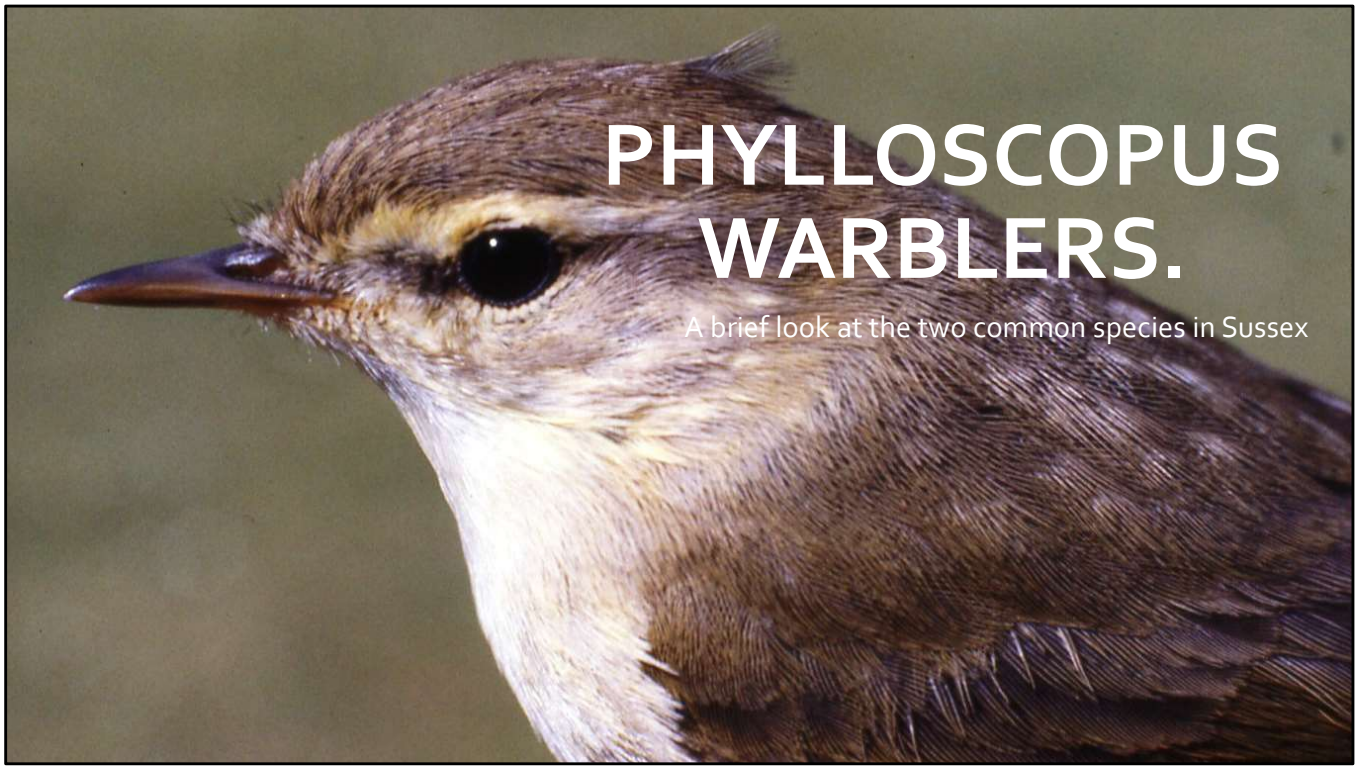


The genus is named from the Greek for ‘leaf’ and ‘I see’. During this presentation I would like to explore the identification characteristics of the two common species in the UK, to briefly review what some surveys and recording has taught us in Sussex and then to look at some of the more detailed information learnt from the longstanding ringing studies conducted in the SDOS area.

The genus **Phylloscopus** includes 81 species of Leaf warblers, small insectivorous passerines birds included in the Old World warbler family. Eighteen are on the British List, eleven on the Sussex List (black) and seven recorded in the SDOS area (black bold).

Wood Warbler	***Phylloscopus sibilatrix***	**Willow Warbler**	***Phylloscopus trochilus***
Western Bonelli's Warbler	*Phylloscopus bonelli*	**Chiffchaff**	***Phylloscopus collybita***
Eastern Bonelli's Warbler	*Phylloscopus orientalis*	Iberian Chiffchaff	*Phylloscopus ibericus*
Hume's Warbler	***Phylloscopus humei***	Eastern Crowned Warbler	*Phylloscopus coronatus*
Yellow-browed Warbler	***Phylloscopus inornatus***	Green Warbler	*Phylloscopus nitidus*
Pallas's Warbler	***Phylloscopus proregulus***	Two-barred Greenish Warbler	*Phylloscopus plumbeitarsus*
Radde's Warbler	***Phylloscopus schwarzi***	Greenish Warbler	*Phylloscopus trochiloides*
Sulphur-bellied Warbler	*Phylloscopus griseolus*	Pale-legged Leaf Warbler	*Phylloscopus tenellipes*
Dusky Warbler	*Phylloscopus fuscatus*	Arctic Warbler	*Phylloscopus borealis*

To see al large number of species in this genus would require considerable travelling through the 'Old World'. I think this is a very tricky group to identify for a number of reasons.

1) They are all small birds ranging between 5 and 15 grammes
2) They are constantly on the move, flitting about in the woodland canopy or in dense scrub
3) Few have easy to see, bold field feature with most being various shades of olive-green, yellow and white.

Willow Warbler

Long and bold pale supercillium

Primary projection long and equals tertial length

Yellowish white throat and breast; very yellow underparts in 1st calendar year

Pale straw coloured legs

These feature exemplified by our two common species. In the spring the song for many of this genus is a great help and certainly for our two common species.

Willow Warbler

Long and bold pale supercillium

Primary projection long and equals tertial length

Yellowish white throat and breast; **very yellow underparts in 1st calendar year**

Pale straw coloured legs

In the autumn the two-note call of Willow Warbler is a great help but also the young birds often have a yellow breast and belly – a feature not associiated with Chiffchaff

Chiffchaff

Fine dark bill

Short primary projection

Dark legs

Tendency to tail pumping

See how similar a Chiffchaff is to the Willow Warbler at first glance with no one, easily seen, feature which tells them apart unless the individual is singing.

Chiffchaff

Fine dark bill

Short primary projection

Dark legs

Tendency to tail pumping

In the autumn the call is similar to the Willow Warbler but tends to a single note. This picture taken of an individual landing on a cruise ship, looks very different from other photos and possibly one of the sub-species of Chiffchaff.

Siberian Chiffchaff

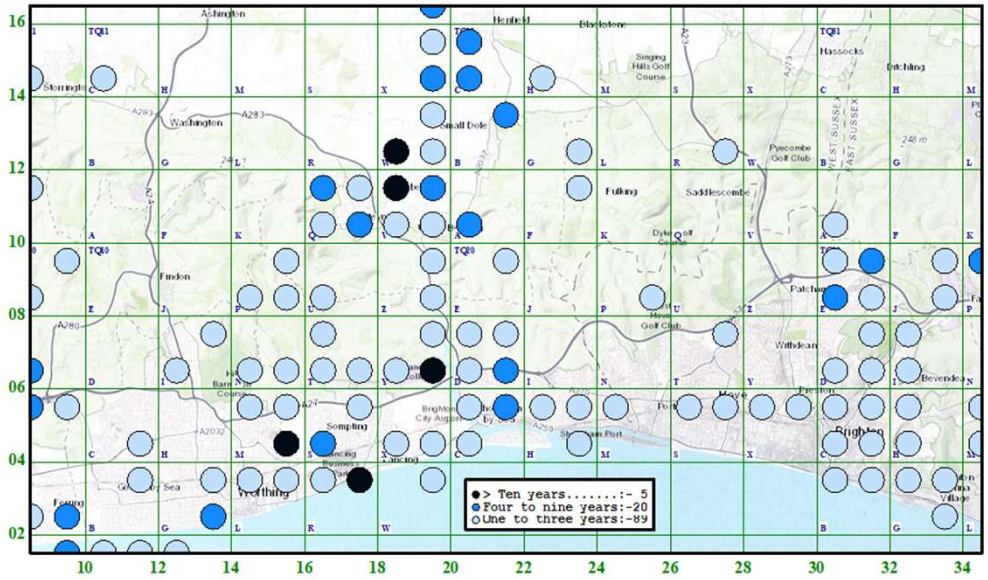
Sue Walsh
Xeno-Canto

Taxon recorded in just **12 years** in SDOS area 1981-2022

All records between 2nd October and 7th April.

One clear sub-species, and presumably a candidate for future splitting into a distinct species, is Phylloscopus collybita tristis. This, a much colder and greyer in appearance taxon and a scarce winter visitor to our recording area. It has a slightly different call but not easy to distinguish from the more common type.

Chiffchaff – SDOS winter (Dec to Feb) distribution; 2000-2024

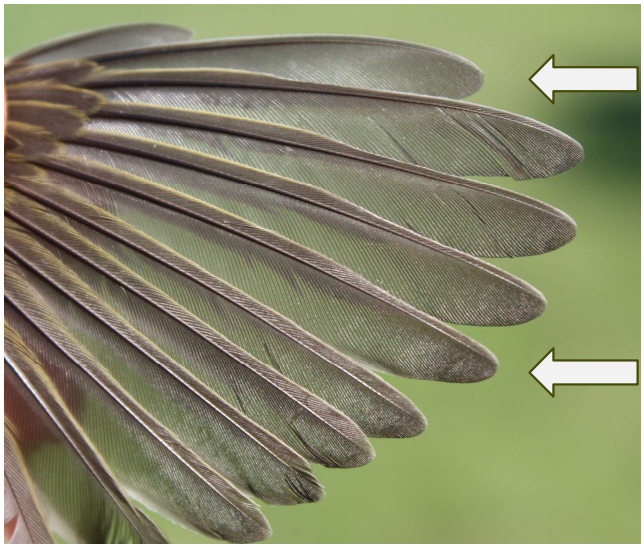


Maximum count 25 on 11th January 2018 at Kings Barn Lane, Steyning WTW.

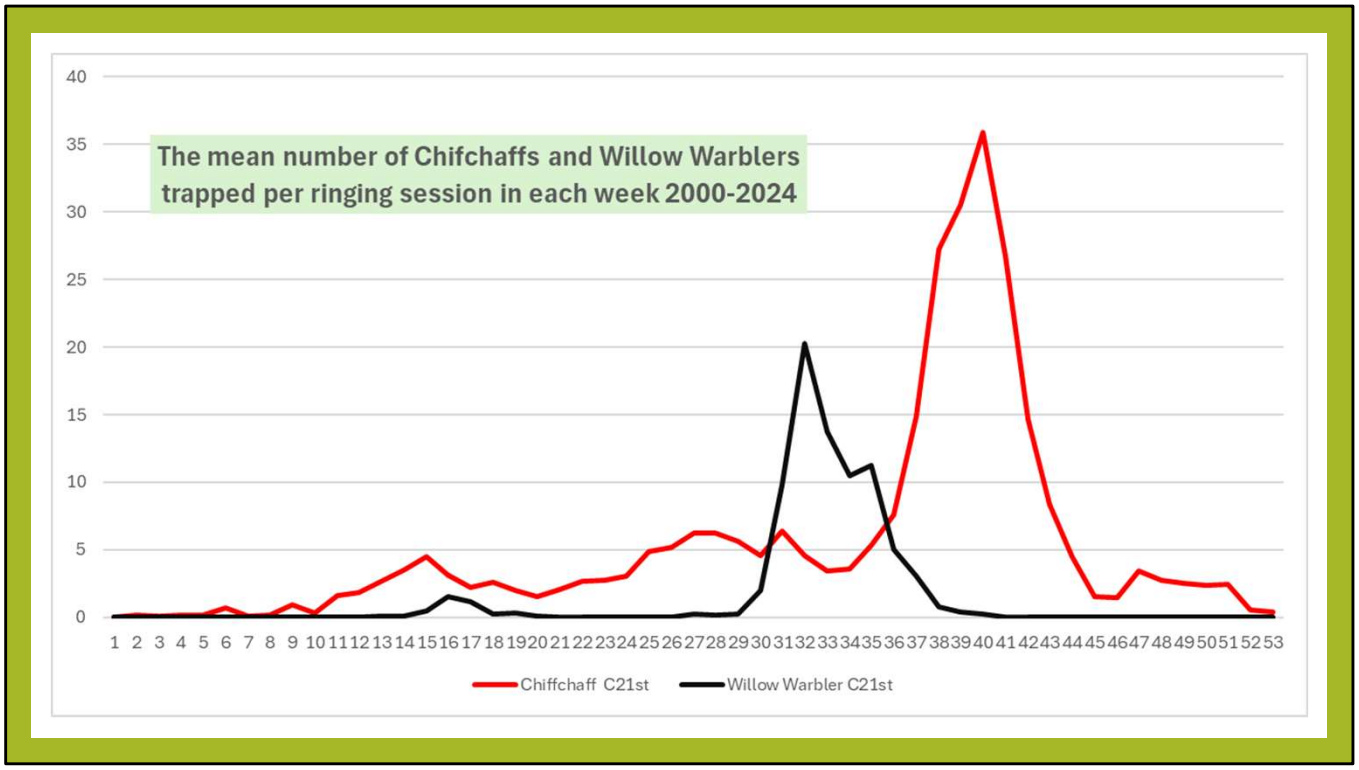
Siberian Chiffchaffs are mostly found in locations where wintering Chiffchaffs gather. Wintering Chiffchaffs have been recorded in many places in our recording area but the dark dots show where they have been seen in more than ten years this century – sites such as the water treatment works in Steyning or sheltered areas with reedbeds and insects such as Ladywell or Brooklands.

Willow Warbler
Longer 2nd primary
Non-emarginated 6th primary

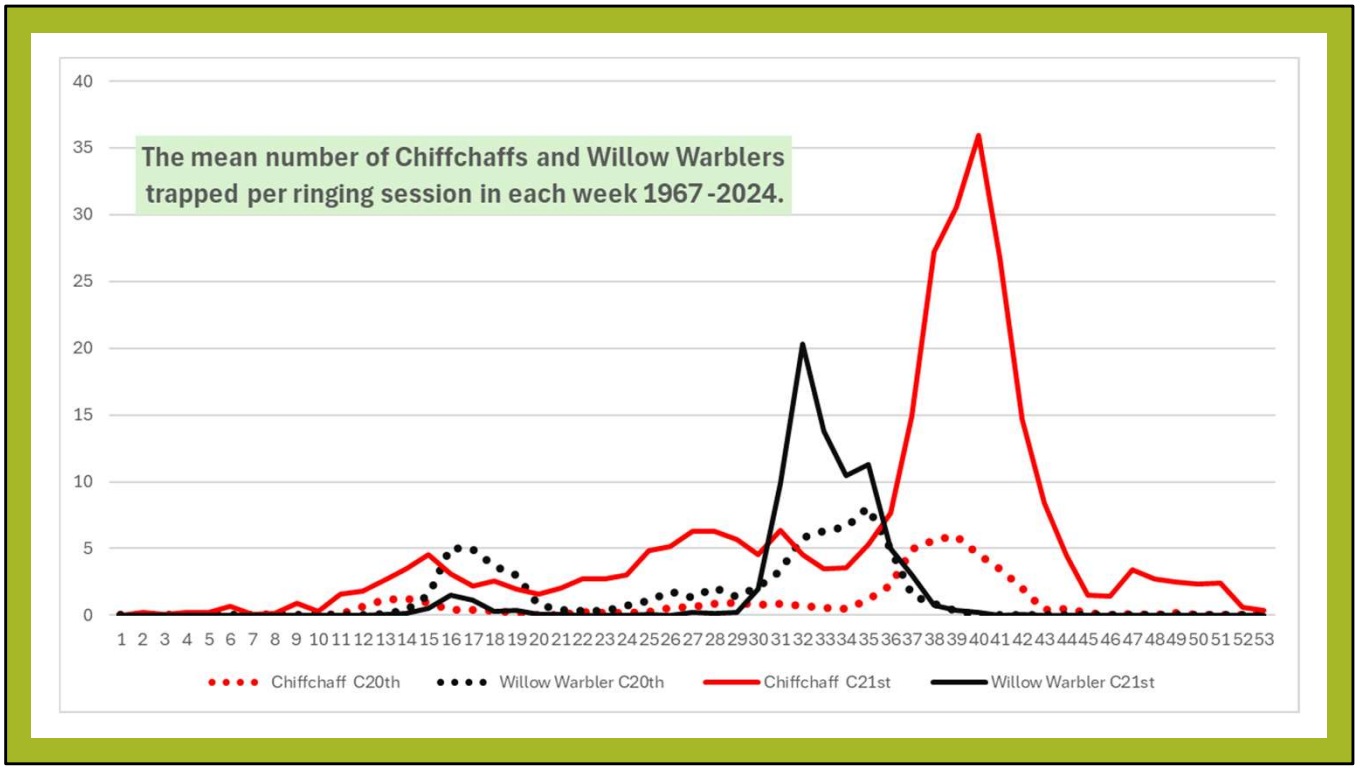
Chiffchaff
Short 2nd primary
Emarginated 6th primary



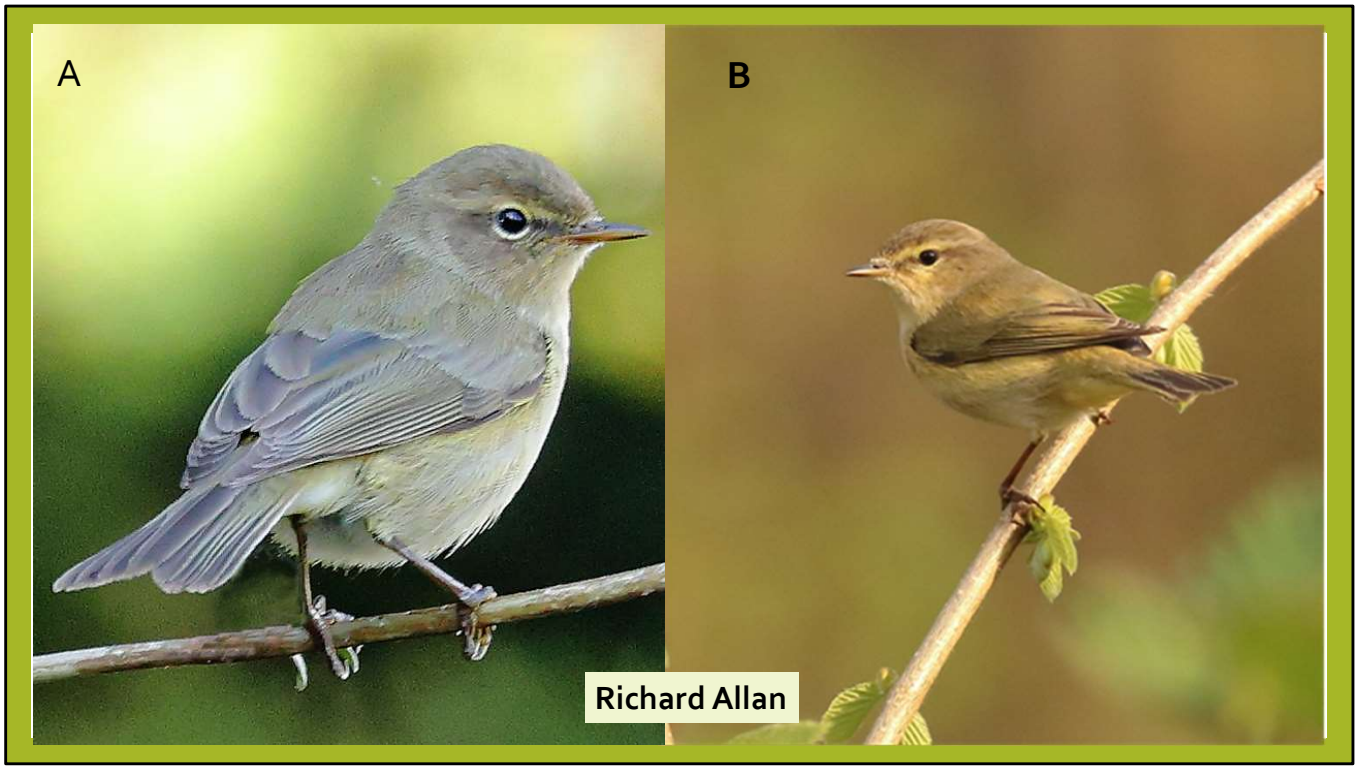
Even ringers, with the bird in the hand, can struggle to be sure which of the two species have been caught. The emargination on the 6th primary (from the outside) looks as if someone has taken a pair of scissors to the end of the outer web of the primary feather. (compare the shape of the feather end in primary 6 to that in primary 7). Occasionally individuals showing one feature of Chiffchaff and another of Willow Warbler are trapped!



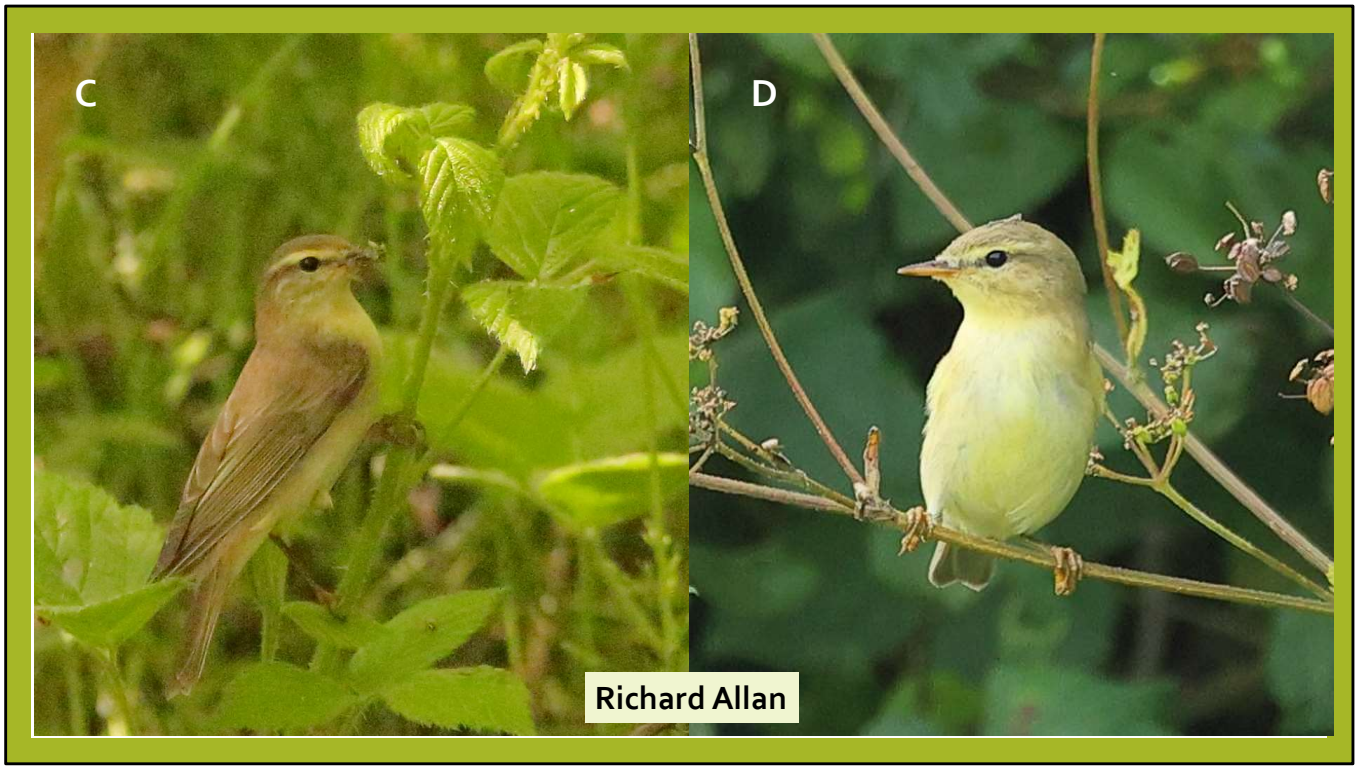
Ringers can help with the probability of an ID. This, and the next figure have been compiled from over 3600 ringing sessions at all four of the local ringing sites from the 1960s until now and shows the average number of each species trapped in each week. There is only a limited period in late August and early September when both species are fairly common in the SDOS area..



The addition of data from the last century (as the dotted line) shows several interesting features. The volume of spring passage of Willow Warbler (black) through the area has diminished, the peak of the autumn passage of Willow Warbler appears to have shifted earlier whilst that for Chiffchaff moved back by two weeks. More Chiffchaffs are lingering, or coming into the area, late in the autumn and early winter. The marked increase in numbers in the autumn, particularly of Willow Warbler, is probably related to the use of call-back lures to encourage birds (mainly 1st calendar year individuals) into the vicinity of a mist-net.

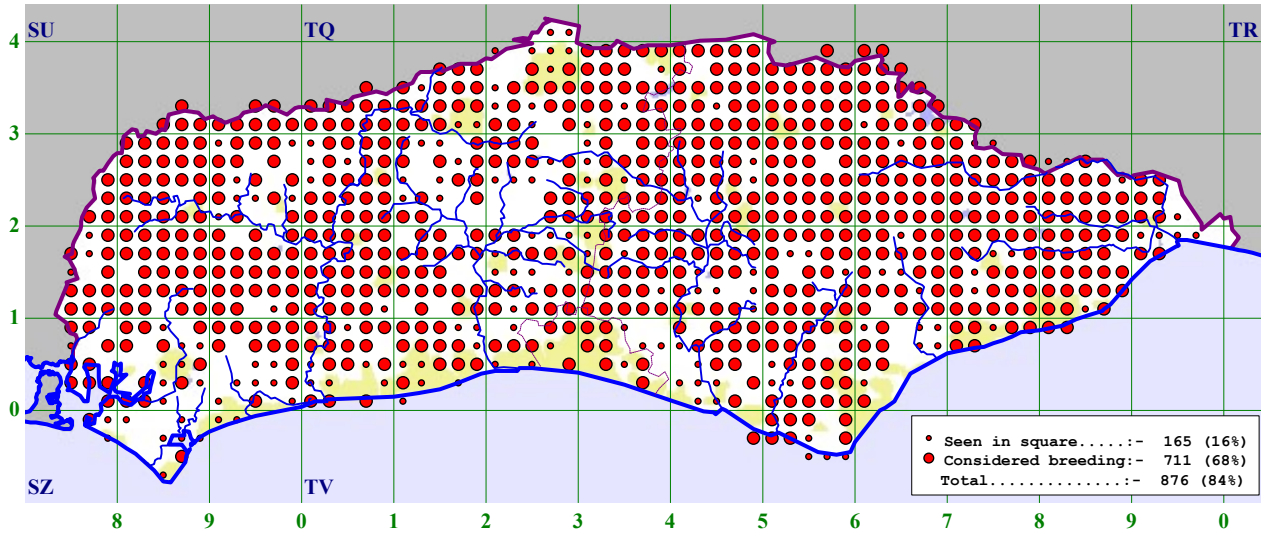


Two different Chiffchaffs taken in different light and circumstances showing the field features



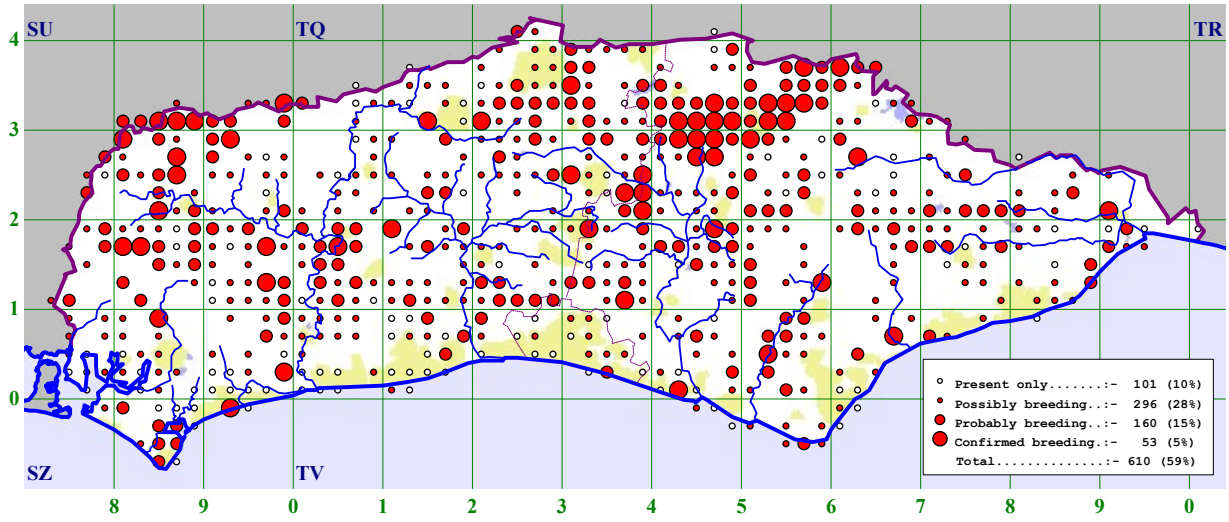
Two different Willow Warblers, one an adult carrying food the other a 1st calendar year individual.

Willow Warbler -The 1988-1992 tetrad atlas



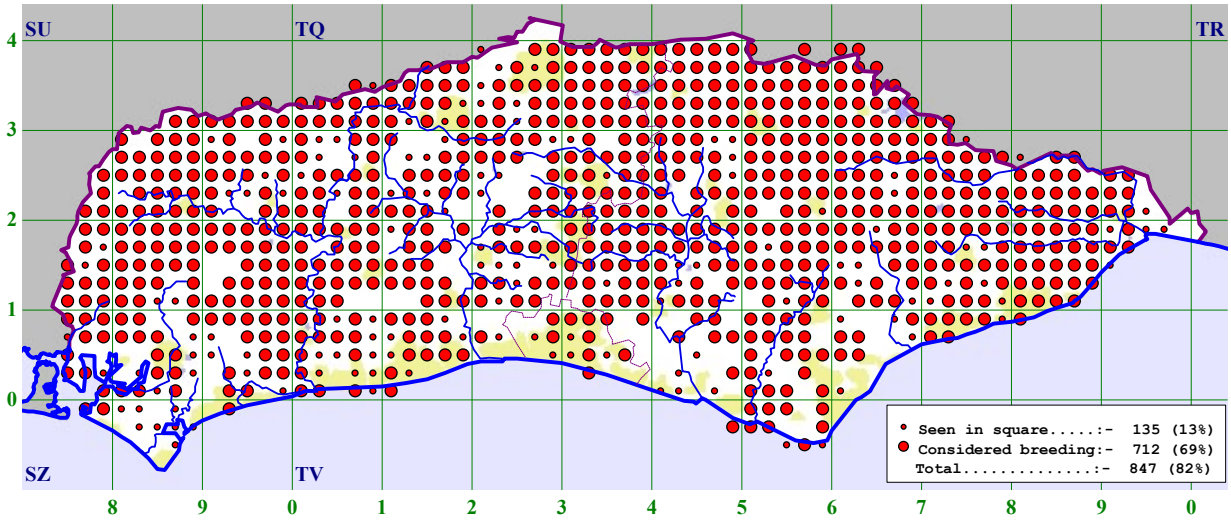
The last two national Atlas studies were done at a more detailed level in the county with each of the 1039 tetrads (2km x2km grid square) visited. Here Willow Warbler was found in 84% of the county's squares.

Willow Warbler -The 2007-2011 tetrad atlas



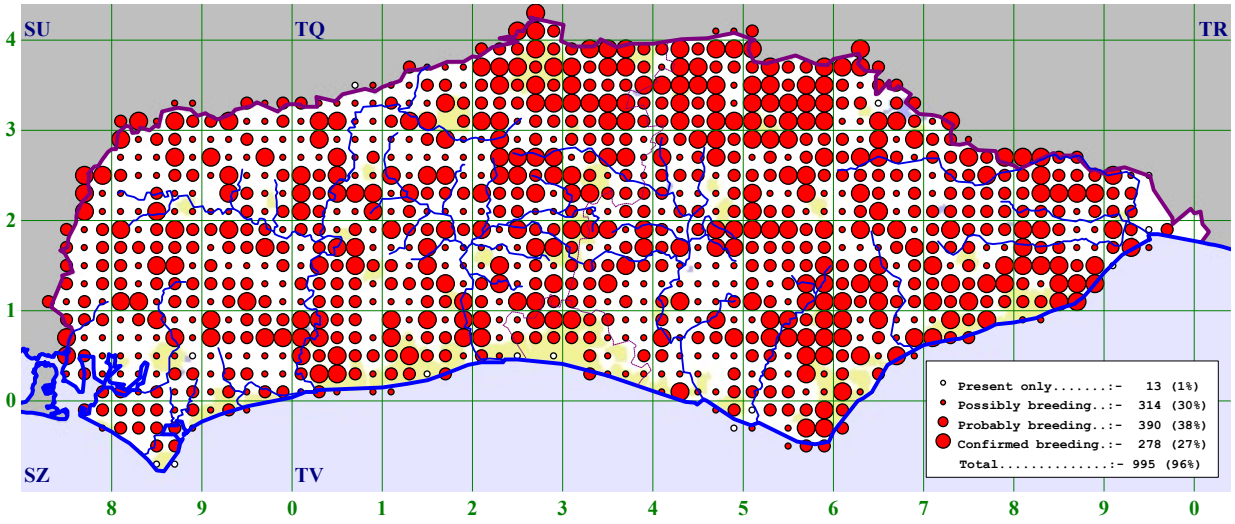
Move on two decades and the map shows many spaces and Willow Warblers were only found during the breeding season in 59% of the county tetrads. Notable sparce in the SDOS area and most areas near to the coast, Another Atlas is planned from 2027 – the results for this species I suspect will be even more gloomy.

Chiffchaff-The 1988-1992 tetrad atlas

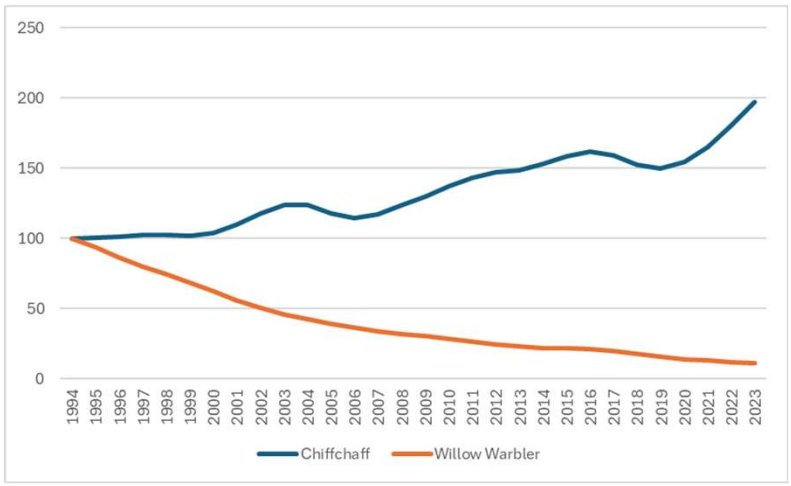


The same survey results for Chiffchaff show it was found in 82% of the county squares

Chiffchaff-The 2007-2011 tetrad atlas



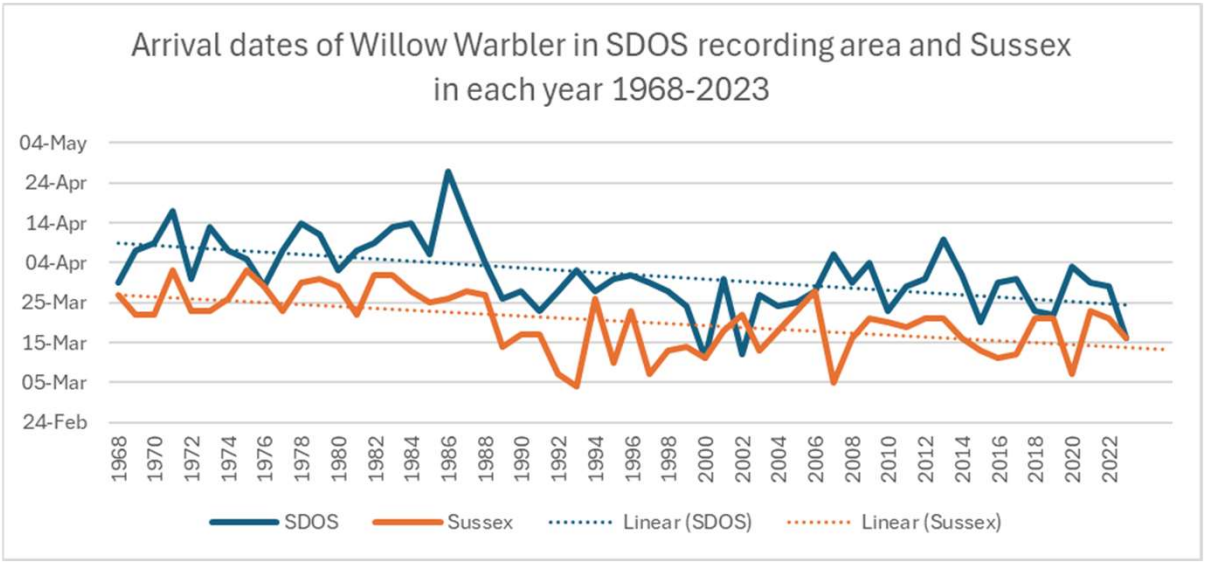
Move on twenty years and the map is much redder with Chiffchaffs recorded in 96% of tetrads including many near the coast.



BREEDING BIRD SURVEY. SOUTH-EAST ENGLAND SMOOTHED TRENDS FOR CHIFFCHAFF **AND WILLOW WARBLER 1994-2023**

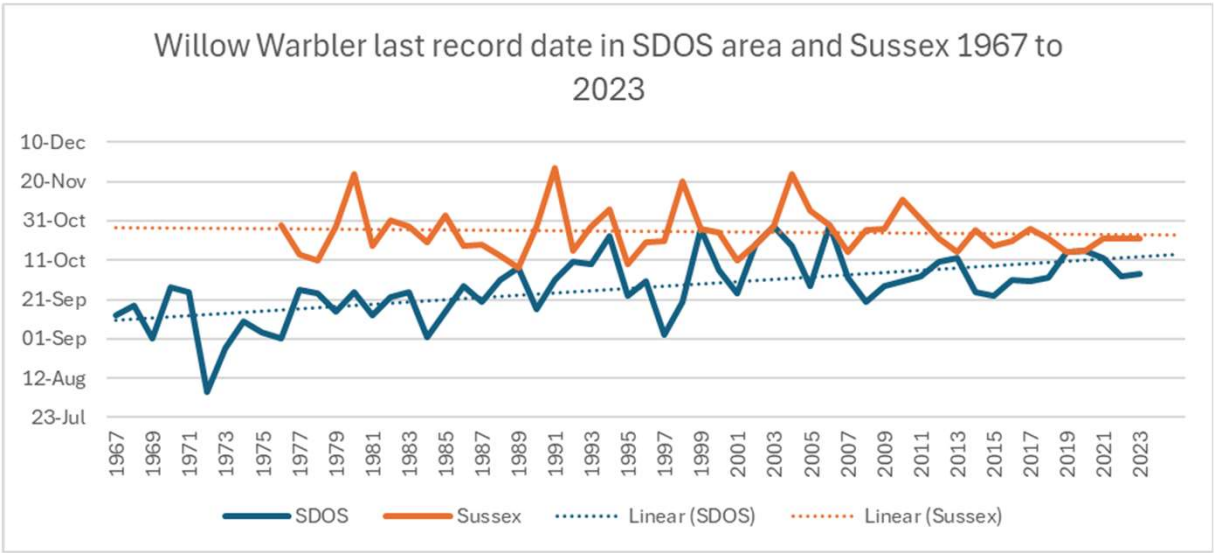
The BTO's Breeding Bird Survey (BBS) shows the clear decline of Willow Warblers in SE England. Unfortunately, the species is not recorded in sufficient squares in the county to draw a Sussex only, significant trend graph. The two fortunes could not be more different.!

Willow Warbler – spring arrival dates.



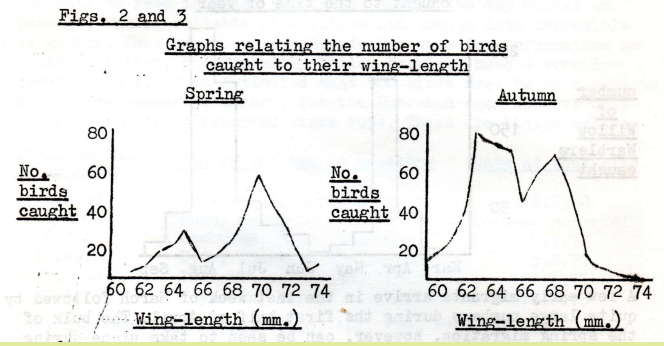
The arrival date of the first Willow Warbler in the spring has been recorded for decades and in keeping with several other summer migrants the first birds are arriving earlier by possibly as much as two weeks. The trendline for the records from the SDOS area and the county are running parallel. With Chiffchaffs present all year it is not possible to draw similar plots for that species.

Willow Warbler – autumn last dates.



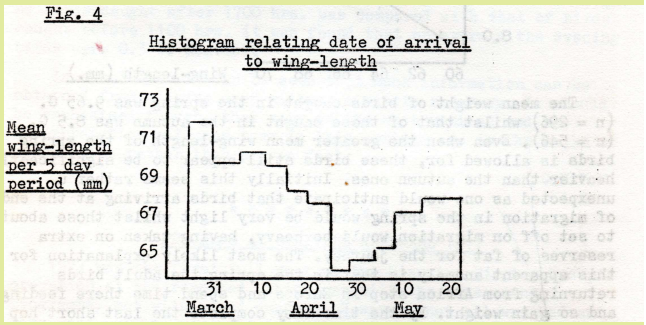
The picture obtained by plotting the last recorded dates in each year suggest Willow Warblers may be leaving earlier (this also suggested from the earlier picture of peak passage times from the ringing results) Over the years the last recorded in the SDOS area has approached that across the entire county.

There are two biometric measurements regularly recorded by the local ringers and the following figures look at the wing measurement and the weight of birds trapped. The wing measurement is a reasonable guide to the 'size' of the bird and in this genus males tend to have a longer wing length than females although there is a considerable overlap. The large dataset for these figures comes from combining the detailed records from the Sanctuary, the Mumbles, Cissbury and Ladywell. The figure shows for both species the longer winged males feaure more in the early arrivals with more smaller females later in the spring. There is no clear picture in the autumn when first year birds are most numerous but, in Willow Warbler particularly, the average wing lengths are lower than in spring. Does the small rise in average Chiffchaff wing length later in the autumn and early winter suggest more males linger or arrive for the winter. Perhaps these are Chiffchaffs from a another more northern population.

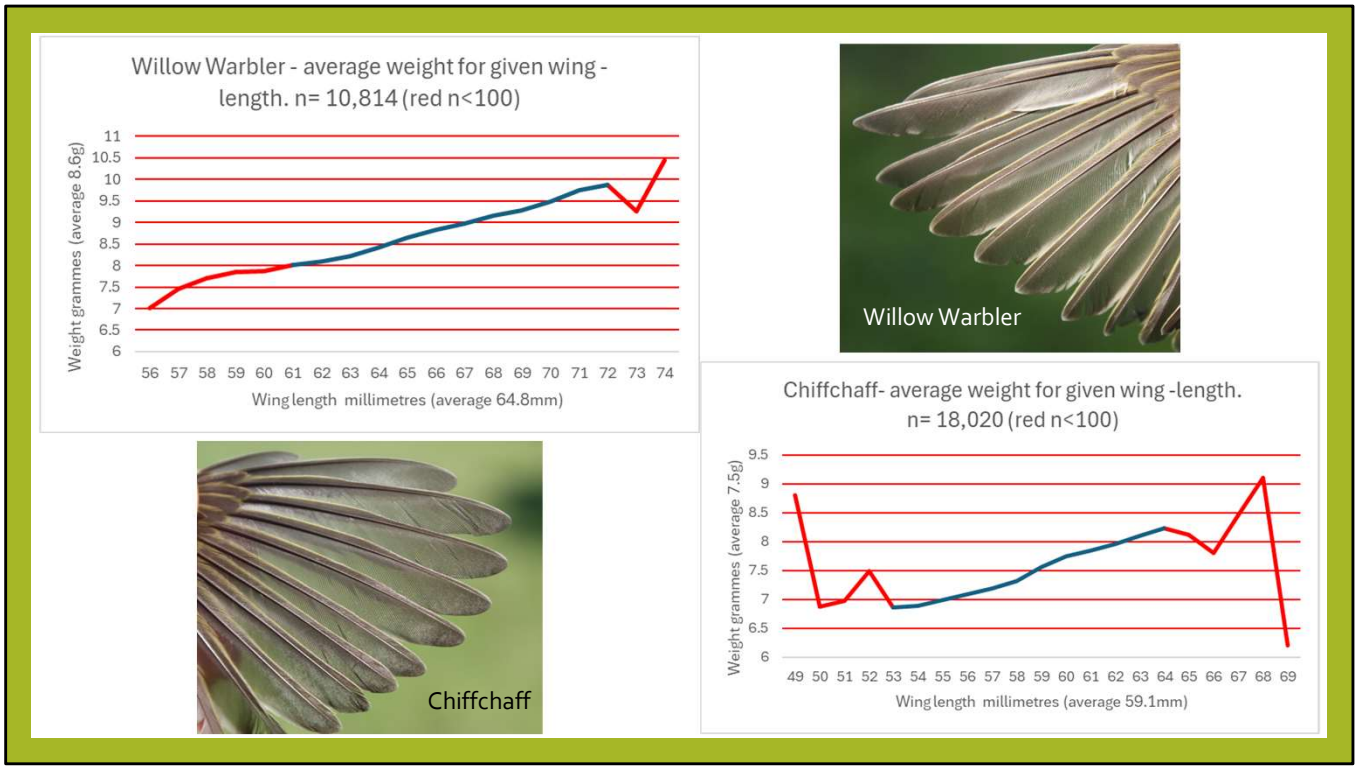


Shoreham Sanctuary Willow Warbler biometrics and passage timing.

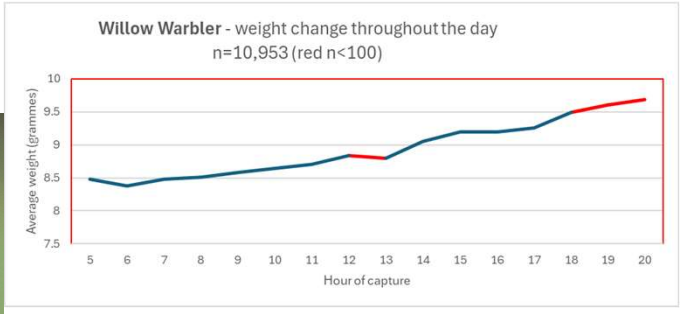
Some observations of Willow Warbler passage through Shoreham.
CMV Wright & JA Newnham SDOS report 1977

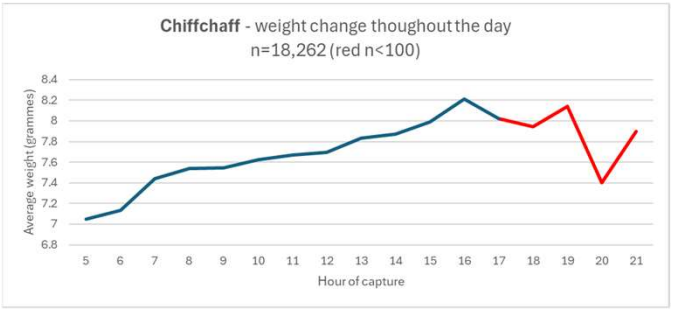


Wing length in Willow Warblers was looked at closely in the 1970s when there was a reasonable spring passage through the society's Sanctuary. These graphs from the 1977 SDOS annual report also show longer winged birds (males) were trapped early in the spring (Fig 4). Figure 2 also suggests that twice as many males were trapped in the Spring whilst no real difference was noted in the autumn (Fig3).

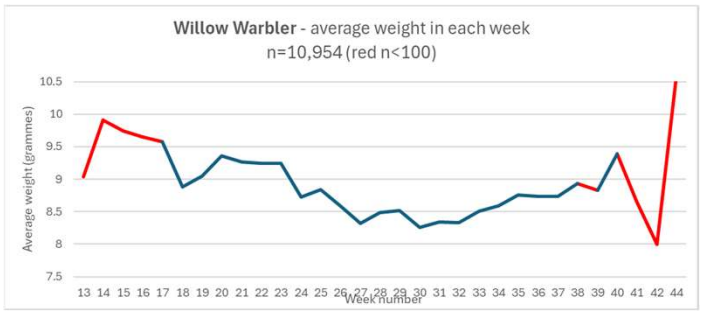


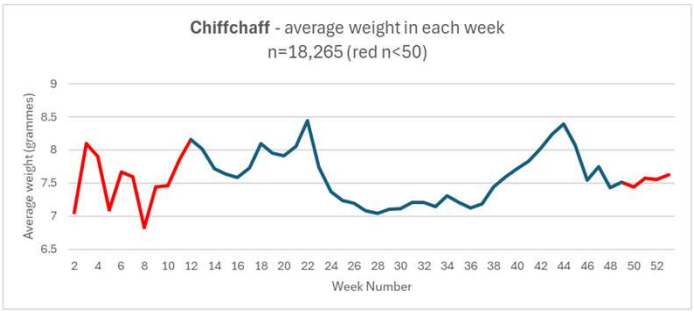
Most birds trapped and ringed are weighed; in the early years using a spring Pesola balance but recently with electronic scales. With both devices the weights were recorded to the nearest tenth of a gramme. Looking at changes in weight is more complex than wing-length as birds weights change due to of number of factors. This plots the average weight of birds with a given wing- length and clearly shows, as expected that the longer winged birds of both species are heavier. This relationship is very clear in the mid-range with very large samples (blue line). This change is about two grammes in both species





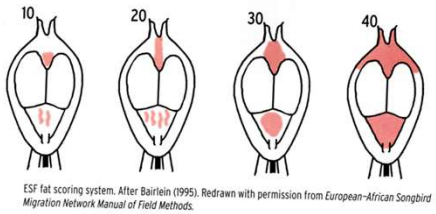
The weight of both species also increases as the day progresses, most ringing in recent years is done in the mornings so the sample size in the evening is considerably smaller. Here again there is a clear weight gain of about 1g (10-15%) from dawn to late afternoon.



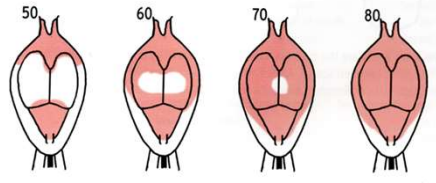


Plotting the average weight in each week shows a similar pattern in both species with the lowest weights in mid-summer. These species are heavier when they first arrive and early in the breeding season and then gain weight for their autumn migration.

Willow Warbler and Chiffchaff Pre-migratory fat deposit estimation

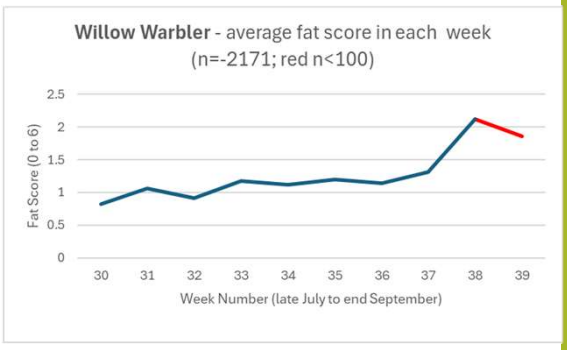


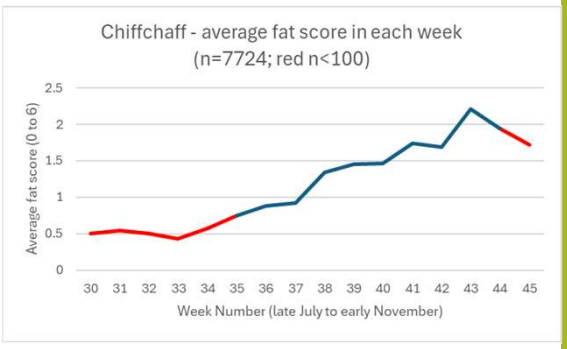
ESF fat scoring system. After Bairlein (1995). Redrawn with permission from *European-African Songbird Migration Network Manual of Field Methods.*



Fat score	% measured
0	28.84%
1	40.42%
2	23.07%
3	6.72%
4	0.45%
5	0.41%
6	0.05%

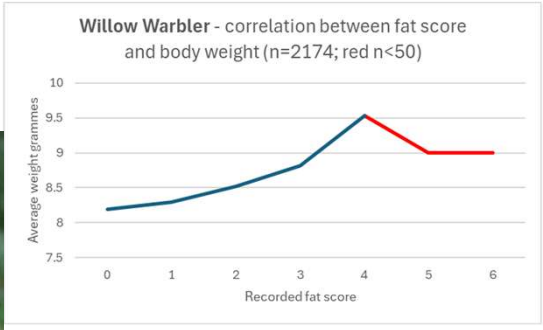
Fat score	% measured
0	25.06%
1	31.39%
2	25.72%
3	12.95%
4	2.82%
5	1.26%
6	0.62%

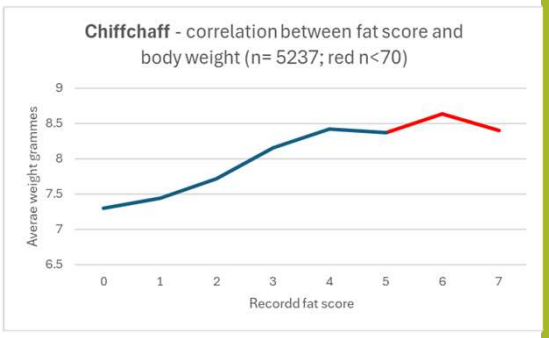




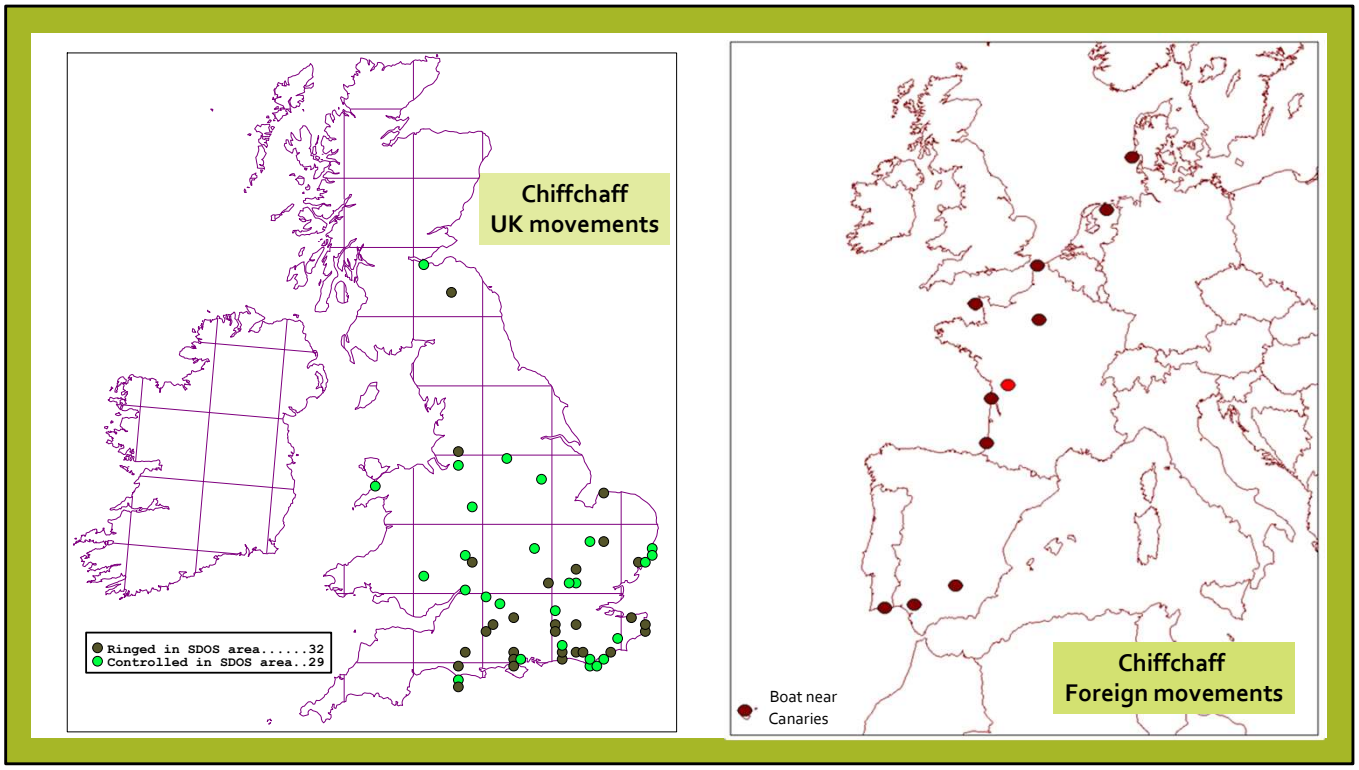
The estimation of the amount of fat deposited by migrants in the autumn has only been recorded in recent years and is often the measurement not collected during very busy ringing sessions. The picture on the left shows the scores for the fat deposition observed. Many had no fat seen and scored zero. The plots on the right shows the average fat score in each of the autumn weeks and it appears Chiffchaff gathers fat a a steady rate during the autumn whilst Willow Warbler only shows an increase at the end of their migratory period. This observation may also be related to the possibility that Willow Warblers may have used fat with a longer flight into the area than Chiffchaff.

Willow Warbler and Chiffchaff Pre-migratory fat deposit estimation

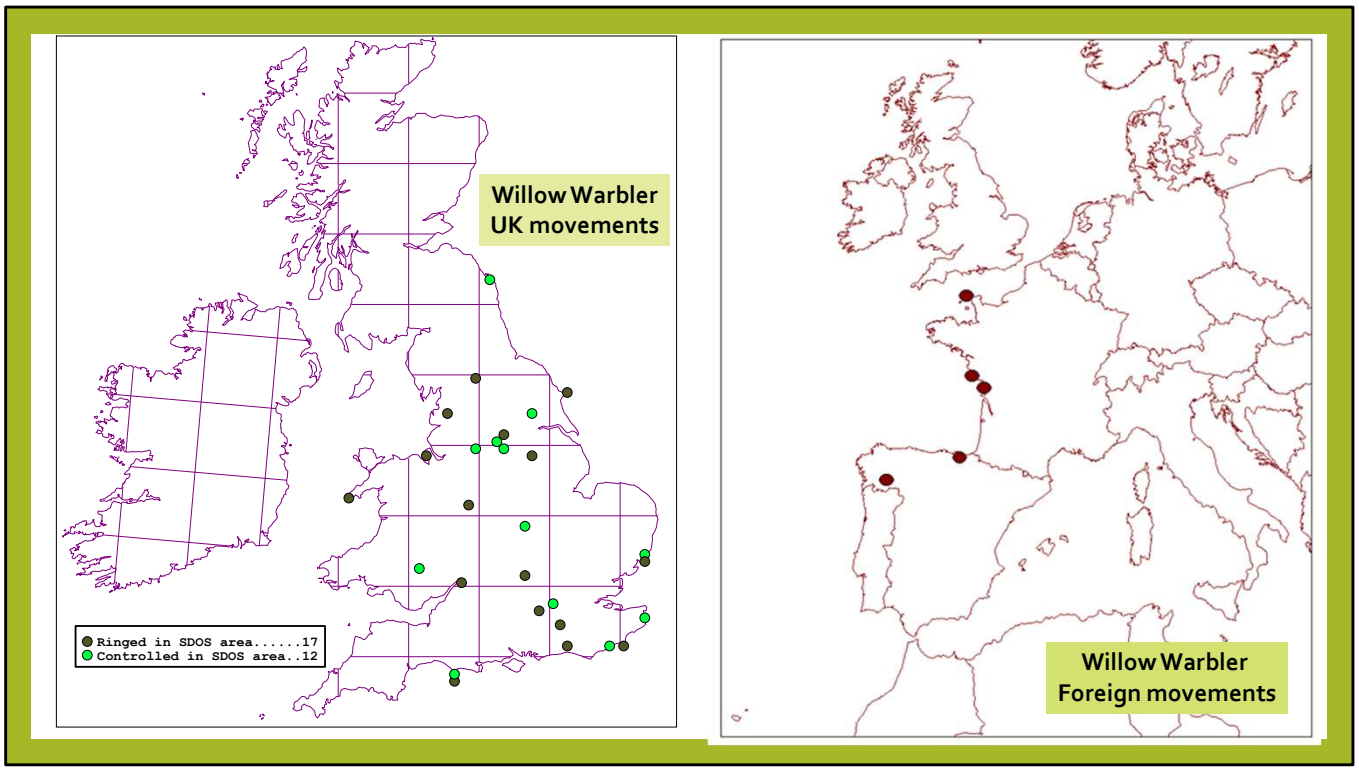




Many studies have shown a correlation between fat scores and body weight so it is pleasing to see this is also demonstrated for both species ringed locally.



Despite many thousands of these two species being ringed in the SDOS area there are just a few movements recorded. These small birds are seldom reported as found dead and most of the movements come from ringers capturing ringed birds. The 61 movements within the UK are roughly divided between birds ringed locally then subsequently trapped elsewhere and birds ringed elsewhere and being trapped in the SDOS area. For Chiffchaff most of the UK movements are from southern England. The few foreign movements are mostly from France and the furthest was one which was ringed at the Sanctuary in early October 1971 and then alighted on a boat off the Canary Islands some four weeks later.



There are fewer movements recorded for Willow Warbler but there is not a concentration in southern England (like Chiffchaff) and only one from northern Britain. Just five from Europe and none from local ringing found in their known wintering areas in sub-Saharan Africa.

Thanks to Sue Walsh and Richard Allan for photographs and the ringers who have spent many hours collecting data at the Sanctuary, the Mumbles, Cissbury and Ladywell.