

Changes in numbers of waterbirds in the Cley Square.

Introduction

The data used come from the nationally co-ordinated Wetland Bird Survey (WeBS) counts (a web link given at the end gives full details). These counts are made once a month over high tide on a day when there is a very high tide in the morning. Local counts are made in the Cley Square by teams of wardens and volunteers at four sites Blakeney Harbour, Blakeney Freshes, Cley Marshes and Salthouse Marshes such that the entire coastal zone including tidal areas, salt marshes, adjacent freshwater marshes and wet meadows between Blakeney Point and Kelling Hard are covered.

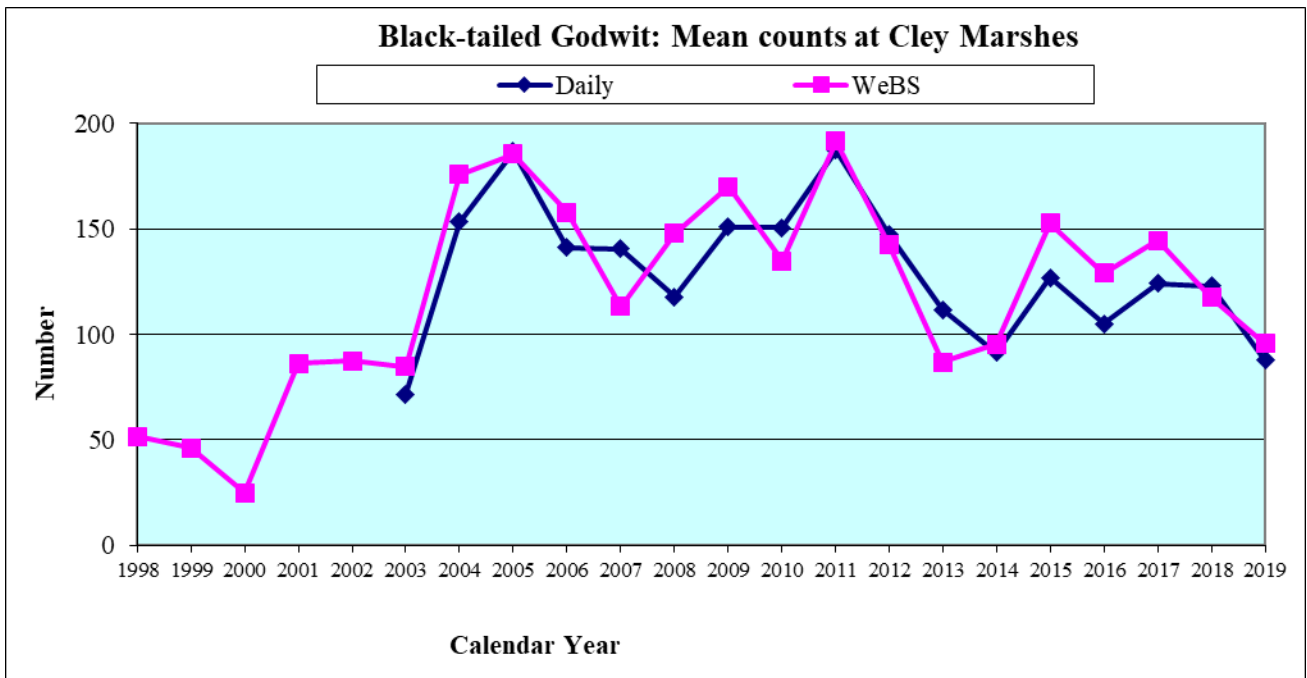
Fifteen of the commoner wetland bird species counted have been selected for examination: Dark-bellied Brent Goose, Shelduck, Wigeon, Gadwall, Teal, Mallard, Moorhen, Oystercatcher, Avocet, Ringed Plover, Lapwing, Dunlin, Ruff, Black-tailed Godwit, Curlew and Redshank.

Year-round count data for the selected species are available for most months for Cley Marshes from 1998, for Salthouse Marshes from 1999 and for Blakeney Freshes from 2000 but only from April 2003 for Blakeney Harbour. There were no counts at Blakeney Freshes for the period May-December 2003 and there were several months in 2018 and 2019 when counts were incomplete at Blakeney Harbour or at Blakeney Freshes. Some earlier count data are also available but only for the winter months. Counts were made at Blakeney Harbour for January to March 2000 and these data have in fact been used.

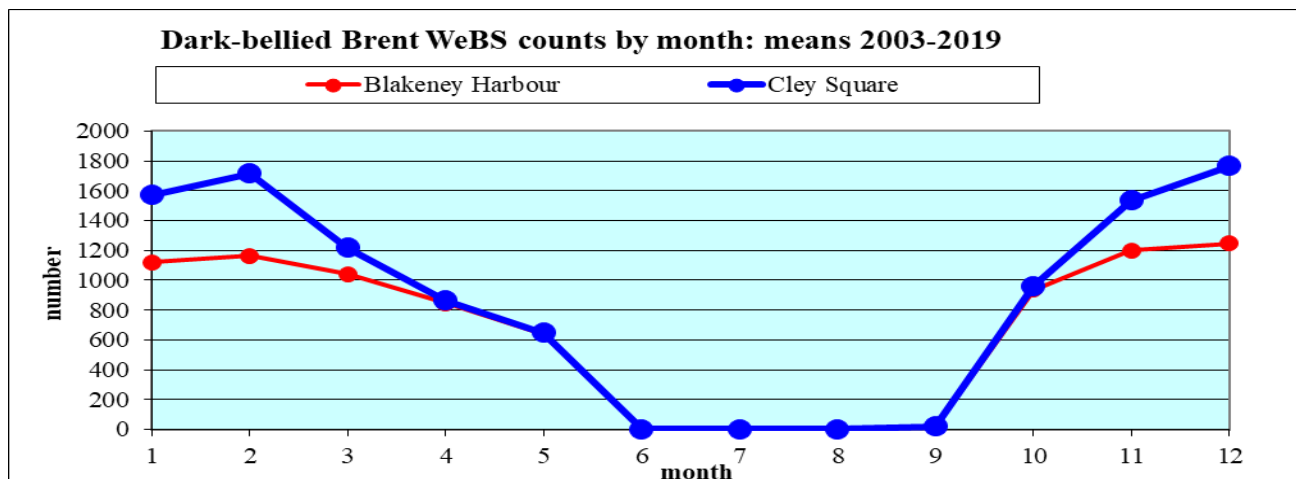
If a count is missing or incomplete at one of the four sites for a particular month then an estimate for this site is calculated based on the counts there for the other months in that 12-month cycle and whether or not the pattern of occurrence for that species has changed radically over the years. If counts for more than two significant months are missing in the 12-month cycle then the estimate is generated instead from the four closest years with valid counts for that month. Part counts are compared to the estimate and the higher value used. A part count that is higher than the estimate then becomes treated as a valid count for that month.

Two graphs are shown for each species. The first shows how numbers vary during the calendar year and gives the mean total count for each month averaging over the years from 2003 to 2019. The second graph shows how numbers have changed over recent years. The mean counts are given for the total area averaging over the twelve months of an annual cycle. For most species the cycle goes from July to June for wildfowl and from June to May for waders. Each cycle therefore aims to include the effects of production of fledged youngsters, autumn migration, mortality for a complete winter period and return migration in spring. This is not ideal for a species such as Avocet that is a breeding species that then leaves the area in autumn to moult with only a few individuals returning to over-winter so the cycle goes from October to September for this species. A comparison was made with national 10-year smoothed trends for the species given in the WeBS online report Waterbirds in the UK 2017/18 using five-year moving average trend lines.

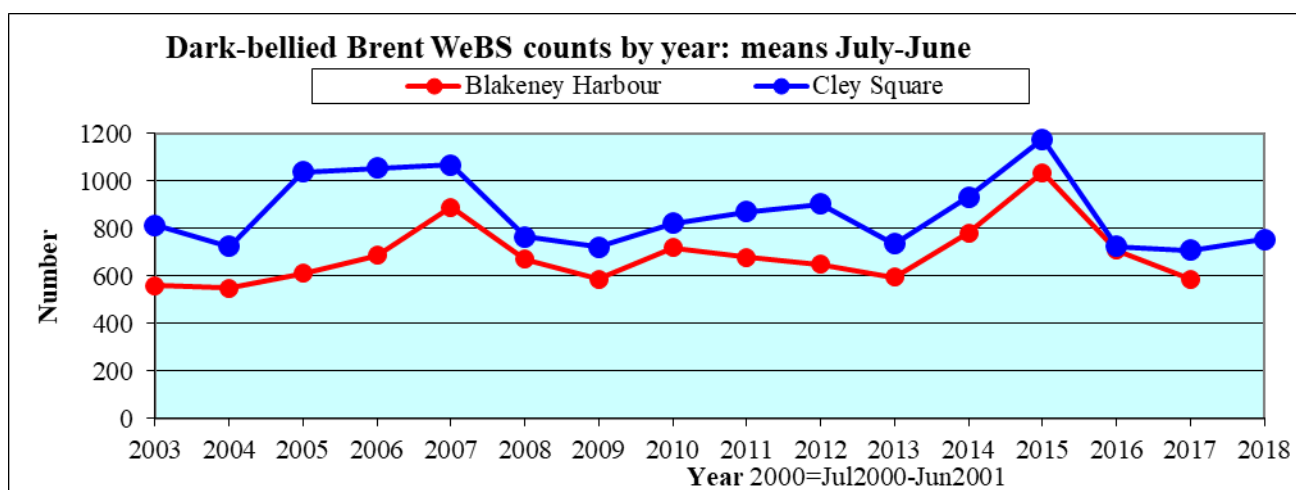
It could be questioned how representative a count made on one specific day will be for a month. Black-tailed Godwits have been counted at Cley Marshes more or less daily from 2003. The following graph compares the average of the twelve WeBS counts for a given year with the average of the mean daily counts for each month in that year. The resultant overall trends do look similar.



Dark-bellied Brent Goose

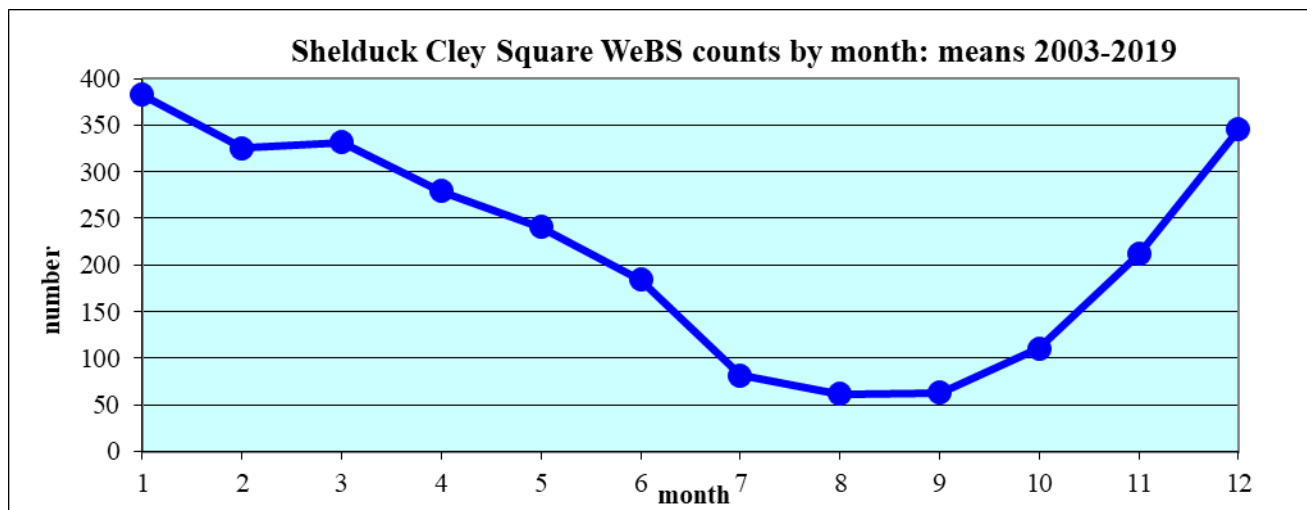


Dark-bellied Brent is a winter goose that starts arriving in September and the flocks concentrate in the saltmarshes of Blakeney Harbour at the start and end of their stays. In the middle of winter their daily routine is for flocks to leave their roost sites in the Harbour then fly out to areas such as Blakeney Freshes, Cley Marshes and Salthouse Marshes to wash and then feed in fields. Fortunately, they tend to remain in Blakeney Harbour on mornings with big high tides when WeBS counts are made and a perfect count is when none are counted elsewhere. It can be seen, however, that large flocks did sometimes get seen and counted at the other sites and there is always uncertainty as to whether these had already been counted in Blakeney Harbour or not. The mean monthly counts peaked at about 1200 birds for Blakeney Harbour and 1700 birds for the whole area. The pattern of occurrence appears to be relatively stable apart from there being fewer birds counted in October in the early years than there have been in the years since.

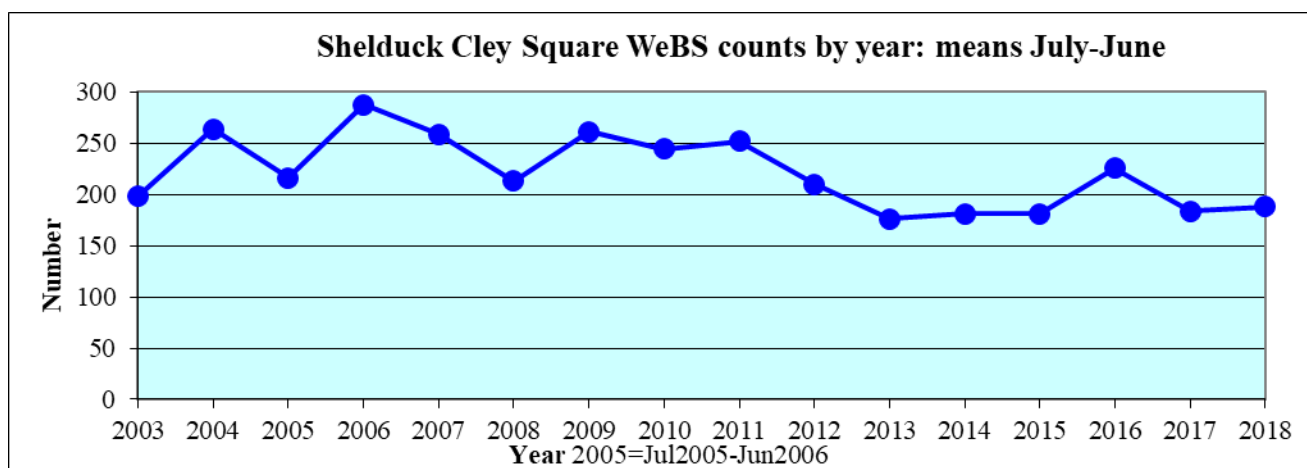


Counts have been averaged over the usual annual cycle of July to June. Mean counts peaked in Blakeney Harbour in the winter of 2007/8 at a level 29% above average and again in the winter of 2015/16 at a level 51% above average. Numbers have now dropped back to a low level. There is currently a Medium Alert in the Long Term (25 years) for Dark-bellied Brent in the North Norfolk Coast SPA due to a 46% decrease in numbers.

Shelduck

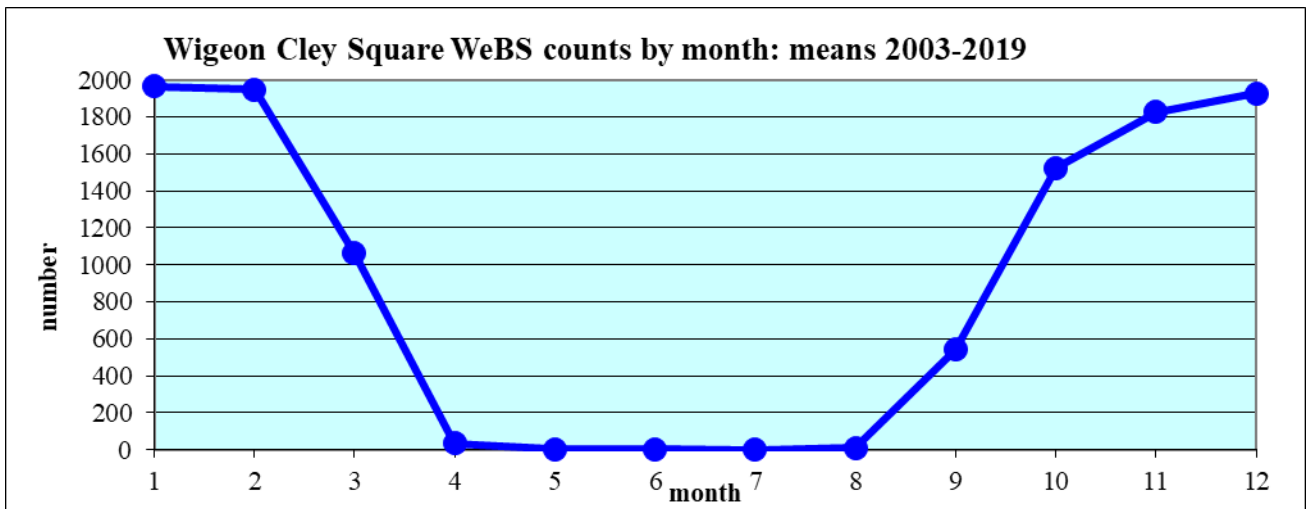


Total numbers of Shelduck counted are at their highest (about 350 birds) in midwinter and decrease steadily through the calendar year to August. The breeding adults start leaving in June eventually just leaving those guarding creches of youngsters. Some of the departed adults are replaced by youngsters when they are large enough to be included in the counts. Numbers increase again significantly when the overwintering adults eventually return after completion of their moult on the east side of the North Sea. The largest numbers were in Blakeney Harbour except in the late summer and early autumn when family parties at Cley Marshes dominated the counts. Numbers of Shelduck appear to have been relatively stable during the spring and breeding season over the years but there was a reduction in numbers present in the autumn and midwinter in recent years.

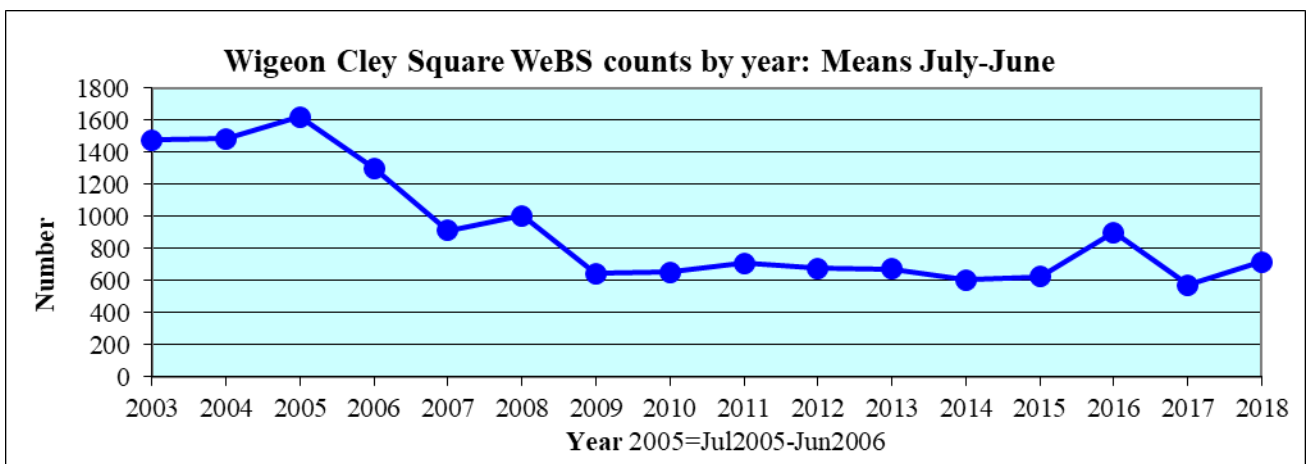


Counts have been averaged over the usual annual cycle of July to June. Counts of Shelduck in the Cley Square appear to be some 28% lower for the period 2013/14 to 2015/16 than they were for the period 2004/5 to 2011/12. There were higher numbers in 2016/17 but followed by a return a similar level. There is currently a Medium Alert in the Long Term (25 years) for Shelduck in the North Norfolk Coast SPA due to a 41% decrease in numbers and also one in the Medium Term (10 years) due to a 38% decrease in numbers.

Wigeon

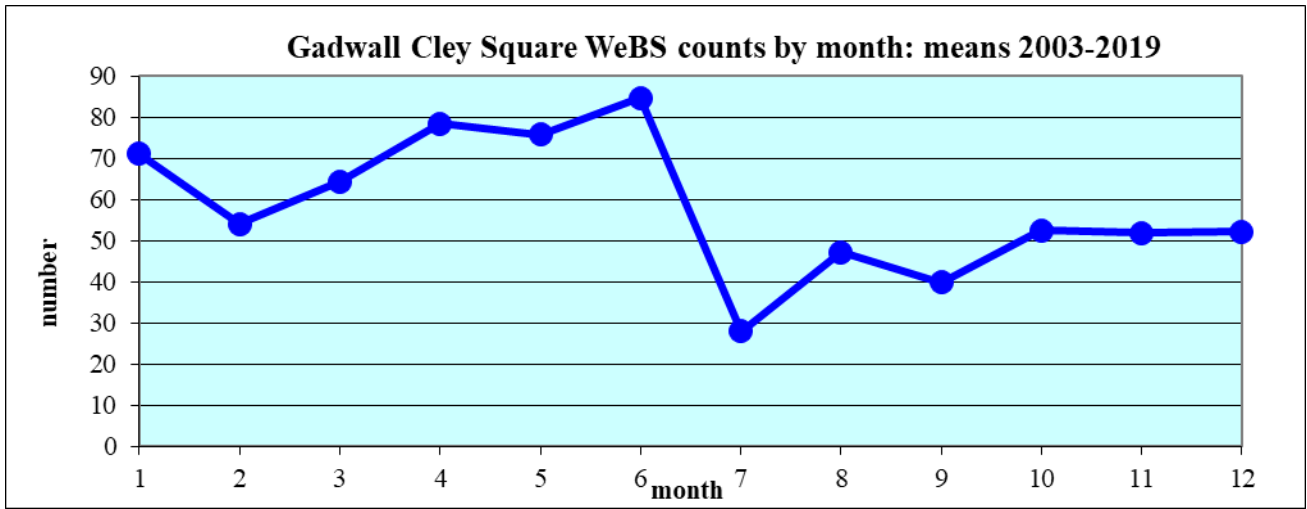


Wigeon are a winter duck that start arriving in September and initially concentrate in the saltmarshes of Blakeney Harbour then disperse to meadows and freshwater pools at Cley, Salthouse and Blakeney Freshes. Mean numbers peaked in midwinter at about 2000 birds. They were basically absent for five months. The numbers have clearly declined in midwinter but the pattern of occurrence seems relatively stable except that far more birds were present in September in the early years 2005-2009.

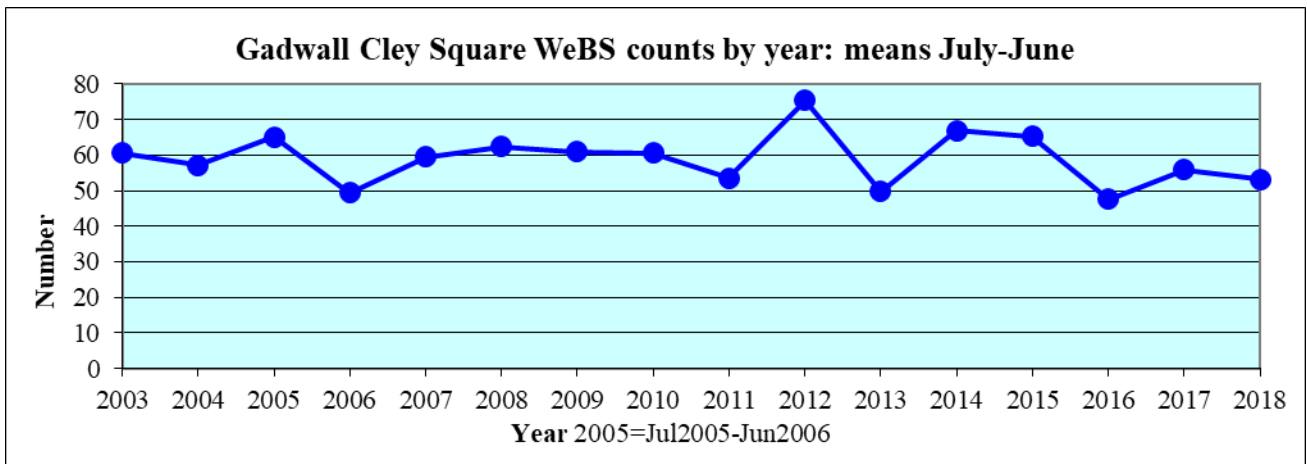


Counts have been averaged over the usual annual cycle of July to June. Numbers of Wigeon in the Cley Square appear to have decreased markedly by over 50% from 2004/5 to 2009/10. Numbers counted had been relatively stable since but increased in 2016/17 before returning back down to the same level in 2017/18. There is currently a Medium Alert in the Medium Term (10 years) for Wigeon in the North Norfolk Coast SPA due to a 27% decrease in numbers.

Gadwall

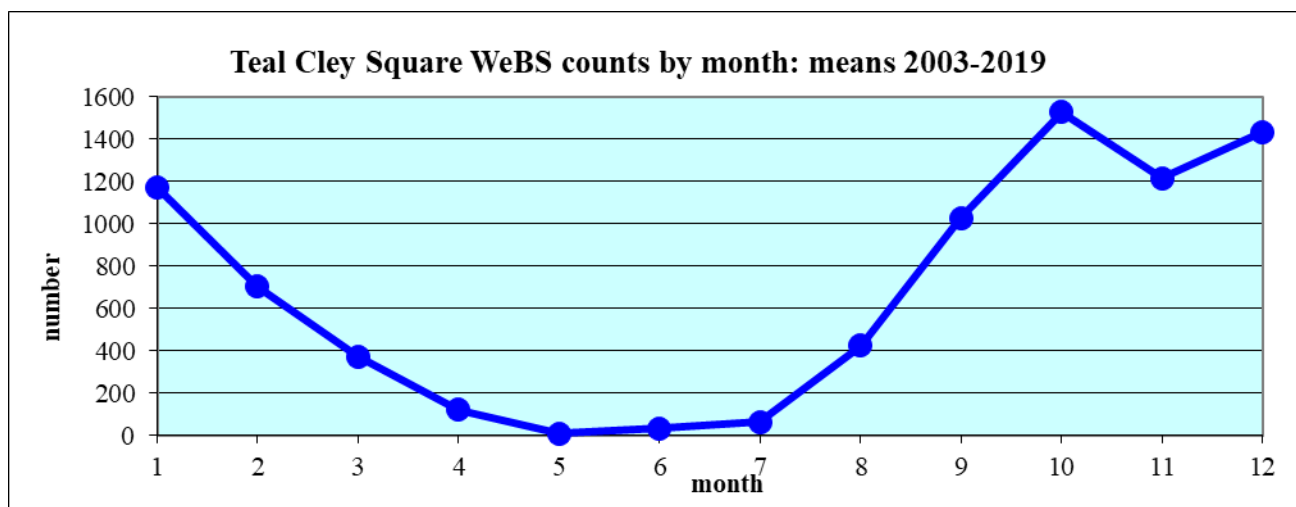


A resident duck but it appears that there is an exodus of birds in July to moult, apart from those females with ducklings. The majority of the birds are to be found at Cley Marshes. Mean numbers peaked in June at over 80 birds. The only change in the pattern of occurrence of Gadwall is a drop in numbers counted in June for recent years.

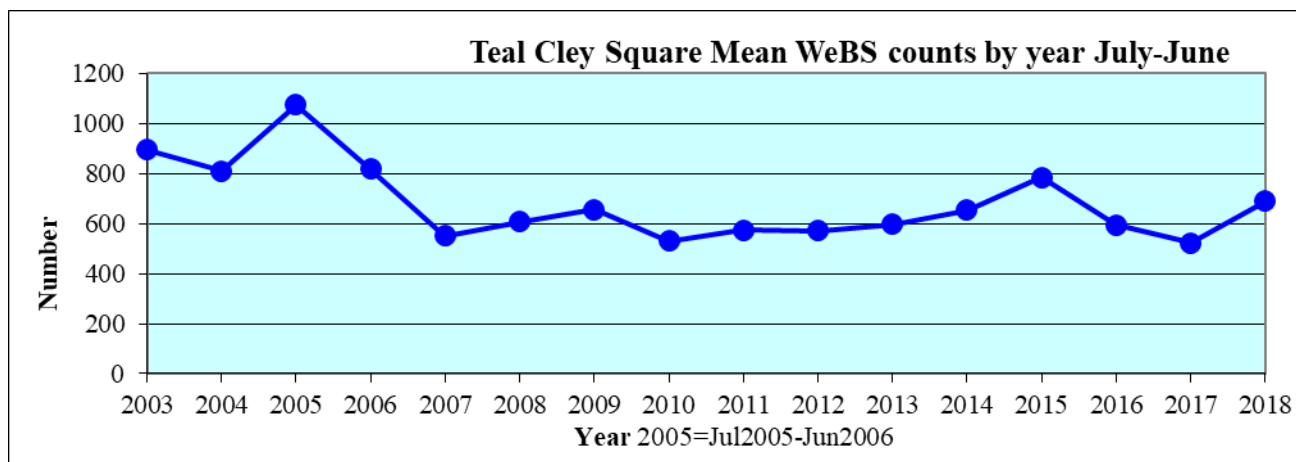


Counts have been averaged over the usual annual cycle of July to June. There does not appear to be any clear systematic change in numbers over the years since 2003/4.

Teal

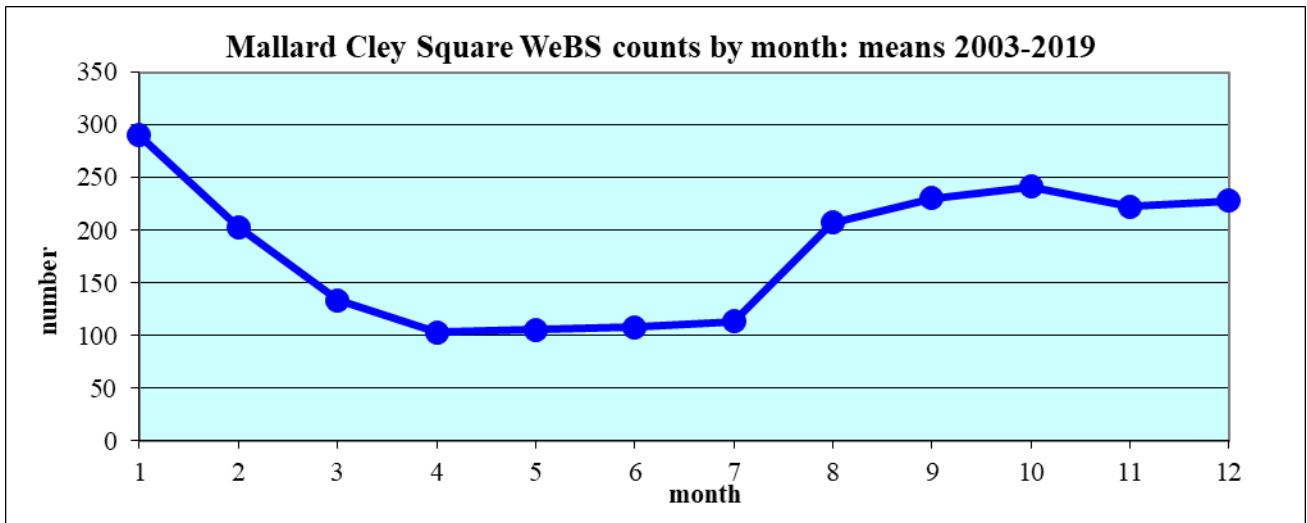


A winter duck with mean numbers that peaked at about 1400 birds in the autumn and early winter. They concentrate at Cley Marshes on arrival but some move into other areas in the mid-winter. As was the case with Wigeon the pattern of occurrence was relatively stable except that far more birds were present in September in the early years.

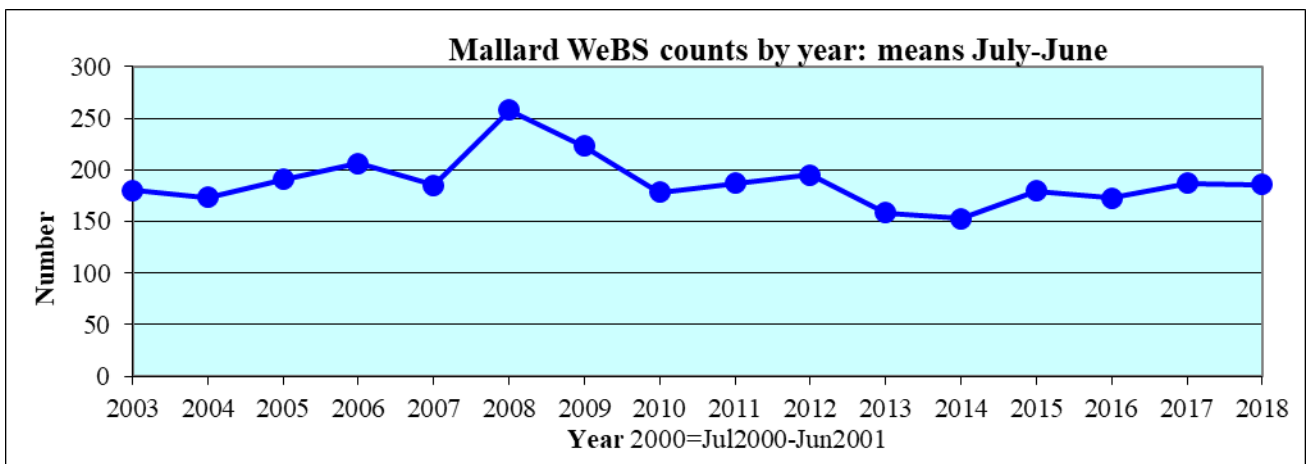


Counts have been averaged over the usual annual cycle of July to June. Numbers of Teal in the Square appear to have decreased markedly from winter 2005/6 to winter 2007/8 and then stabilised at a level at least 25% lower. Numbers in winter 2015/16 were boosted by good numbers being counted on Blakeney Freshes.

Mallard

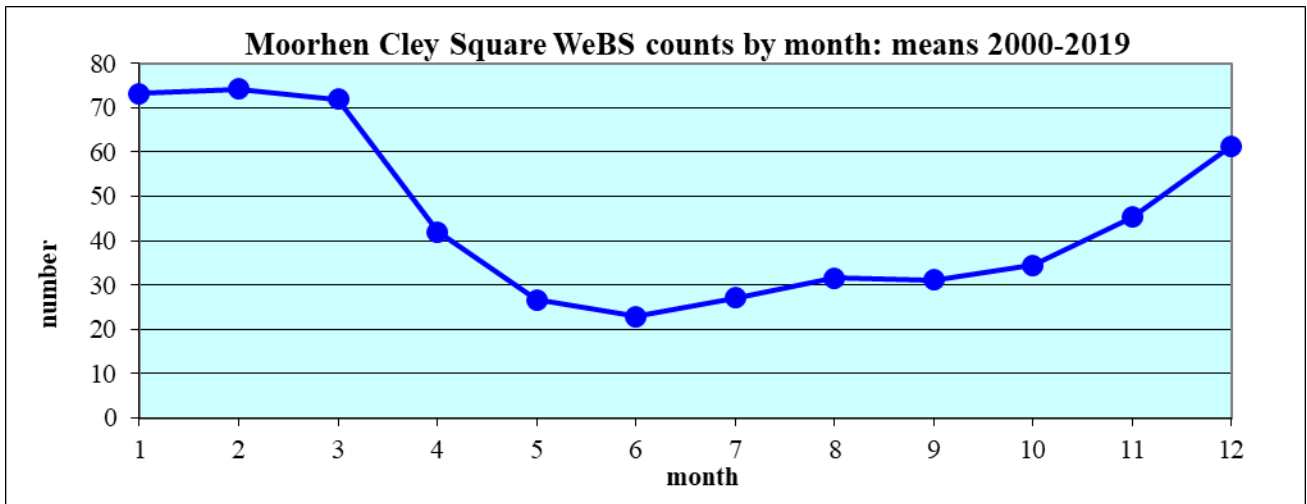


About 100 birds were counted in the breeding seasons and 200-300 in the autumn and winter months. Birds appear to concentrate at Cley Marshes on arrival in August but then disperse. The numbers of birds counted in the breeding season were relatively stable but fewer were counted in midwinter in recent years.

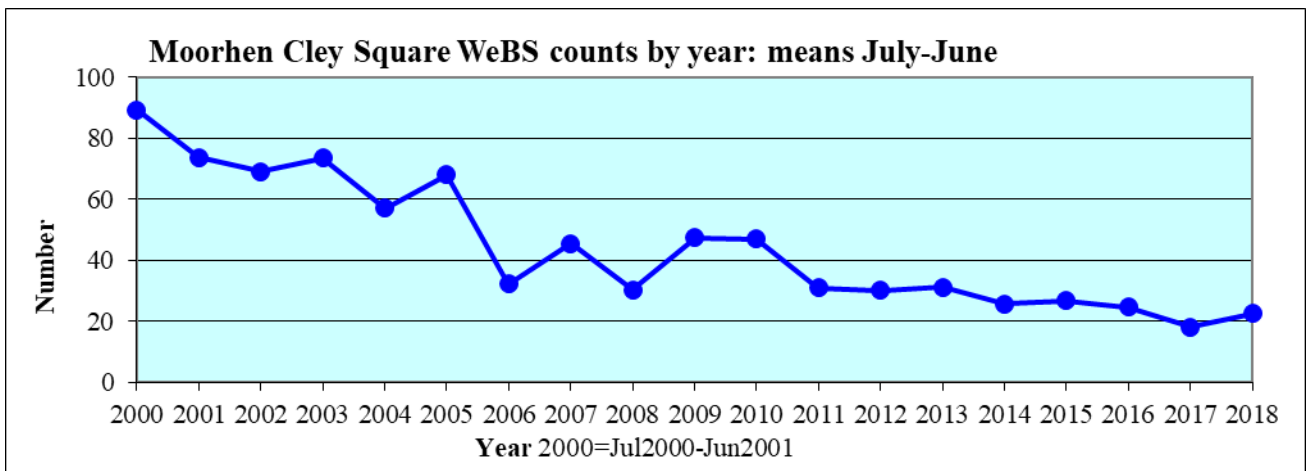


Counts have been averaged over the usual annual cycle of July to June. Numbers of Mallard counted peaked in 2008/9, when there were good numbers on Blakeney Freshes, but otherwise have been relatively stable.

Moorhen

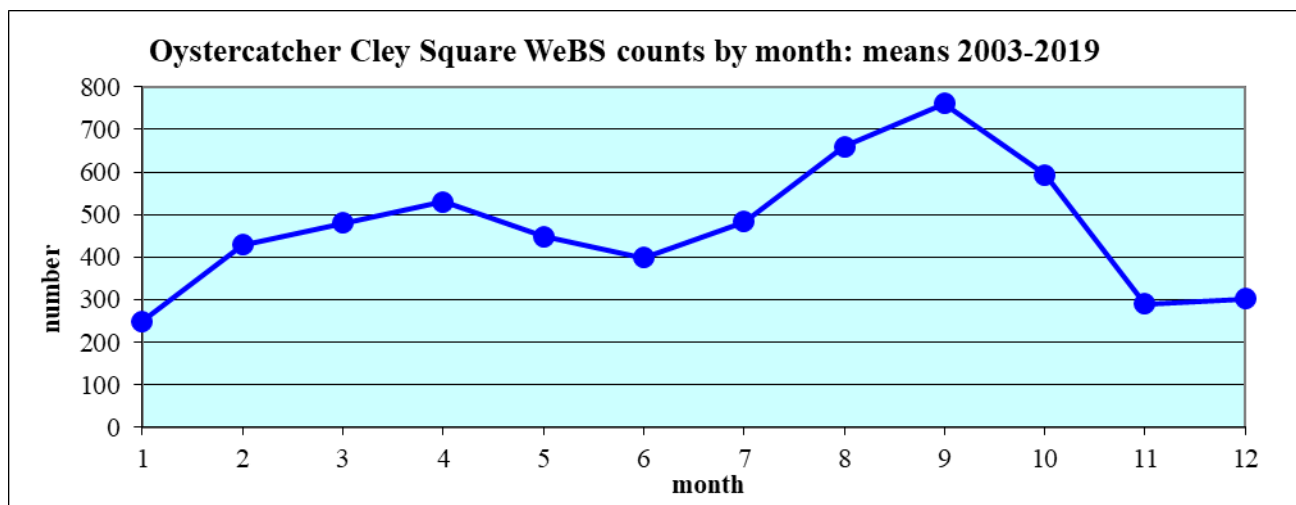


Numbers of Moorhen counted were much higher in late winter and in March. This was possibly due to birds leaving drains and ditches to feed in the meadows and becoming more visible. The species has only been recorded three times on the Blakeney Harbour count so the period examined could be extended back to 2000 by assuming zero counts there for the years 2000-2002. There has now been a clear large change in pattern of occurrence for Moorhens with no longer any large increase in the numbers counted during late autumn and midwinter.

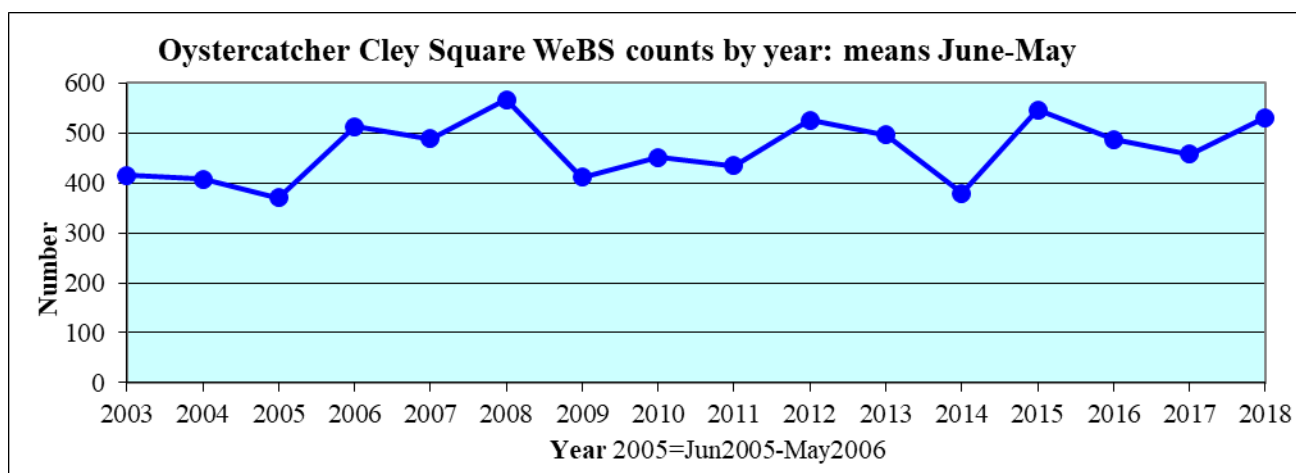


Counts have been averaged over the usual annual cycle of July to June. A very worrying decrease in numbers counted is evident. It appears that numbers are now less than 25% of those counted in 2000/1.

Oystercatcher

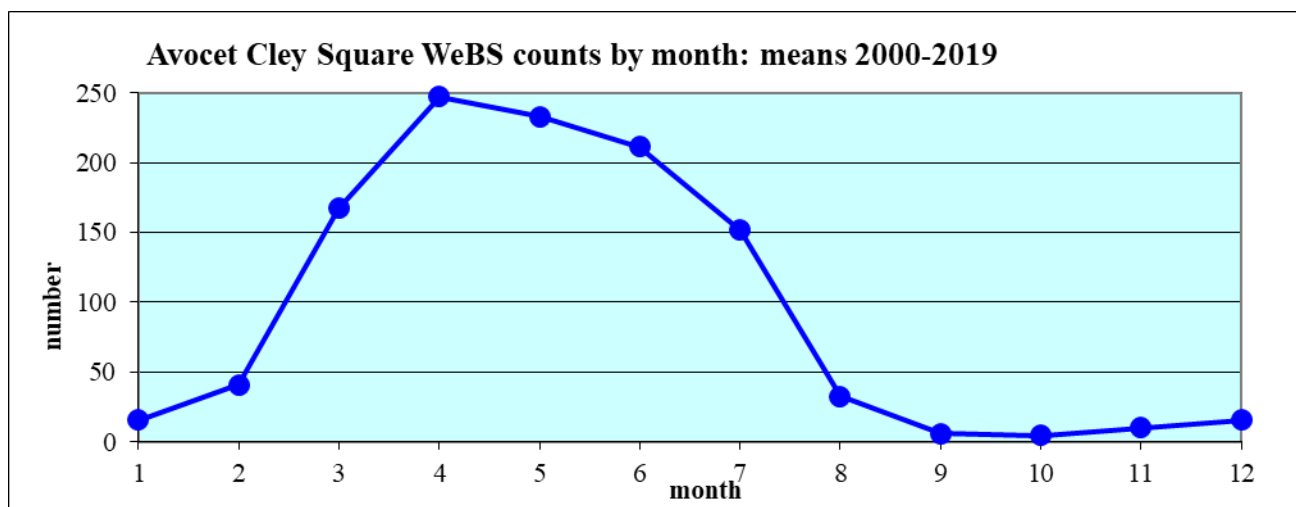


The vast majority of Oystercatchers present in the Cley Square are in Blakeney Harbour. The mean breeding season population was just over 400 birds. Mean numbers peaked in September during autumn migration at over 700 birds then decreased to a mid-winter low of about 250 birds before increasing to over 500 during spring migration. The pattern of occurrence seems relatively stable apart from some particularly high counts in September in the later years.

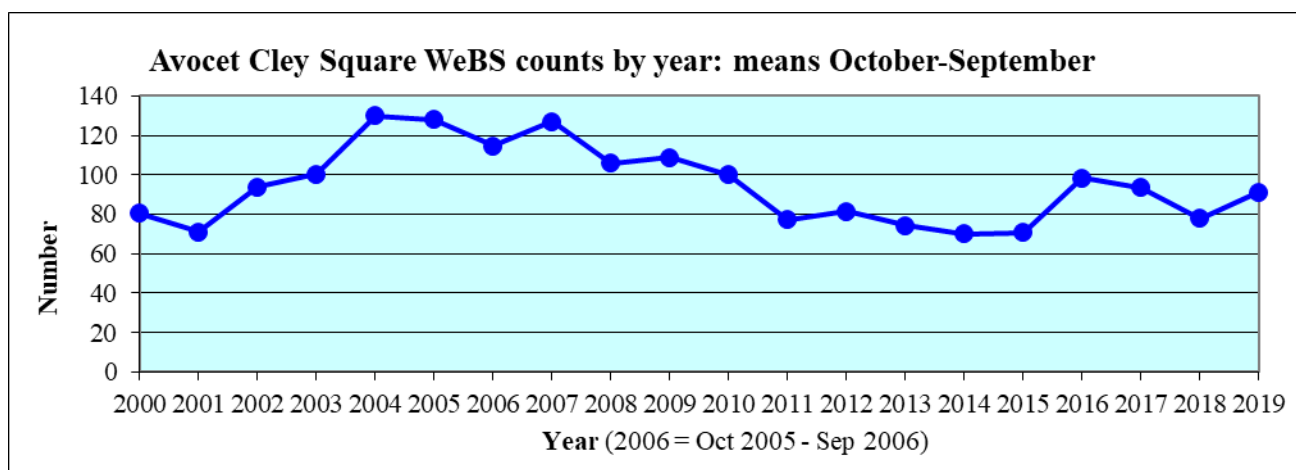


Counts have been averaged over an annual cycle of June to May. Numbers of Oystercatchers appear to have fluctuated in the Cley Square but overall have increased slightly.

Avocet

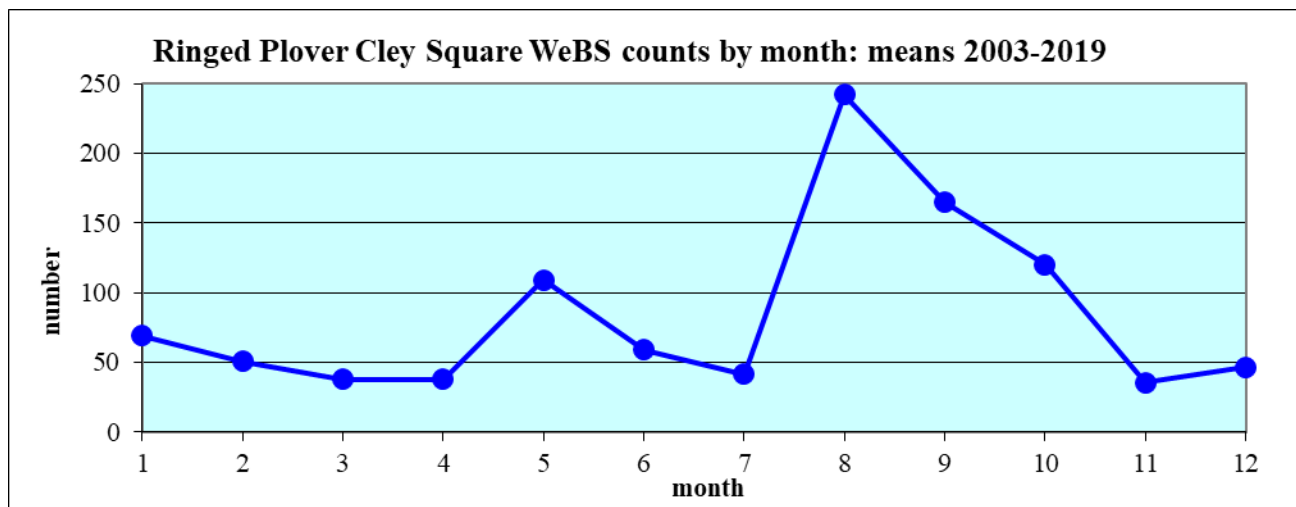


Avocets concentrate at Cley Marshes where the numbers are of national significance in the breeding season. Birds arrive in substantial numbers in March and numbers peaked in April and May at over 200 birds. In recent years birds have dispersed a little to also breed in the other count areas. Virtually all of them leave to moult in the autumn with only a few returning afterwards to overwinter. Analyses are therefore based on an annual cycle from October to September. Very few were present on the Blakeney Harbour counts in the early years so zero values could be assumed there for years 2000-2002 and the period examined extended back to year 2000. The pattern of occurrence was relatively stable over the years for this species.

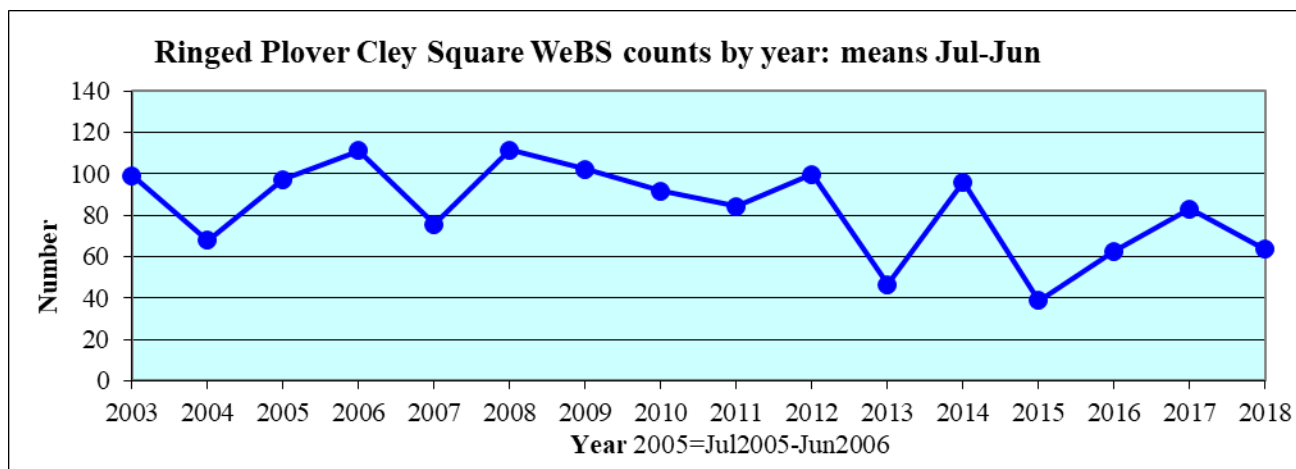


Total numbers of Avocets in the Square had been dropping since 2004 but there appears to have been a partial recovery over the last four years.

Ringed Plover

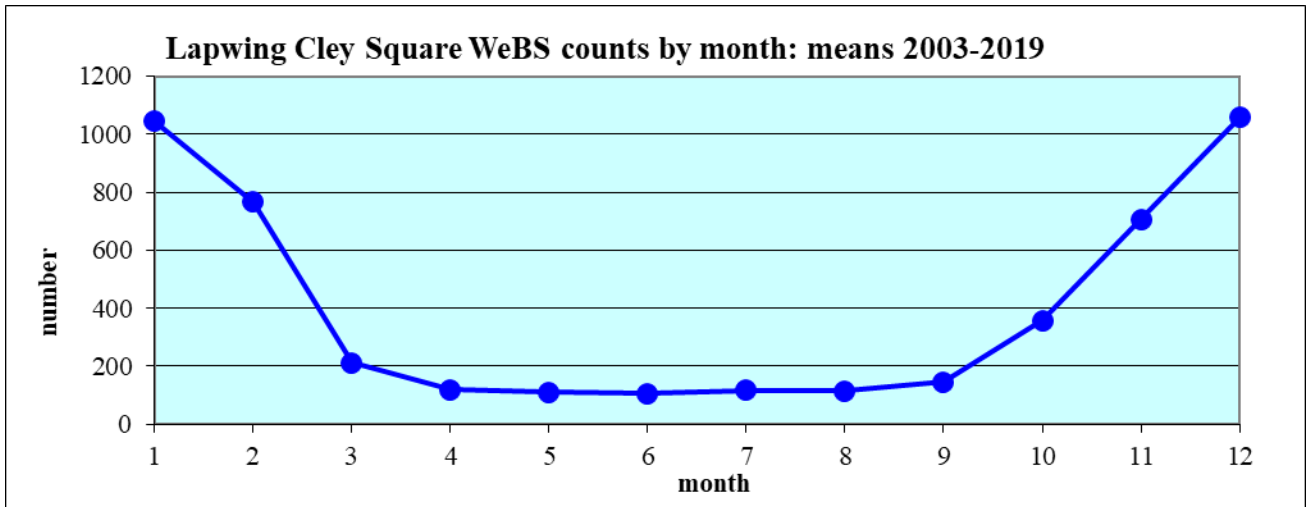


Blakeney Harbour has the majority of the Ringed Plovers to be found in the Square. Hardly any are seen on the Blakeney Freshes count and few at Salthouse. About 50 birds were counted in the breeding season. Mean numbers peaked at over 200 birds when northern migrants passed through on autumn migration and again in May on spring passage at about 100 birds. The highest counts during autumn migration were in September in recent years rather than in August.

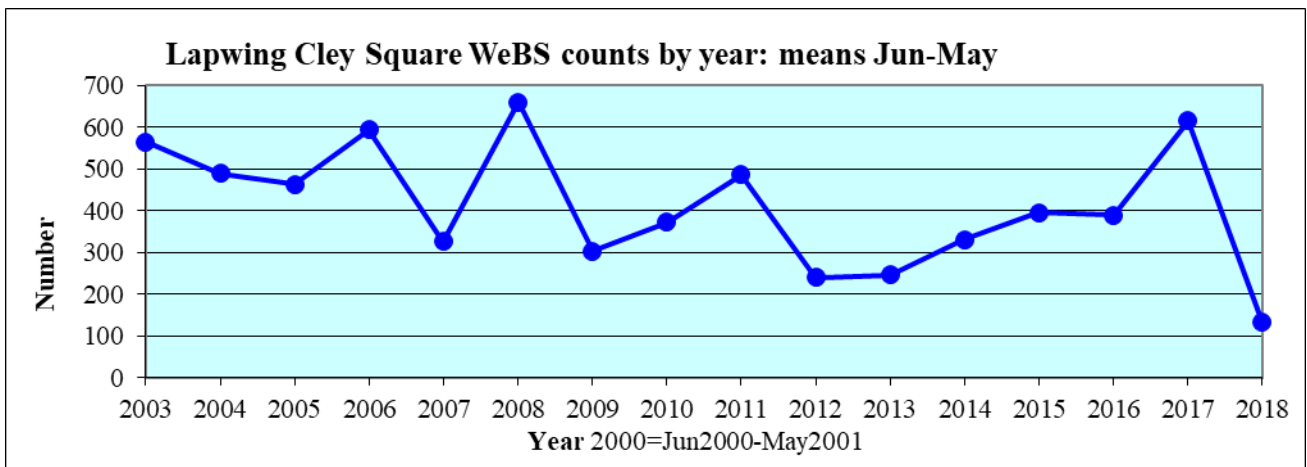


Counts have been averaged over the usual annual cycle of July to June as birds from the race breeding in the tundra can still be heading north in June. Numbers of Ringed Plover counted appear to fluctuate as a result of years with particularly low counts (2004/5, 2007/8, 2013/14 and 2015/16). Overall, there appears to be a decline in numbers since 2008/9 but there were higher than usual counts at Cley Marshes in 2017/18. There is currently a High Alert in the Medium Term (10 years) for Ringed Plovers in the North Norfolk Coast SPA due to a 52% decrease in numbers.

Lapwing

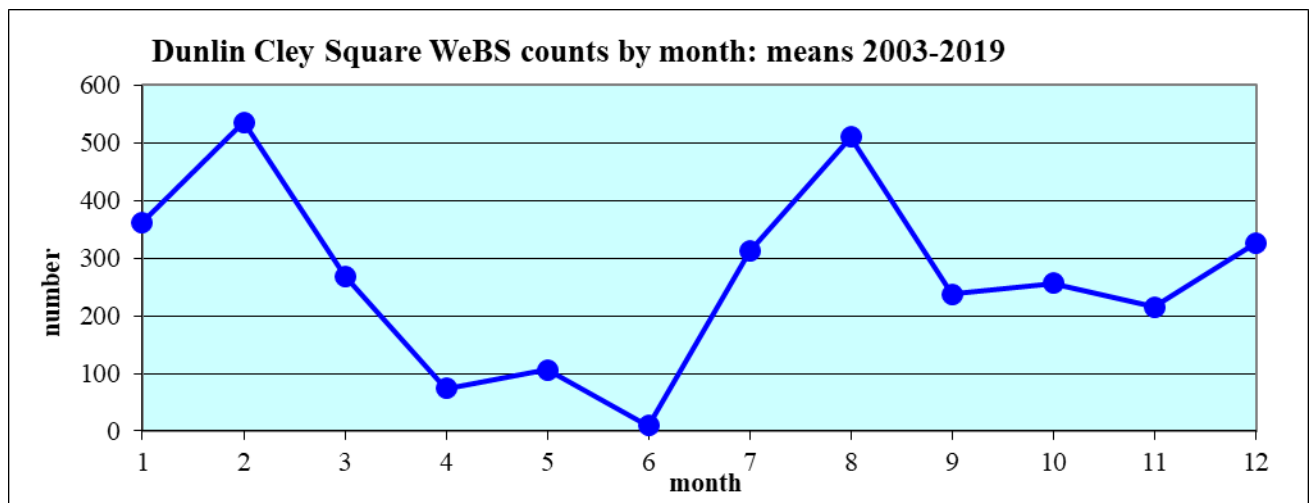


Mean Lapwing counts peaked in midwinter at over 1000 birds with the highest numbers at Cley Marshes. About 100 birds were counted during the breeding season. There does not appear to be any obvious large change to the pattern of occurrence over the years.

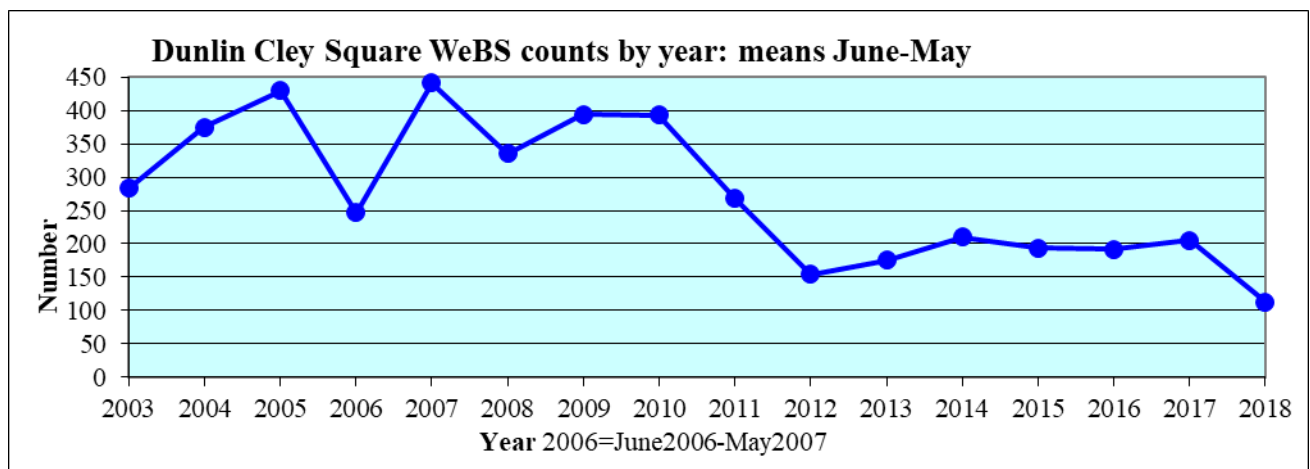


Counts have been averaged over the usual annual cycle for waders of June to May. Numbers counted have fluctuated markedly between years. Numbers overall seem to have decreased from 2003/4 to 2012/13 then increased with particularly high counts in 2017/18 but followed by extremely low counts in 2018/19.

Dunlin

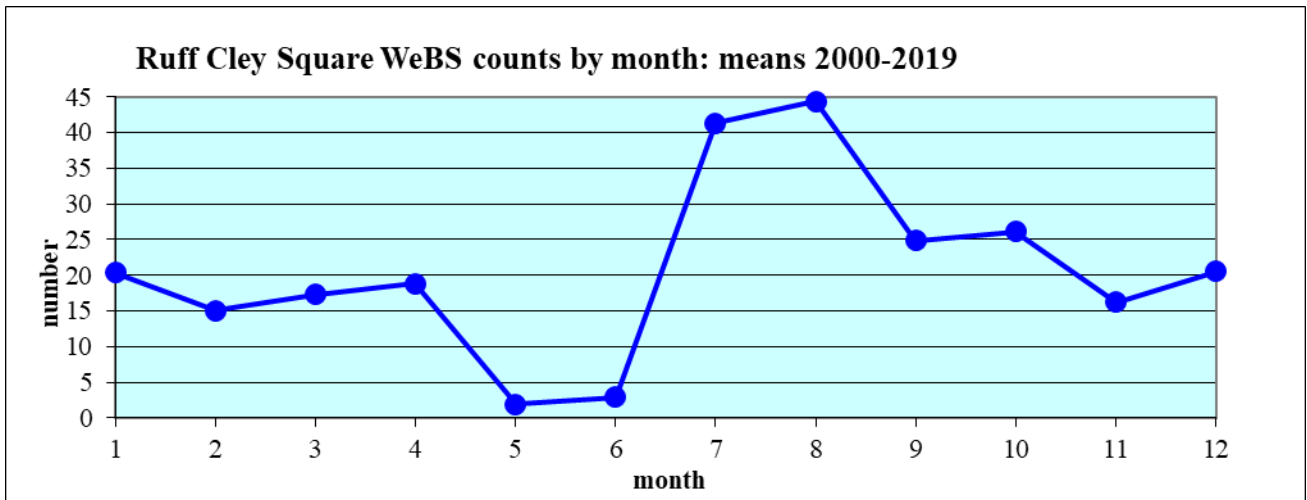


Dunlins were mainly recorded on the Blakeney Harbour and Cley counts. Virtually no birds were present in June. Mean counts have peaked in February and August. Dunlin is one of the three wader species where there has been a noticeable change in pattern of occurrence over the years. Numbers seen on autumn passage have decreased markedly but remained similar in late winter and during the spring.

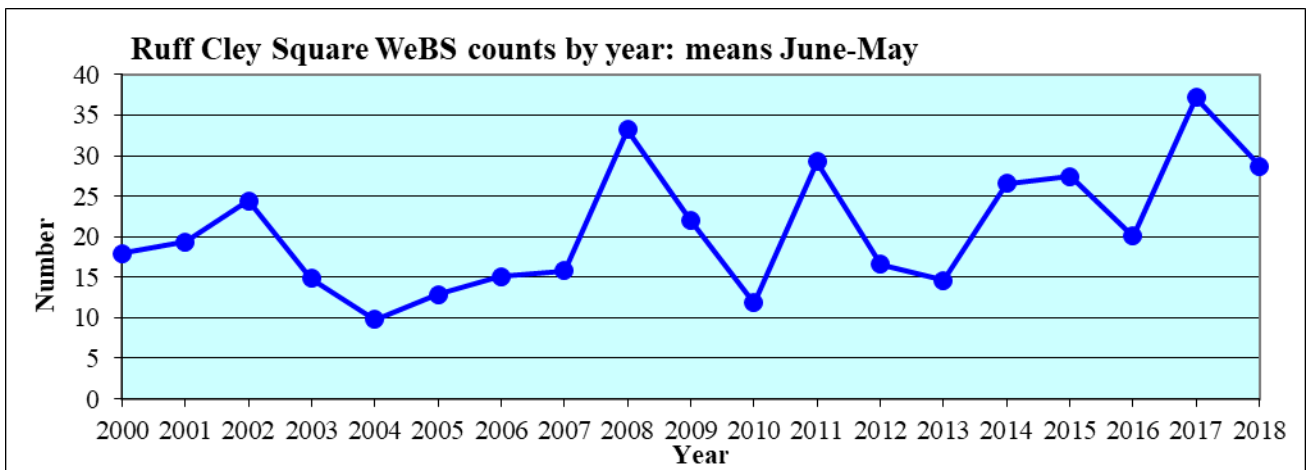


Counts have been averaged over an annual cycle of July to June. Mean numbers counted at Cley Marshes averaged just over 70 for the years 1998/9 to 2004/5 then increased to 175 for the years 2005/6 to 2010/11 before decreasing back towards the level of the turn of the century. Numbers in Blakeney Harbour have fluctuated. Total numbers counted in the Square decreased sharply from 2010/11 to 2012/13 by 60%. This was followed by a slight recovery before numbers fell badly in 2018/9. There is currently a Medium Alert in the Long Term (25 years) for Dunlin in the North Norfolk Coast SPA due to a 34% decrease in numbers and one in the Medium Term (10 years) due to a 28% decrease in numbers.

Ruff

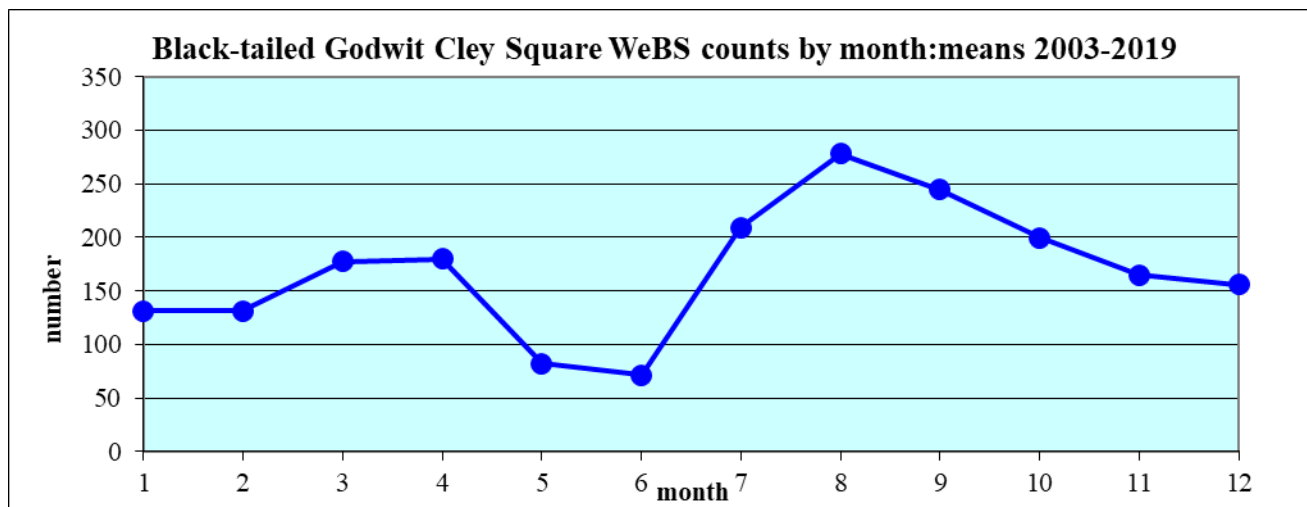


Ruff has primarily been an autumn passage migrant when about 40 birds were counted. Typically, about 20 birds were counted in winter and similar small numbers were present during spring migration. Virtually all birds are seen at Cley Marshes. Just one flock has ever been recorded on a Blakeney Harbour count so the period examined could be extended back to year 2000 by assuming zero counts there for years 2000-2002. There has been a large change in the pattern of occurrence for this species. In the early years numbers on spring passage were comparable to those on autumn passage and the highest counts in fact came in midwinter. Numbers counted in autumn were far higher than those counted on spring passage and in winter for later years.

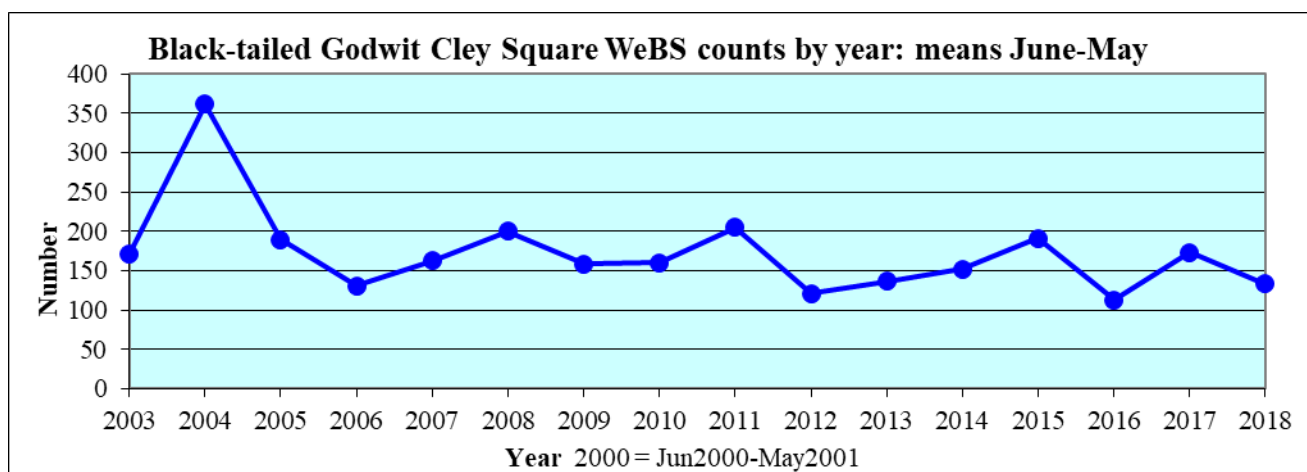


Counts have been averaged over an annual cycle of June to May. It appears that there was a large drop in numbers of Ruff counted from 2002/3 to 2004/5, that there have been wild fluctuations in numbers since but that the overall trend has been for them to increase.

Black-tailed Godwit

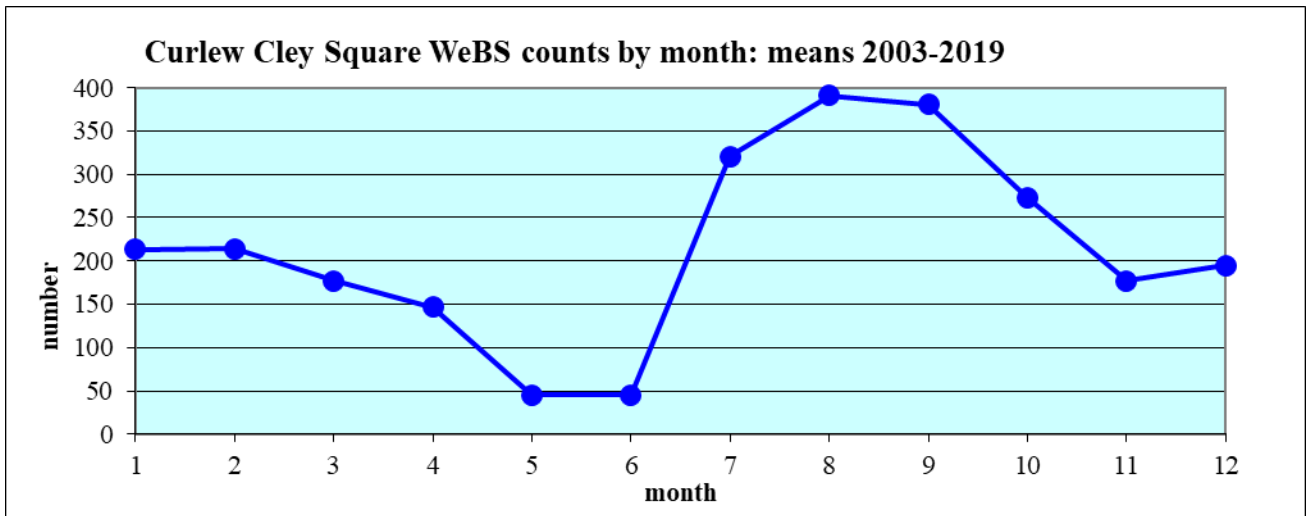


Numbers have been at their lowest in June when the first failed breeders appear. The highest mean counts were obtained in August when autumn migration peaks. The majority of the birds roost on Cley Marshes feeding in the scrapes, meadows (when wet) and lagoons there and in autumn in stubble fields nearby. About 150 birds were counted in midwinter and numbers were just a little higher during spring migration. Some first-summerers are present in May when the adults are on the breeding grounds in Iceland. Black-tailed Godwit is another wader whose pattern of occurrence in the Cley Square has changed a lot during these years. Numbers counted during spring passage used to be similar to those counted on autumn passage but are now substantially lower.

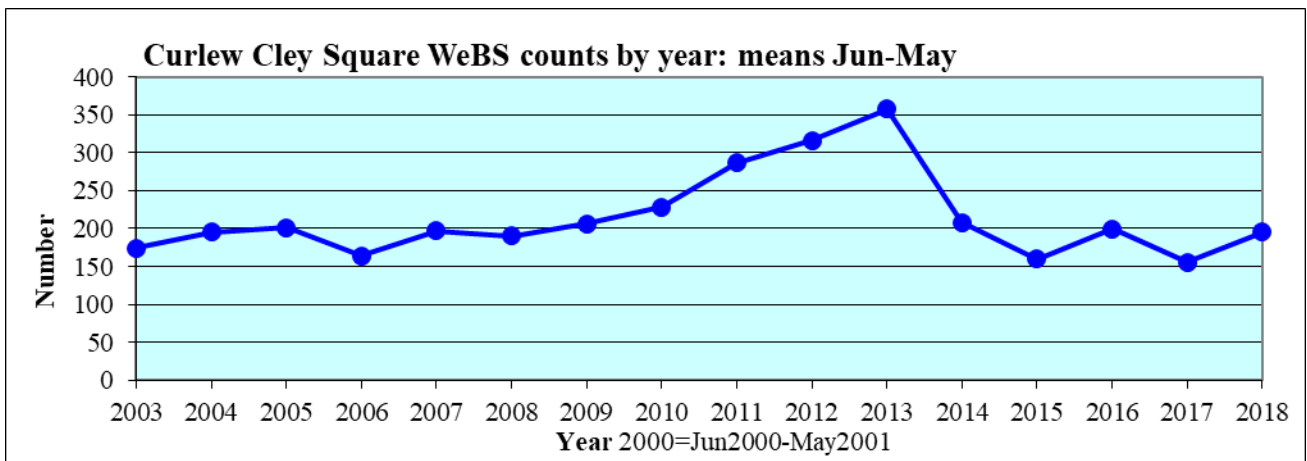


Counts have been averaged over the usual annual cycle for waders of June to May. Total counts peaked in the Cley Square in 2004/5 at over 350 birds/month when there were high numbers during both the spring and autumn migrations and birds occurred in significant numbers on Blakeney Freshes and at Salthouse Marshes as well as at Cley Marshes. Mean counts for years since have varied between 100 and 200 birds/month with a decreasing trend as the years have passed.

Curlew

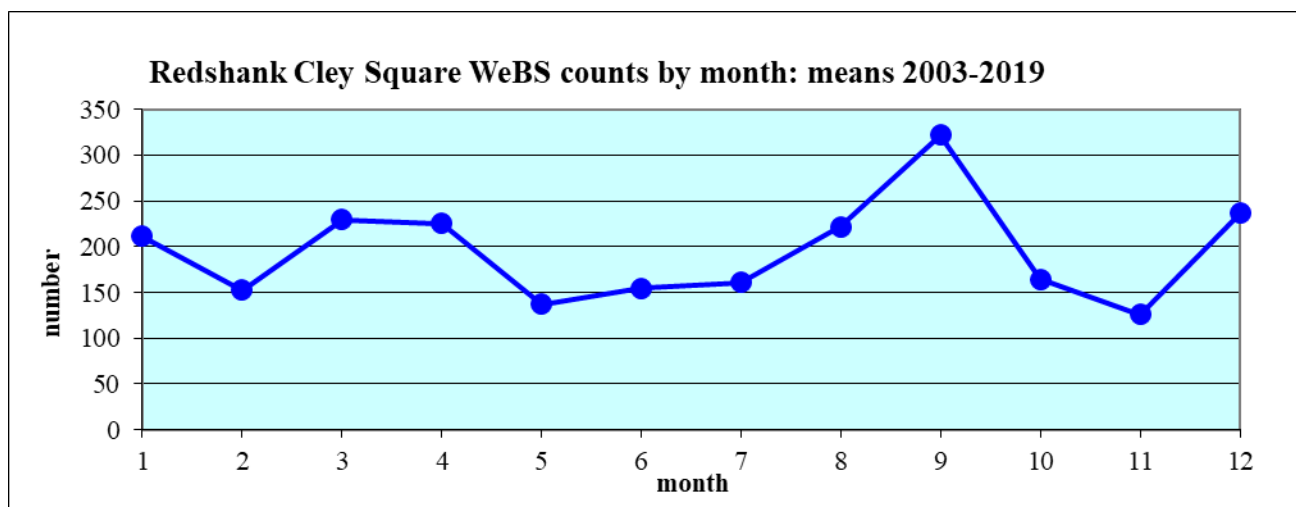


Numbers of Curlew peaked at about 400 birds during the autumn migration. Around 200 birds overwintered and just a few birds (presumably mainly immatures) were present during May and June. Most of the birds were to be found in Blakeney Harbour. There did not appear to be any obvious large change to the pattern of occurrence over the years.

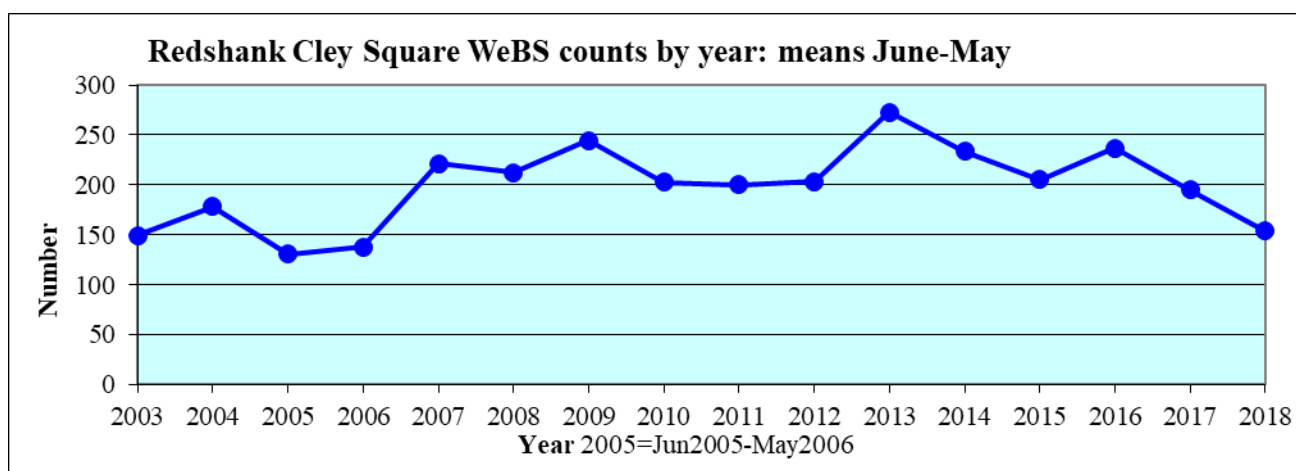


Counts have been averaged over the annual cycle of June to May. The overall trend had been of increasing numbers counted as the years passed. There was an exceptional count of 1289 birds in July 2013. Numbers have fallen since and are now back to the level when full counts recommenced at Blakeney in 2003/4.

Redshank



The main numbers of Redshank were, as one would expect, to be found in Blakeney Harbour but the numbers at Cley Marshes during the breeding season were almost as high. Mean numbers counted increased during the autumn and peaked at just over 300 birds in September. On average about 200 birds were present in midwinter. There was a small influx of spring migrants in March and April. There did not appear to be any obvious large change to the pattern of occurrence over the years apart from a dip in the counts for November in recent years.



Counts have been averaged over the usual annual cycle for waders of June to May. Overall, the total numbers counted seem to have increased from 2003/4 to 2013/4 but it also seems that this is heavily influenced by low counts in 2005/6 and 2006/7 and the high mean count for 2013/4 that was due to an exceptional count of 772 birds in September. Counts now appear to have reduced back to the level of those in the early years. There is currently a Medium Alert in the Medium Term (10 years) for Redshank in the North Norfolk Coast SPA due to a 32% decrease in numbers and one in the Short Term (5 years) due to a 29% decrease in numbers.

Mean counts for each species

Species	Mean monthly count	Mean count for peak month	Peak Month
Brent Goose	859	1767	December
Shelduck	218	383	January
Wigeon	904	1964	January
Gadwall	58	85	June
Teal	674	1527	October
Mallard	182	290	January
Moorhen	45	74	February
Oystercatcher	469	762	September
Avocet	95	247	April
Ringed Plover	85	242	August
Lapwing	405	1057	December
Dunlin	268	535	February
Ruff	21	44	August
Black-tailed Godwit	169	278	August
Curlew	215	391	August
Redshank	196	302	September

Mean counts are for the years 2003-2019 except for Moorhen, Avocet and Ruff where they are for 2000-2009.

Relative importance of the four sites

Species	Blakeney Harbour	Blakeney Freshes	Cley Marshes	Salthouse Marshes
Brent Goose	80%	6%	11%	3%
Shelduck	59%	6%	29%	5%
Wigeon	31%	24%	27%	19%
Gadwall	4%	8%	73%	15%
Teal	11%	13%	63%	12%
Mallard	16%	25%	46%	12%
Moorhen	0%	20%	45%	34%
Oystercatcher	94%	2%	3%	1%
Avocet	3%	6%	78%	13%
Ringed Plover	79%	0%	18%	2%
Lapwing	13%	14%	61%	12%
Dunlin	53%	1%	43%	3%
Ruff	0%	6%	84%	9%
Black-tailed Godwit	3%	8%	81%	8%
Curlew	75%	8%	10%	6%
Redshank	68%	6%	19%	7%

The table gives the proportion of the total numbers counted for a species at each of the four sites. The period is 2003-2019 for all species except for Moorhen, Avocet and Ruff where the period is 2000-2019.

Estimated changes in numbers over the ten-year period 2007/8 to 2017/18

Species	National 10-year change	Cley Square 10-year change
Brent Goose	+5%	-9%
Shelduck	-13%	-23%
Wigeon	-3%	-50%
Gadwall	+16%	-2%
Teal	+14%	-24%
Mallard	-12%	-9%
Moorhen	-26%	-54%
Oystercatcher	-12%	+8%
Avocet	+24%	-32%
Ringed Plover	-23%	-27%
Lapwing	-20%	-19%
Dunlin	0%	-45%
Ruff	-2%	+84%
Black-tailed Godwit	+31%	-25%
Curlew	-21%	+16%
Redshank	-9%	+40%

Getting further information on WeBS counts

These counts form part of the national Wetland Bird Survey (WeBS) which involves volunteer birdwatchers making monthly counts of non-breeding waterbirds across the UK and sending them to the British Trust for Ornithology. WeBS is a partnership between the British Trust for Ornithology, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee (the latter on behalf of the Council for Nature Conservation and the Countryside, the Countryside Council for Wales, Natural England and Scottish Natural Heritage), in association with the Wildfowl and Wetlands Trust. The data collected are used to assess the size of waterbird populations, determine trends in numbers and distribution, and assess the importance of individual sites for waterbirds, in line with the requirements of international conservation Conventions and Directives. The four counts made in the Cley Square are part of the overall count made for the North Norfolk Coast SPA site, which has SSSI status, and is a site of national importance for several of the species counted.

The latest national report, 5-year and 10-year trends for counts for the North Norfolk Coast SPA and other detailed information can be found at

<https://www.bto.org/our-science/projects/wetland-bird-survey>

David Wileman 17-5-20.