012, 14 on 28th Oct 2012 and 10 on 10th Oct 2020 being the first, second and fifth highest UK counts respectively. This undoubtedly reflects an increase in numbers locally at this time but, then again it is a common and successful local breeder.

Blue Tit is also often seen above the treetops but rarely for any distance considered 'unusual' and these occurrences are usually discounted as local foraging movements. Notable exceptions have all occurred during the first half of November, including 32 >SW in two hours 30 minutes on 11th Nov

2012 (“first few heading off NW well above tree height soon after the start, but then it continued for most of the watch. Mainly in ones & two's but also groups of 3, 3 & 5, and including 3 single Great Tits. Not all heading off strongly, some dropping back in to the tree tops after a 100 meters or so, but not your usual foraging behaviour”) and 19 on 9th and 11 on 13th Nov 2019 (again highlighted by light continuous movement WNW during the watch). Also in this category are three records of Coal Tit (four birds, three leaving high S/SW from Bricksbury Hill) and a total of nine high flying Dunnocks (five in the last week of Sept).

Discussion

From a local perspective, the focus on visible migration at this one site over many years has certainly been both significant and rewarding. The resulting body of data provides a great source of reference for the assessing new records and counts, providing interest on even the quieter days. The knowledge and experience gained of the conditions influencing bird migration across the area, particularly with reference to other sites both near and far, also demonstrates the potential to connect with movements on a scale usually associated with more well-known coastal watch points. And, if nothing else, the sense of anticipation of what might occur, coupled with the awe and excitement when birds are moving en masse, is a hard to match combination as far as inland ‘patch’ birding goes.

Assessing and understanding the significance of the Tweseldown data from a national context is less straightforward. The numbers of birds logged on Trektellen during the period of most consistent coverage (2011-2020), alongside the corresponding birds per hour, compares well with other, regularly watched, and well spread, inland watchpoints. This comparison holds true even when excluding Woodpigeons from the totals, a species that accounts for 49% of the birds seen at Twesledown during the period, and between 24% and 79% across the other sites (see Table 2).

Inland Site	Total Birds	Total Hours	Birds per Hour		Total Woodpigeons	Birds/Hr less Woodpigeons
Painswick (Glos)	1,971,292	2,474	797		929,787	421
Winter Hill (Lancs)	1,506,379	3,530	427		437,939	303
Black Bank (Staff)	1,224,139	710	1,724		972,244	355
Oxenhope (W Yorks)	1,214,966	2,713	448		411,203	296
Tweseldown (Hants)	1,082,329	1,331	813		532,613	413
Trigpoint (Hants)	574,835	1,086	529		206,903	339
Morgan's Hill (Wilts)	424,833	818	519		103,485	393
Leith Hill (Surrey)	130,349	529	246		44,746	162

Table 2 – Comparison of Selected UK Inland Watchpoint Data from Trektellen (in order of the total number of birds counted in autumn between 2011 and 2020)

However, whilst underlining Tweseldown’s credentials as a ‘good’ site for observing visible autumn migration, this analysis makes no allowance for each site’s local circumstances and counting ‘protocols’, and a more detailed analysis of the main bird movements at each would help elaborate this claim. We do know that the area benefits from having clear, largely uninterrupted, views to the NE and E (the direction of arrival for the majority of migrants at this time of year) and that the regional topography funnels birds towards the site. In particular, Bricksbury Hill concentrates broad front movements of southward moving birds, and the North Downs ‘brings in’ continental arrivals. These factors no doubt play a large part in putting Tweseldown on the migration map for migrants such as Stock Dove, Woodpigeon, Wood Lark, House Martin, and Redwing, with regular counts that are significant at the national (Trektellen UK) scale.

Figures 50 to 54 below summarise the autumn movements of these examples at all UK sites on Trektellen between 1st Sept 2011 and 30th Nov 2020, and provide some national context for those recorded at Twesledown.[4]

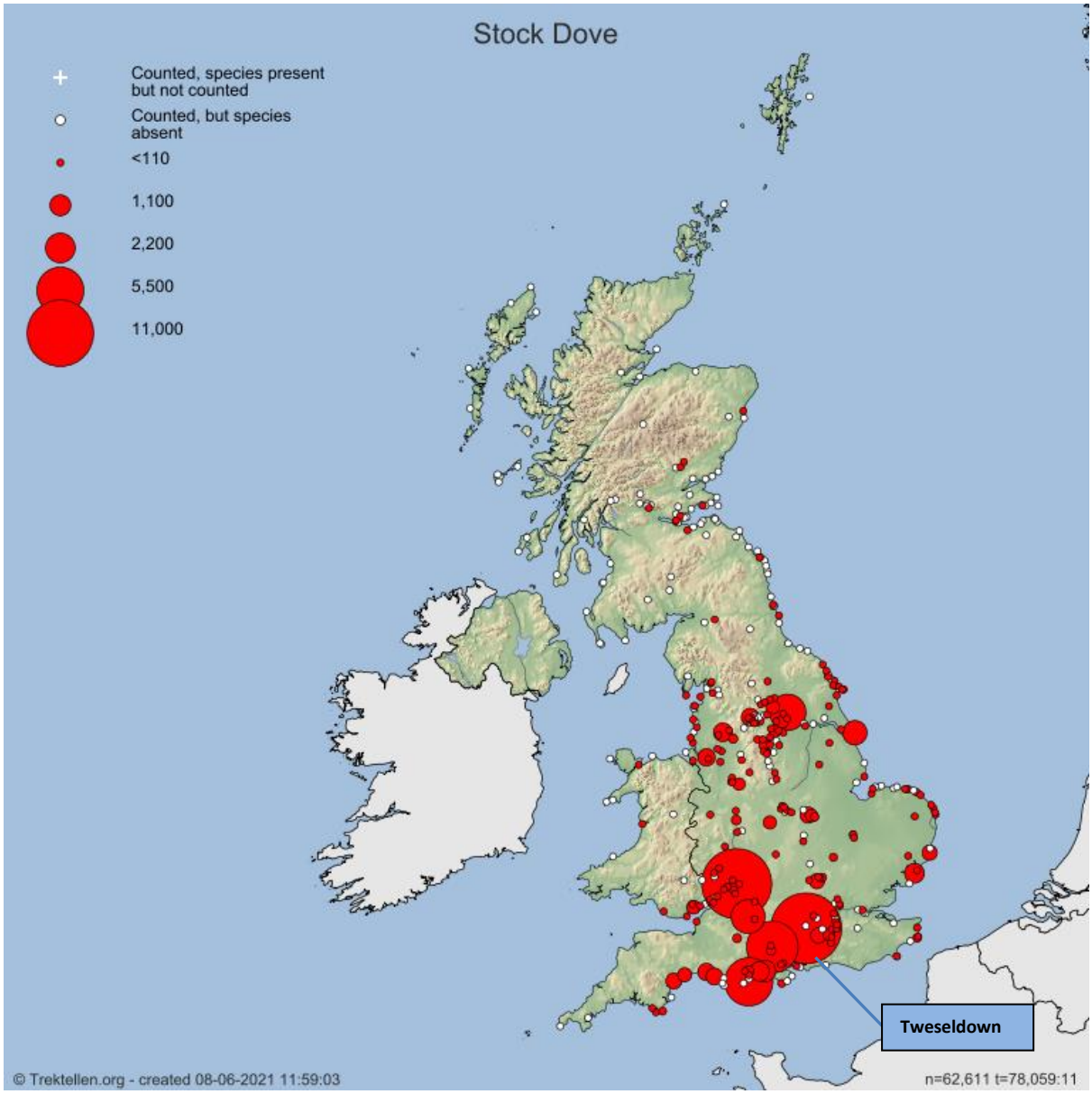

Figure 50 – Total Stock Doves counted in autumn at UK Trektellen sites Sep 2011 to Nov 2020 (n = total birds, t = total time in hours). With well over 11,000 birds recorded at each, Tweseldown and Painswick Beacon (Gloucs) are the stand out sites in the country for recording large movements of Stock Dove. This distinctly southern bias, particularly during the early autumn, is consistent with a short, post breeding migration of breeding birds from south-east England, although it is unclear where these journeys start and end.

[4] These migration maps clearly demonstrate the value of the Trektellen database and can be created for any species and across any date range using the following link: https://www.trektellen.nl/maps/species/5/-1/232/20110901/20201130/0/1

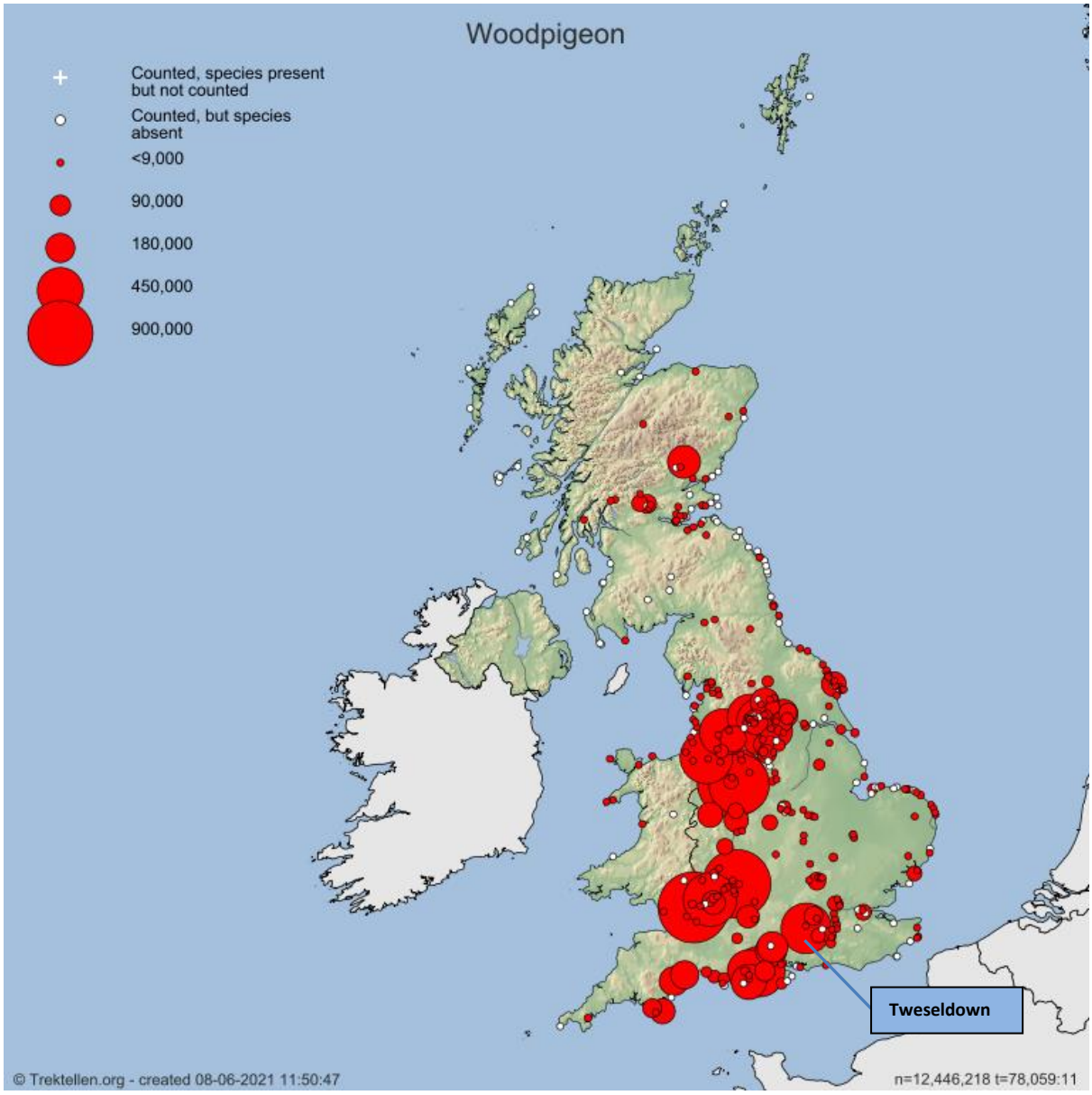

Figure 51 – Total Woodpigeons counted in autumn at UK Trektellen sites Sep 2011 to Nov 2020. This distribution shows Twesledown to be on the eastern flank of a concentrated corridor of Woodpigeon movement down through western England, and onwards to SE Wales and SW England. The relatively low numbers of this particularly obvious migrant at well watched sites to the north-east of the site also seems to confirm this.

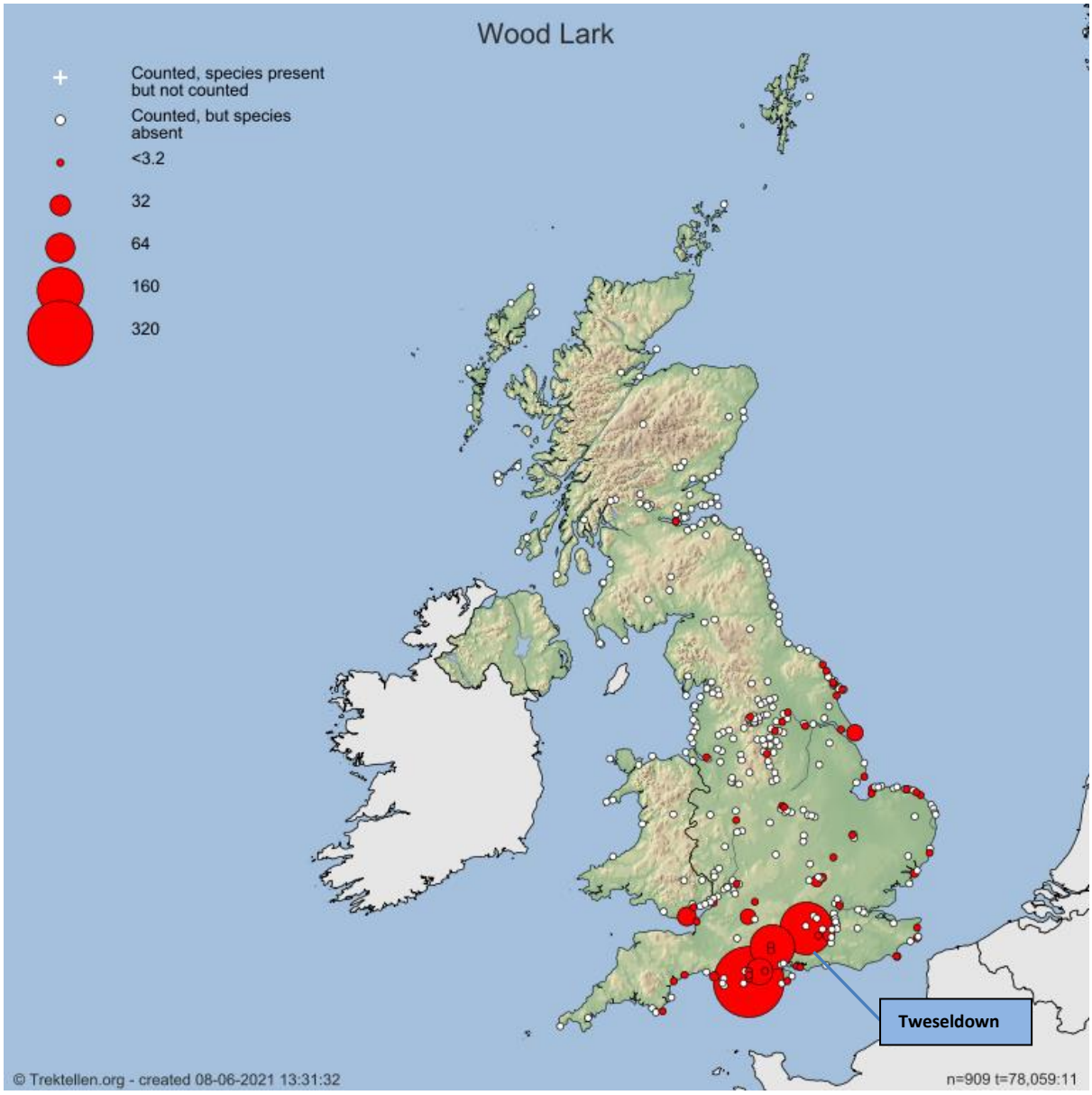

Figure 52 – Total Wood Larks counted in autumn at UK Trektellen sites Sep 2011 to Nov 2020. At best a rare to scarce sighting for the majority of UK sites, the striking concentration of records at a few southern watchpoints, including Tweseldown, almost certainly relates exclusively to short, post breeding movements of populations on the Surrey, Hampshire and Dorset heathlands.

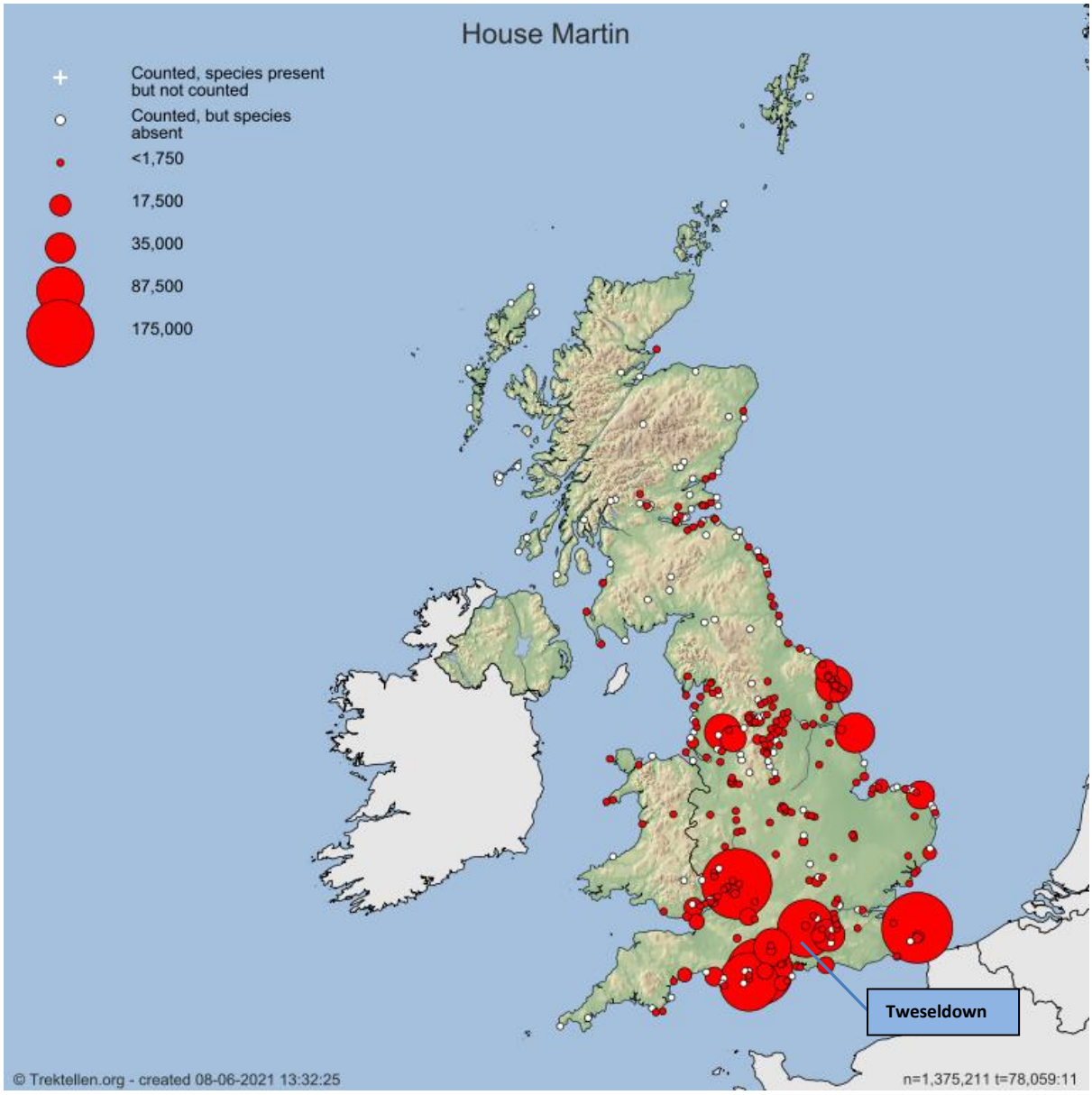

Figure 53 – Total House Martins counted in autumn at UK Trektellen sites Sep 2011 to Nov 2020. Tweseldown's track record of consistently high numbers (almost 123,000 during the period) compared with many other, well watched inland sites seems odd for such a numerous and widespread migrant. This may simply be a result of many hours of focussed watching at the right time of year, but may also suggest that birds moving on a broad front south 'down country' begin to concentrate here, ahead of a 'funnelled exit' from the country via the Hampshire, Isle of Wight and Dorset coasts.

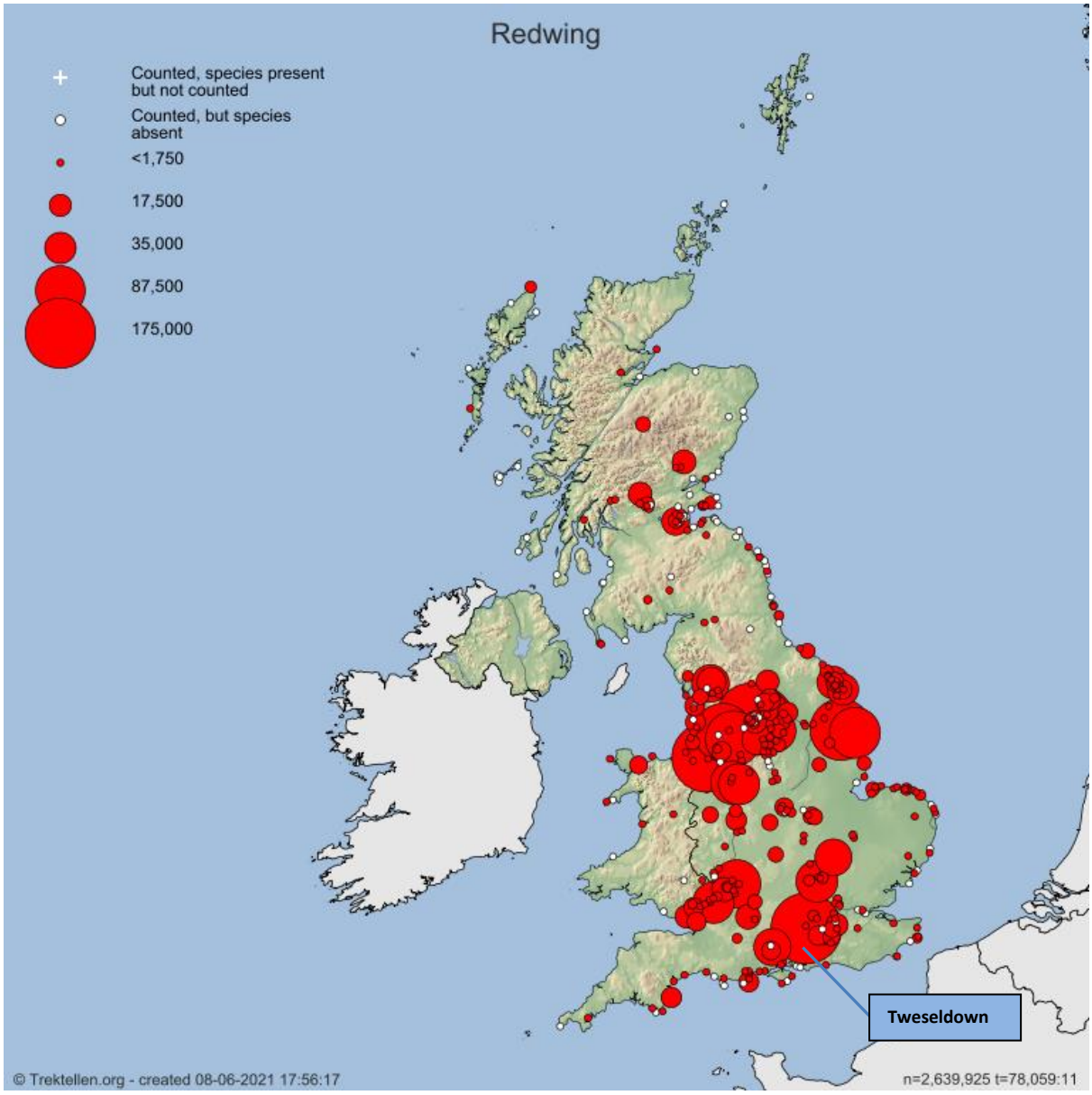

Figure 54 – Total Redwings counted in autumn at UK Trektellen sites Sep 2011 to Nov 2020. Tweseldown appears to sit squarely on a significant route for Redwings from the near continent; these birds apparently arriving largely unseen over the Kent/Sussex coasts, presumably overnight, and then following the line of the North Downs and Greensand Ridge west/north-west. Sitting at the western end of these significant landmarks, Tweseldown is perfectly placed to record these movements.

The value of these maps is obviously dependent on having a large and closely knit network of active sites established on Trektellen (one look at the Netherlands site map shows exactly this), and it is hoped that a recent increase in new UK sites continues, not least to the north and east of Tweseldown.

Finally, it is worth remembering a few other practical factors that play a part in Tweseldown's 'success' as a local migration watch point. The convenience of visiting the area helps maintain regular, often daily, coverage (although this can encourage shorter watches on apparently quieter days), and the main site offers shelter in virtually any weather conditions. There is also a long tradition locally of patch birding that helps set the right expectations and has created a very high boredom threshold!

Acknowledgements

The accounts, thoughts and theories presented here result from many, many hours of observation and discussion with fellow Twesledown ‘vis mig’ obsessive, John Clark. His enthusiasm for, and knowledge of, local and county birding has contributed greatly to our understanding of inland visible migration, and to the preparation of this paper.

I would also like to thank Clive McKay, the national, Trektellen coordinator for UK migration data, for his support, encouragement and feedback both on the content and style of this paper, and the ongoing visible migration activity at Tweseldown.

Lastly, I should acknowledge on behalf of all birders who visit the Tweseldown Hill area, the commitment of the current site owners who continue to support open access to the site, and who work hard to maintain the important heathland habitat within it.

Graham Stephenson, June 2021