

ROSTHERNE MERE NNR

BIRD REPORT 2018



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Compiled by Dr Bill Bellamy

Introduction

Welcome to the Rostherne Mere NNR Bird Report 2018.

This report represents the bird watching efforts of anyone who has visited the Boyd Observatory during 2018 and has kindly taken the time to make log book and tick-list entries. The history of bird recording at Rostherne stretches back just over 130 years and the records are as important as ever in the present, contributing to other publications and academic research.

I would especially like to thank Sheelagh Halsey for her detailed counting and recording of birds, butterflies, dragonflies and damselflies. Sheelagh also provided the excellent photograph on the cover of the report. Thanks to the CBC surveyors (Steve Collins, Phil Dell, Judith Halman, Sheelagh Halsey, Ted Lock and Tony Usher). Many thanks to Steve and Gill Barber for proofreading the report. Steve also analyses the Common Bird Census (CBC) data and produces the CBC Report each year. I would also like to thank Malcolm Calvert and the ringing team, namely John Adshead and Jake Gregory, for all their contributions. The photographs in the report are of a very high standard and a big thank you to everybody who has sent me copies. It's quite a difficult task choosing which ones to include. Finally, many thanks to the Natural England Reserve Manager, Rupert Randall for all his help.

I would encourage anybody willing to get involved in bird recording activities and other wildlife surveys at Rostherne to please get in contact with me at the following e-mail address bill.bellamy@outlook.com.

The Rostherne Butterfly Survey was undertaken in 2018 for the fifth consecutive year after an absence of 10 years. Rostherne Mere has been part of the United Kingdom Butterfly Monitoring Scheme (UKBMS) since 1976 and was surveyed by Bryan Roberts and Barry Shaw for many years until 2003. It was reinstated in 2014. The results from the survey are shown on page 63.

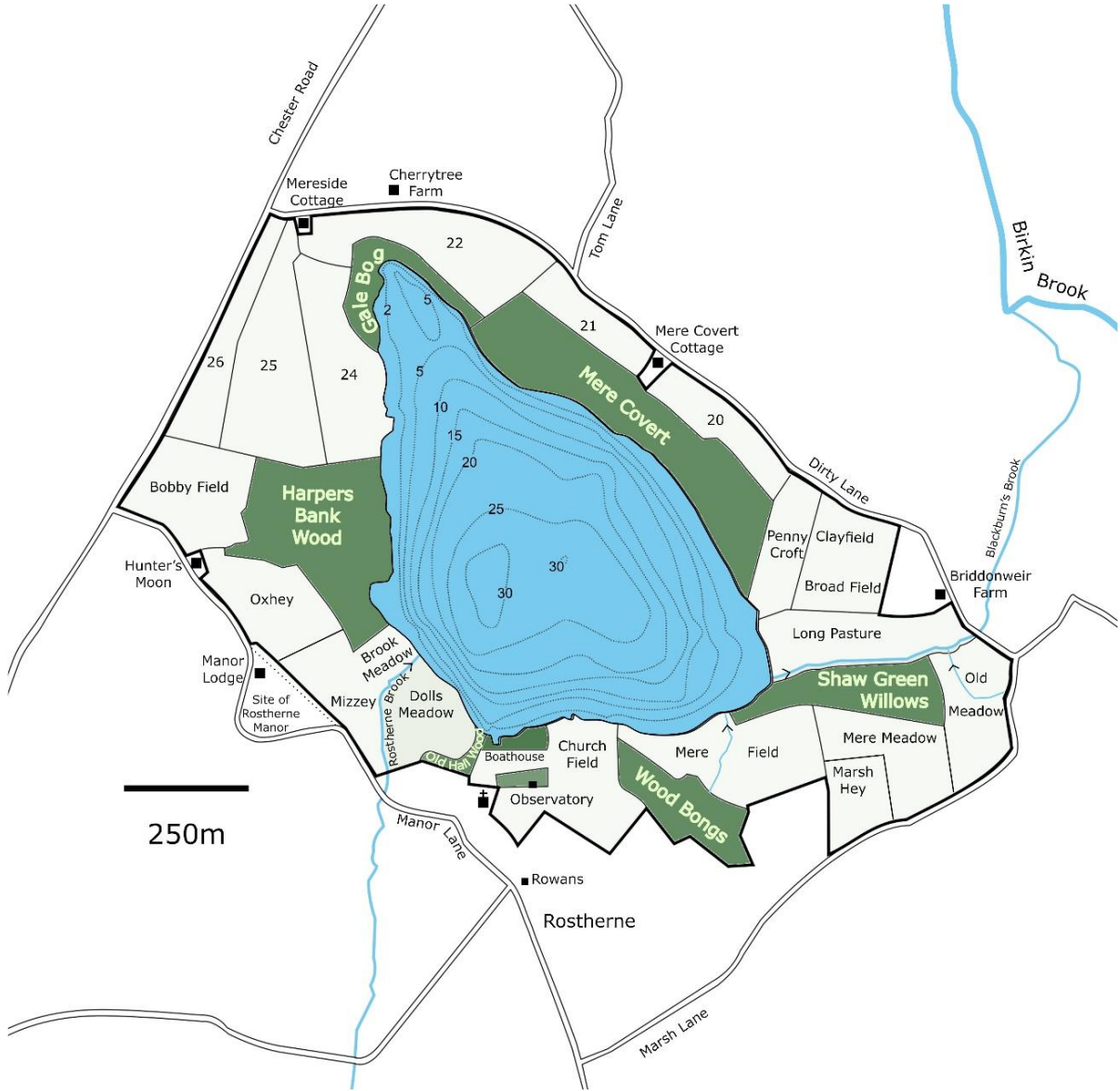
Sheelagh Halsey undertook a comprehensive Dragonfly and Damselfly Survey in 2018 for the third consecutive year. The results from the survey are shown on page 71.

The order of bird species in the Systematic List has been changed in line with the British Ornithologists' Union (BOU) which is following the International Ornithological Congress (IOC) World Bird List. In respect of its taxonomic needs from 1st Jan 2018.

All records and comments in the text refer to birds seen on or over Rostherne Mere National Nature Reserve (NNR) unless stated. It is Wetland Bird Survey (WeBS) policy to include in counts only fledged independent young (i.e. capable of flight and at least $\frac{3}{4}$ adult size). Where possible, this practice has been followed here. Reference is frequently made to CBC-type work undertaken in most areas of the Reserve. For full details of the CBC-type work in 2018 see page 55. References to 'Snipe Marsh' refer to roughly the eastern third of Shaw Green Willows.

In recent years an increasing number of records are being entered directly onto BirdTrack without appearing in either the log book or tick-lists. The log book and tick-lists are therefore in danger of becoming more marginalised as the central reference points for

Rostherne bird records. All BirdTrack records which are tagged with Rostherne Mere NNR as the location will be included in the scope of this report, but I would encourage observers to continue to use the log book and tick-lists as the primary recording points. In addition, records were once again posted on the Manchester Birding Forum website in 2018; these are also included in this report.



Map of Rostherne Mere NNR*1

*1 The map created by Gisèle Wall originally appeared in 'Rostherne Mere – Birds of mere and margin', 2019.

Summary of the Year

The total number of recording days when a tick-list and/or log book entry was made during the year equalled 244 days or 67% of the days in the year.

In 2018, a total of 119 different bird species including one escape were recorded at Rostherne.

Canada Geese bred with three broods recorded in May, 20 birds stayed to moult. Numbers were low throughout the majority of the year with a high of 104 in Aug. Thirty Greylag Geese moulted on the Reserve and numbers peaked at 52 in Jul. The resident pair of Mute Swans bred with one cygnet surviving to fledge, the first successful breeding since 2005. Fourteen seen on several dates in late Aug and early Sep was the highest count since 2013. Eleven Whooper Swans visited the Mere in Mar and one seen on 27th May is the latest ever recorded. Egyptian Geese were recorded on 32 dates.

A pair of Mandarin Ducks bred in the Barn Owl box in Brook Meadow, but the annual maximum of 10 was the lowest since 2005. Shoveler counts rose above the threshold of national importance (180) in Oct, when 195 were recorded. However, Wigeon, Mallard and Teal posted low numbers, with the lowest of the latter on record. Interestingly, up to 53 Pochard visited the Mere during Nov and Dec. The Jan count of 20 Tufted Duck was the lowest maximum for the month since 1965, but in contrast the post-breeding high was 184 in Aug. Common Scoter were seen in Mar (1) and Apr (2).

Goosander were recorded on most days from Jan to Mar and then Nov to Dec. Up to 13 birds roosted overnight during this latter period. Both Little Grebe and Great Crested Grebe had their best showings for 10 years. Two Black-necked Grebes were recorded on two dates in Apr. It was a very poor year for Bittern, recorded on just one day in Dec. A Great White Egret was seen perched on the edge of Harpers Bank Wood on two dates in Dec, while single Little Egrets were recorded on four dates throughout the year. Cormorant numbers were slightly higher than in 2016 and 2017, but only three evening roost counts were made. A total of 172 nests were counted, which set a new record high for the Reserve.

Up to four Sparrowhawks were seen hunting the Starling roost in Dec. Buzzard failed to breed in a Scot's Pine in Mere Covert after a run of five successful years breeding in the same tree.

Waders spotted in 2018 included Oystercatcher, Lapwing, Ringed Plover, Curlew, Dunlin, Woodcock, Snipe, Common Sandpiper and Green Sandpiper. Large numbers of Lapwing were seen rising from the fields north of the Reserve, with an estimated 2000 seen in Dec! Two Ringed Plovers seen on the sandbar in Jun were the first recorded since 2006 and the second ever involving more than one bird! A Dunlin seen in Mar was the first on the Reserve since Jul 2002. Woodcock was seen on 10 dates representing a good showing, but there was only one sighting of Common Sandpiper.

Around 3000 Black-headed Gulls roosted in Nov and Dec. A Little Gull visited in Apr, the first since 2011. The highest number of Common Gulls within the gull roost was 50, while 70 Herring Gulls were logged in Jan, the highest count since 2001. A maximum of 331 Lesser-

black-backed Gulls were recorded in Aug. There were 21 records of Yellow-legged Gull with a maximum of four birds seen in Nov, the best ever account of the species at Rostherne by some margin. A Caspian Gull was reported on 17th Nov. If the record is accepted by the CAWOS Rarities Team then it will be the first for the Reserve.

Common Terns visited the Mere on nine dates with six seen in Sep the highest count since 2011, but there was only one record of Arctic Tern.

A pair of Stock Doves bred in the new Barn Owl box in Dolls Meadow. At least 300 Woodpigeons were seen roosting in Harpers Bank Wood in Oct.

It was a good year to see owls at Rostherne. Barn Owls bred in both the Mere Field and Mere Meadow boxes with two chicks ringed in each box. Two Tawny Owls were heard on several evenings and a Little Owl was recorded near Shaw Green Farm on eight dates.

Around 50 Swifts were seen feeding over the Mere in May. Two Kingfishers were spotted on three dates, while a young f was ringed in Shaw Green Willows in Aug, the 11th to be ringed.

Lesser Spotted Woodpecker was recorded on six dates with two seen during a CBC-type survey in Apr. There were six breeding territories plotted for Great Spotted Woodpecker and an adult was ringed near the Bittern Hide, the 11th to be ringed. A pair of Green Woodpeckers bred in Wood Bongs with the adults and a juvenile recorded in Jul.

A pair of Kestrels bred in the dead Alder near the Boathouse and two juveniles fledged. The activities of parents and young provided wonderful views from the Boyd Observatory. Hobby was seen on 10 dates from Jul to Sep, with two birds seen on one date. Peregrine was only recorded on four dates.

At least 100 Jackdaws roosted in Mere Covert in Jan and Dec. Raven was recorded on 22 days, with two seen on nine dates.

Around 40 Sand Martins were seen in Apr, while Swallow and House Martin highs were c100 and c80 respectively.

A Willow Tit was seen near the Bittern Hide in Mar, the only record of the year.

The results from the CBC-type surveys showed that the number of breeding territories for Blue Tit, Long-tailed Tit, Robin and Song Thrush showed stable populations, while Treecreeper, Chaffinch and Reed Bunting were up. However, Coal Tit, Great Tit, Nuthatch, Wren, Blackbird and Dunnock posted declines.

It was a good year for records of Cetti's Warbler, 13 in total. Birds were heard near the Boathouse and near the Bittern Hide. Willow Warbler was recorded on 42 days and four territories were plotted matching last year's total. The number of Chiffchaff territories fell slightly from 22 in 2017 to 17 in 2018. Only two Sedge Warbler territories were plotted which represented the poorest showing since 1998! An estimated 45 pairs of Reed Warblers bred with 102 adults ringed comprising 44 new birds, five controls and 53 re-traps. The oldest re-trap was ringed as a juvenile on 31st Jul 2010! The total of Blackcap territories (28) rose for the second year. Garden Warbler was recorded on only four dates and Lesser

Whitethroat on five dates. Only one Whitethroat territory was plotted, at the foot of Long Pasture.

Around 70,000 Starlings roosted in the reed beds near Shaw Green Willows in Jan while later in the year numbers were around 50,000. Once again, the Bittern Hide provided an excellent viewpoint to witness this remarkable spectacle.

Up to 80 Fieldfares visited the Reserve in Jan. Redwings peaked at 113 in Dec.

It was another very good year for Spotted Flycatcher. A pair bred in Wood Bongs for the second consecutive year and a family party of up to four birds was seen in Aug.

A flock of 12 Bullfinches was seen at the foot of Long Pasture in Jan. Linnets were seen on four dates and around 100 Goldfinches and 50 Siskins were logged in Dec. A Yellowhammer was seen near Dirty Lane in Jul. The eight Reed Bunting territories plotted represents the best showing since 10 in 2013. A total of 74 birds were ringed including 23 adults and 51 juveniles.

Finally, Rostherne continued to be one of several sites in Cheshire to provide wonderful views of Hawfinches, which were first seen in Nov 2017. Birds were seen on a total of 14 days from Jan-Mar with a maximum of six recorded in Feb.

Systematic List 2018

In the following accounts, tables including ticks from the tick list have been taken as referring to a single bird. Several wetland species are counted regularly, including the monthly WeBS count. The tables generated include the highest counts for each of the four 'weeks' of each month (i.e. 1-8, 9-16, 17-24, 25-30/31, except in the case of February where 'weeks' run 1-7, 8-14, 15-21, 22-28/29).

Canada Goose (*Branta canadensis*)

Regular visitor at all times

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	3/17	17/20	19/22	15/22	14/23	13/23	17/22	16/20	7/16	8/18	1/24	2/17
Monthly max	6	10	20	13	24	18	25	104	30	71	1	1

Monthly maxima were low from Jan to Jul (6 to 25). A pair with five goslings was seen on 13th May. Three broods of five, two and two were reported on 20th May. There were six young logged on 17th Jun but there were no further reports for the remainder of the year. Twenty birds moulted on the Reserve in Jun and Jul. The post-mouling maximum was 104 on 20th Aug, low compared to 287 last year. Numbers were low in Sep with a high of only 30 on 24th. They increased during early Oct to 71 on 7th before falling again to 42 by 18th. There were only three records in Nov and Dec, all of a single bird.

The graph below shows how numbers of Canada Geese fell in the 1990s as a result of control measures before slightly recovering in the 2000s. Then there was a period of further decline 2014-16 which was reversed in 2017.

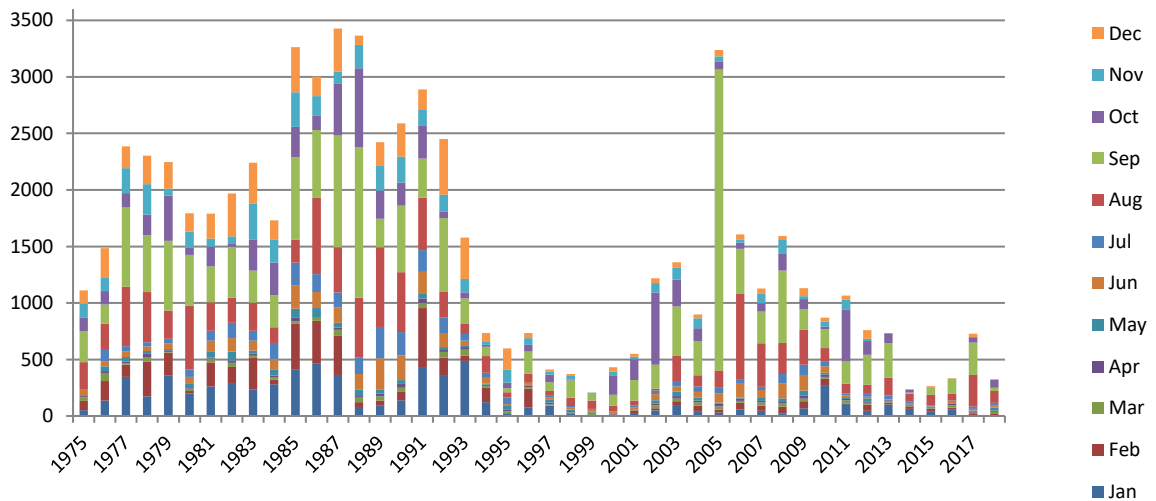


Figure 1 Annual totals of Canada Geese based on monthly maxima 1975-2018.

Greylag Goose (*Anser anser*)

Feral (some possibly wild), irregular visitor

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	10/17	4/20	12/22	4/22	13/23	21/23	22/22	13/20	2/16	1/18	1/24	7/17
Monthly max	10	5	10	3	10	34	52	24	1	1	1	12

Numbers followed a similar pattern to last year with a monthly maximum range 3 to 10 during the first five months of the year. Increases occurred during Jun with 34 recorded on 27th. Thirty birds moulted on the Reserve and these were joined by additional post-moult birds peaking at 52 on 25th Jul, the largest annual max since 74 in Aug 2011. Decreases occurred during Aug with only four birds recorded by 20th. A single bird was seen from Sep to early Dec before numbers increased to 12 on 27th and 30th Dec.

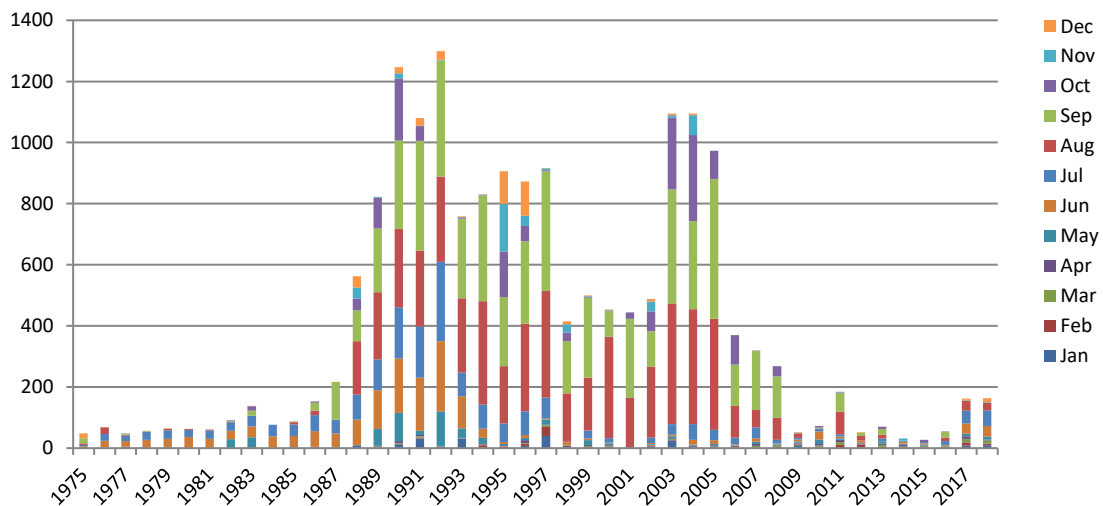


Figure 2 Annual totals of Greylag Geese based on monthly maxima 1975-2018.

Pink-footed Goose (*Anser brachyrhynchus*)

Irregular visitor, skeins Sep-Mar

There were six records in 2018 (five records in 2017, eight in 2016 and four in 2015). All records were of birds flying over the Reserve. Approximately 1000 birds were seen on 7th Jan, the only record in the first half of the year. Two skeins of c50 and c200 were logged on 15th Oct. Around 1000 flew over in multiple skeins on 26th Nov. There were three records in Dec with c80 on 9th, c100 on 11th and c100 on 14th.

Mute Swan (*Cygnus olor*)

Regular visitor at all times, bred in 2018

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	14/17	17/20	21/22	16/22	17/23	18/23	18/22	18/20	12/16	12/18	8/24	1/17
Max nos	8	6	7	3	2	2	2	14	14	6	1	3

Eight (two adults, six juveniles) were seen on 28th Jan, six (four adults, two juveniles) on 25th Feb and seven on 7th Mar. A pair was resident for the majority of the year. They built a nest along the Harpers Bank shoreline during May but it was abandoned probably as a result of predation. A new nest was built in the Shaw Green Willows reed bed by 29th Jun. Three cygnets were first seen with the pair on 14th Jul. This had reduced to two by 19th Jul and only one by 20th Aug. However, it is thought that this bird survived to fledge and was last seen on 30th Nov. This represented the first successful breeding since 2005 when a single juvenile also fledged. There was a post-breeding increase with 14 birds recorded on four dates 29th, 30th Aug and 5th and 9th Sep, the highest count since 17 were recorded in Mar 2013. Numbers fell during Sep with the pair and young juvenile remaining, the exception was six recorded on 19th Oct. The juvenile was seen on its own throughout Nov. The only sighting in Dec was of three birds (one adult and two juveniles) which visited the Mere on 9th Dec.



The resident male Mute Swan 'busking'. Photo Sheelagh Halsey.

Whooper Swan (*Cygnus cygnus*)

Uncommon visitor, Sep-May

There were three records in 2018, all birds seen on the Mere. Eleven birds were recorded on 18th Mar, one on 27th May, an adult bird seen off by the resident male Mute Swan. This is the latest ever sighting by some margin (the previous record was 1st May 1962). Two were seen on 9th Dec.

Egyptian Goose (*Alopochen aegyptiacus*)

Uncommon visitor. Presumed escaped or feral birds

The species was recorded on 32 days in 2018 (seven days in 2017, 15 days in 2016 and 38 days in 2015). The majority of birds were on the edge of Dolls Meadow and Brook Meadow. Two were seen prospecting the top of the dead Alder near the Boathouse on 21st May. Three were seen on nine dates in Jun. Five were seen on the 12th and 13th Sep. The last record of the year was two seen on 7th Nov.

It is thought that the birds visiting Rostherne might be related to sightings in Tatton Park over recent years. Two adults with eight flying young were reported in Aug 2014. A pair were seen throughout 2015 and a nest with nine eggs was noted there in Apr, the first record of nesting in Cheshire and Wirral. Unfortunately, the nest was predated but the pair must have successfully nested elsewhere as four recently fledged young were seen in Aug. A pair were also seen throughout the year in 2016 and four young noted in Apr. However, it is not thought that the goslings survived but later in the year 15 were recorded in Sep and 12 in Oct suggesting that breeding was successful elsewhere locally.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	0/17	5/20	1/22	1/22	7/23	11/23	2/22	0/20	3/16	1/18	1/24	0/17
Max nos		1	1	1	2	3	3		5	1	2	

Shelduck (*Tadorna tadorna*)

Irregular visitor

There were three records in 2018 (four records in 2017, 10 in 2016 and four in 2015). Two were seen on 25th Mar, one on 11th Apr and four on 21st Aug.

Mandarin Duck (*Aix galericulata*)

Irregular visitor, origin unknown, bred in 2018

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	2/17	4/20	10/22	18/22	10/23	11/23	9/22	7/20	4/16	9/18	1/24	3/17
Max nos	4	4	10	8	9	6	9	3	8	10	1	5

Mandarin was only recorded on 88 days or 36% of recording days in 2018 (110 days or 45% in 2017, 123 days or 50% in 2016 and 94 days or 38% in 2015). In addition, maxima were the lowest since 2005, with 10 recorded on 24th Mar and 22nd Oct the only double figure counts. There were only six sightings in Jan and Feb, with four seen on 10th Jan and 23rd Feb. However, breeding was proved when a fem sitting on seven eggs was disturbed during a routine inspection of the Barn Owl box in Brook Meadow on 13th May. A fem with four ducklings was seen on 6th and 10th Jun. There were only four records in Nov and Dec with five (three m, two f) on 28th Dec.

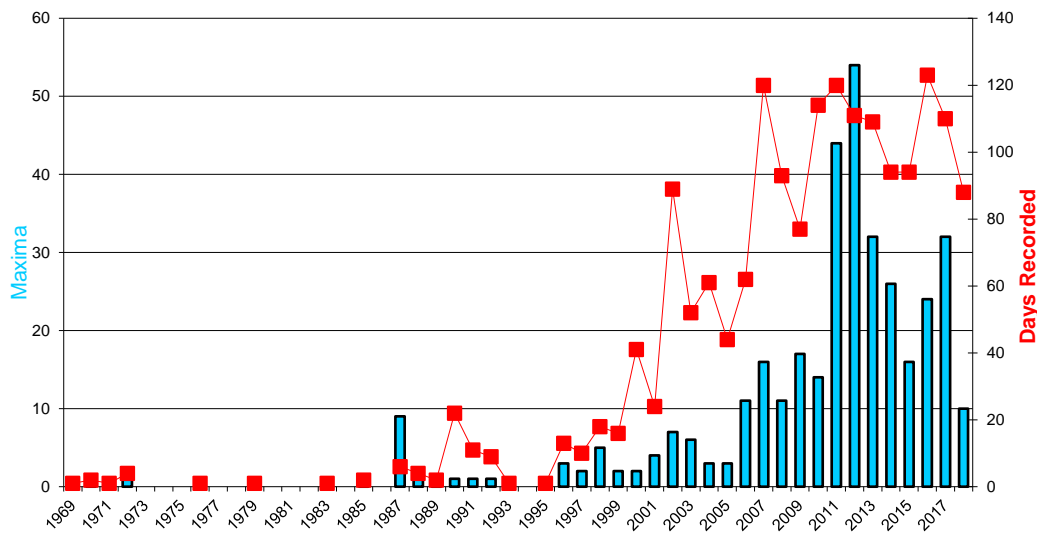


Figure 3 Annual maximum counts of Mandarin Duck 1969 to 2018.

Shoveler (*Anas clypeata*)

Autumn & winter visitor, has bred

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	6		1	6			1	2		25	100	16
	1	12	5	4				5	17	80	70	2
	3	1	16					3	16	195	20	4
		5	6			1	1	2		130	11	4

The numbers of Shoveler recovered in 2018 after last year's decline. However, the year started slowly with the Jan max of 6 the lowest since 2000 (3). In contrast, 16 on 18th Mar was the highest for the month since 1997 (17). The last record of the 2017/18 winter was 3 (2 m, one f) on 16th Apr. A single was seen on four dates in Jun and Jul. Numbers started to build from Sep peaking at 195 on 21st Oct, above the threshold of national importance (180) and the highest for the month since 1999 (278). Numbers fell through Nov with the last double figure count of 16 on 6th Dec.

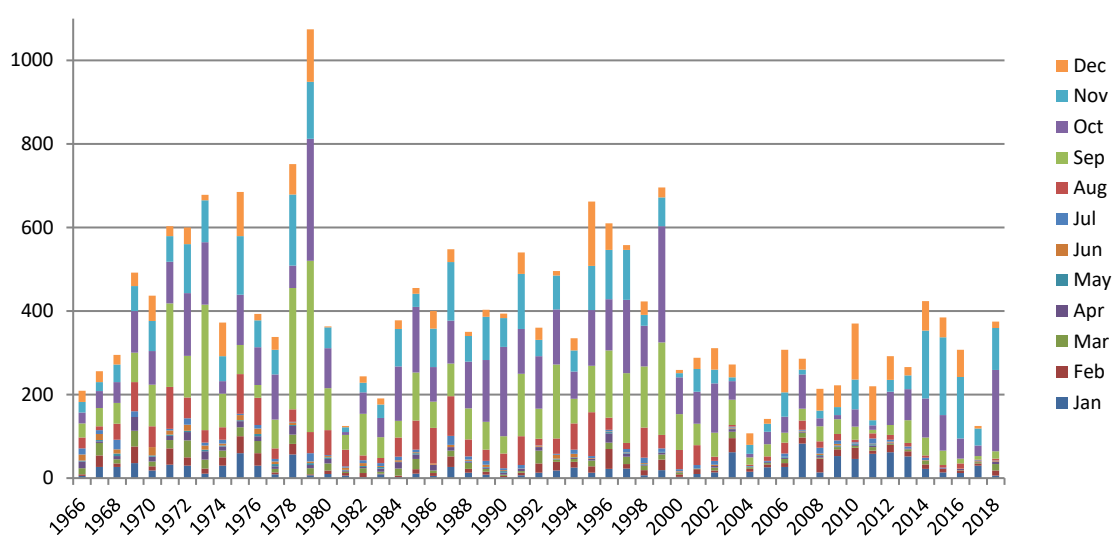


Figure 4 Annual totals of Shoveler based on monthly maxima 1966-2018.

Gadwall (*Anas strepera*)

Summer, autumn & winter visitor, otherwise irregular, bred 2006, 2007

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	1/17	2/20	2/22	3/22	1/23	0/23	0/22	2/20	2/16	4/18	1/24	1/17
Monthly max	2	4	2	2	2			1	2	6	2	4

Gadwall were recorded on only 19 days or 8% of total recording days (30 days or 12% in 2017, 30 days or 12% in 2016 and 25 days or 10% in 2015). Numbers remain at a very low ebb, the last double-figure count was in Oct 2013. The maximum number of birds in the first winter period was only four on 23rd Feb. A m and f were recorded on 8th Apr and 1st May. A single was seen on 5th and 21st Aug. The maximum for the year was six on 9th Oct. Two males were logged on 17th Nov and three m and a f on 23rd Dec.

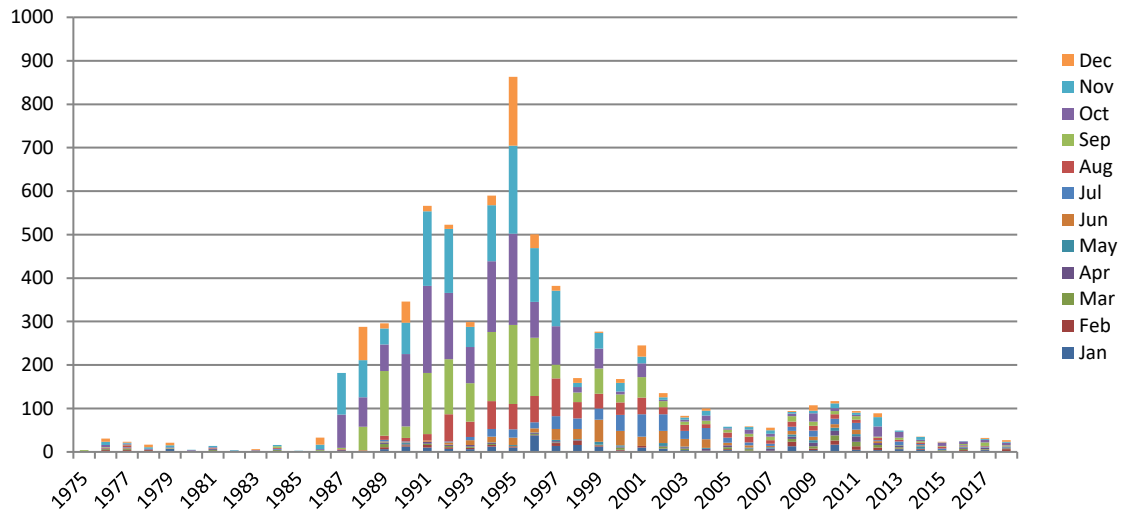


Figure 5 Annual totals of Gadwall based on monthly maxima 1975-2018.

Wigeon (*Anas penelope*)

Winter visitor, passage migrant

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
200	140	126		1				2	3	7	20
56	112	60	5					2		15	41
105	68	67						1	10	20	38
99	100	9	1						8	26	42

Monthly maxima of Wigeon followed a similar pattern to 2017 and were the lowest since 2012. The highest count for the year was 200 recorded on 3rd Jan. This was the max of the 17/18 winter which compares with the max in the 16/17 winter of 220, also in Jan. There were seven three figure counts in 2018, all occurring in the first winter period, including 140 on 1st Feb and 126 on 5th Mar. The last record in the first half of the year was one seen on 1st May. The first wintering birds returned in Sep when two were recorded on 2nd. Numbers slowly built up through the autumn and into the winter, but they peaked at only 42 on 27th Dec, the lowest Dec count since 2011 (34).

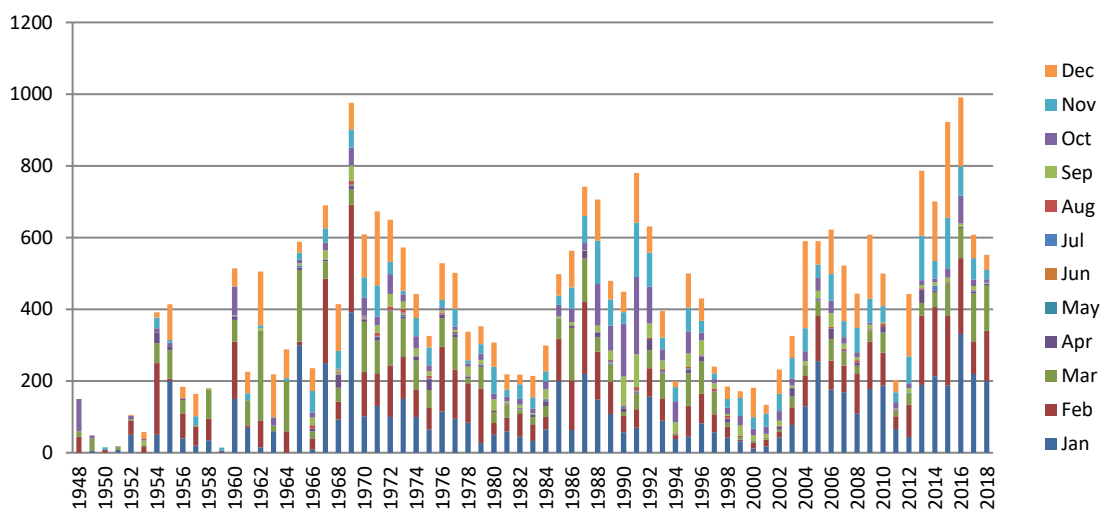


Figure 6 Annual totals of Wigeon based on monthly maxima 1948-2018.

Mallard (*Anas platyrhynchos*)

Resident, small breeding population

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
50	20	1	10	8	47	36	94	22	30	72	100
30	16	8	9	15	1	187	71	44	112	97	120
35	28	12	1	20	68	70	60	52	40	60	80
42	12	1	6	56	147	1	30	5	1	62	48

Mallard numbers remained at a low level. The maximum in the first winter period was only 50 on 7th Jan, the lowest Jan count on record. The max Feb count of 28 was also the lowest for the month while the Apr max of 10 equals the lowest ever recorded (2015). A f with five ducklings was seen on 30th April and 1st May. Three broods were logged on 20th May with five small ducklings, three medium sized young and four large young. A f with six small ducklings was seen on 15th Jul suggesting an extra brood. The Jun count of 147 on 30th was the highest for the month since 2009 (179), while the Jul count of 187 was the highest count for the year. The maximum in the second winter period was 120 on 9th Dec.

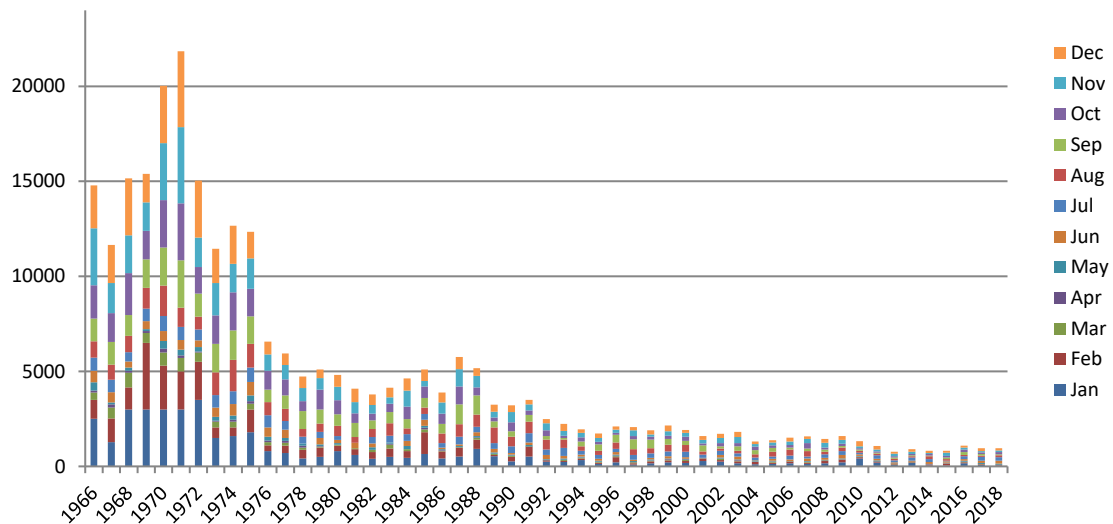


Figure 7 Annual totals of Mallard based on monthly maxima 1966-2018.

Pintail (*Anas acuta*)

Scarce, irregular winter visitor

There was one record when a m and f were seen on 25th Jan. The first since Dec 2016.

Teal (*Anas crecca*)

Winter visitor, otherwise small numbers at any time

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
206	114	17	16				1		1	8	5
100	46	12	32			1	3	6	10	24	60
88	104	46	12					1	16	61	20
107	49	10					3	1	5	2	160

Numbers for the calendar year 2018 were the lowest on record, shown in Figure 8. The maximum number of Teal recorded in the first winter period was 206 on 7th Jan (334 in 2017 and 333 in 2016). Numbers fell through the spring with the last record of 12 on 16th Apr. There was one seen on 8th, 12th and 14th Jul. Numbers built

slowly in the autumn and through the second winter period, but there was only one three figure count with 160 recorded on 22nd Dec.

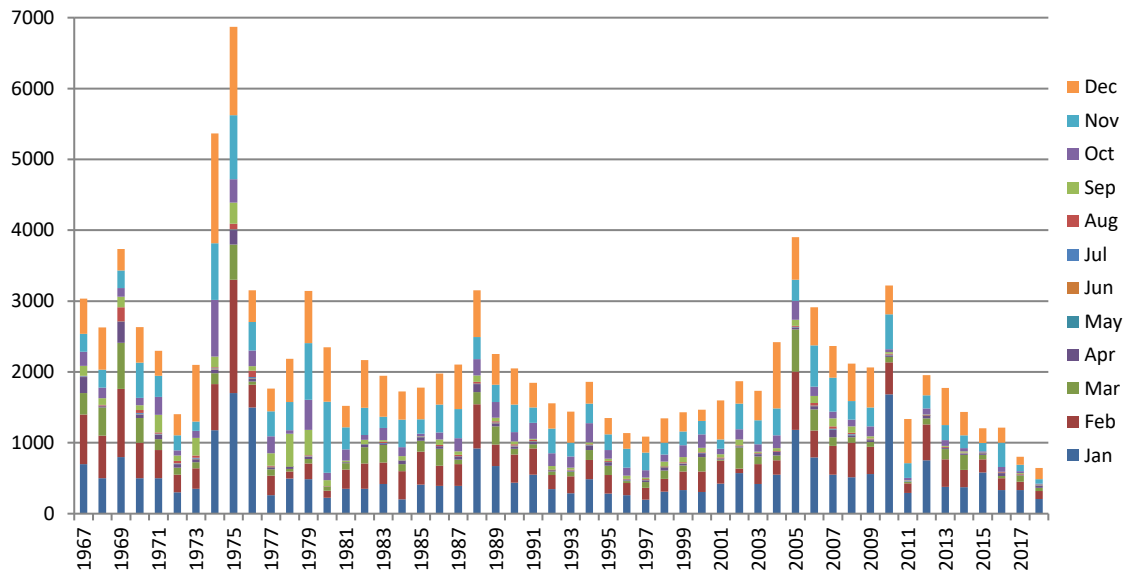


Figure 8 Annual totals of Teal based on monthly maxima 1967-2018.

Pochard (*Aythya ferina*)

Autumn & winter visitor, small numbers summer

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1			1							21	50
1							1		2	30	25
		1					1		8	53	16
6					7				2	48	4

The highest counts since 2011 were recorded as a result of an influx of birds visiting the Mere in Nov and Dec. The highest count in the first winter period was six on 26th Jan. Seven males were logged on 29th Jun, the highest Jun count since 2008 (7). A single was recorded on 14th and 20th Aug. Numbers started to build through Nov peaking at 53 on 24th. A break-down of the sex ratio indicated that within a count of 30 recorded on 14th Nov there were 25 m and five f. Fifty birds were recorded on 3rd Dec before numbers started to decrease with just two by 30th Dec.

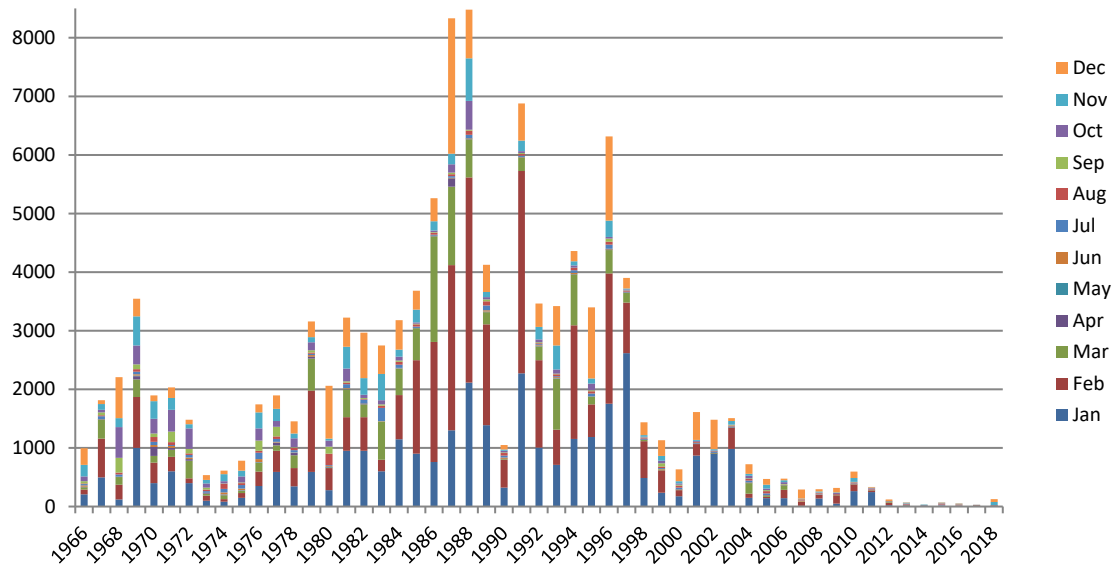


Figure 9 Annual totals of Pochard based on monthly maxima 1966-2018.

Tufted Duck (*Aythya fuligula*)

Irregularly breeding resident; post-breeding, autumn & winter visitor

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
20	1	1	8	7		52	132	40	29	46	34
18		16	2	2	4	80	184	48	28	50	38
4	1	15	1	2	9	142	152	40	32	38	30
2	10	1	6		28	106	70		19	45	22

There have been similar annual totals of monthly maxima of Tufted Duck since 2014. The highest count in the first winter period was only 20 recorded on 8th Jan, the lowest Jan count since 1965! (7). As in most years, there was a notable post-breeding build-up peaking at 184 on 14th Aug. The largest such gathering since Aug 2014, also 184, and the largest annual max since 184 in 2014. Birds began to disperse in late Aug. The highest count in the second winter period was 50 on 11th Nov.

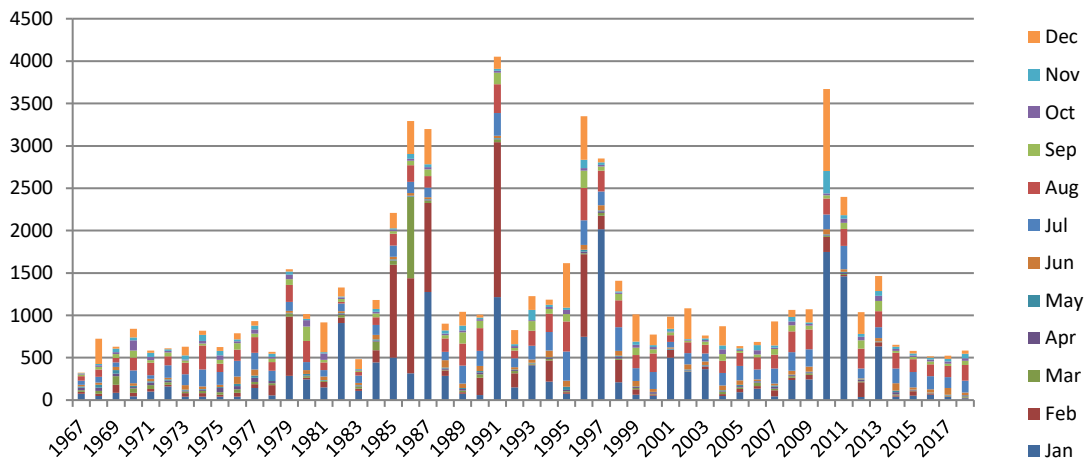


Figure 10 Annual totals of Tufted Duck based on monthly maxima 1967-2018.

Common Scoter (*Melanitta nigra*)

Uncommon passage migrant; rare in winter

One was seen on 25th Mar and two on 4th Apr. These were the first records since eight were seen in Jun 2016.

Goldeneye (*Bucephala clangula*)

Passage migrant & winter visitor, occasional in summer

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	9	12	12							9	6
10	10	15	9							8	7
9	7	13	1							10	6
7	10	12	2						12	10	12

Similar monthly maxima to last year. The highest count in the first winter period was 15 (six m, nine f) on 10th Mar and the last record was two seen on 25th Apr. The first returning birds were seen on 28th Oct when 10 (three m, seven f) were logged. The sum of the monthly max Oct-Dec was bettered this century only in 2012 and 2013. However, the Nov maximum of 10 recorded on 20th and 28th Nov was the lowest for the month since 2009. The highest count was 12 (four m, eight f) on 27th Dec.

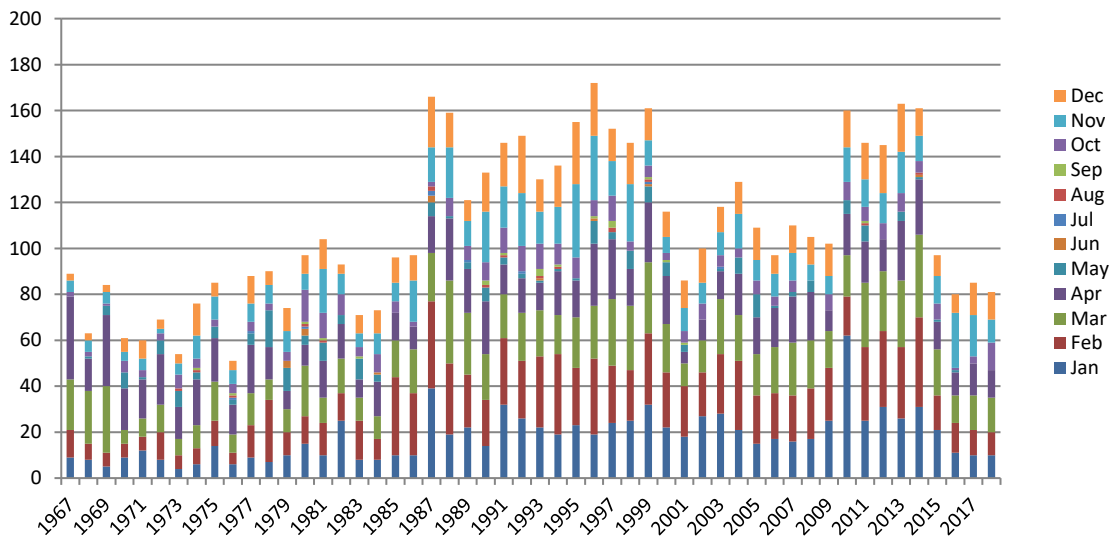


Figure 11 Annual totals of Goldeneye Duck based on monthly maxima 1967-2018.

Goosander (*Mergus merganser*)

Irregular passage migrant & winter visitor

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2	7	4	1	1						7	13
6	6	4	2				1	2		8	12
6	3	3					1	1	1	12	13
3	2	1							4	7	9

Goosander was reported on 82 days or 34% of total recording days which represented a very good showing compared to recent years (47 days or 19% in 2017, 68 days or 28% in 2016 and 60 days or 24% in 2015). Birds appeared to fly into roost overnight on the Mere during Nov and Dec.

The species was recorded on 35 days from Jan to Mar. Six birds (three m and three f) were seen on 10th, 19th Jan and 9th Feb. Seven (three m and four f) were on 5th Feb. Sightings and numbers decreased through Mar and

Apr with a f seen on 7th May the last record until a f was seen on 12th Aug. There were sporadic records in Sep and Oct before a series of daily records throughout Nov and Dec. Double figure counts include 11 on 17th and 12 on 19th Nov. Twelve (four m, eight f) on 4th, 13 (seven m, six f) on 6th, 12 on 12th and 13 on 22nd Dec. The majority of these counts were at dusk from the Bittern Hide as birds flew into roost. They are the highest counts since Mar 2013 (15).



Goosanders. Photo Steve Collins.

Pheasant (*Phasianus colchicus*)

Breeding resident supported by local releases

Pheasants are often seen on the Reserve throughout the year and there are regular releases by Tatton Estate onto land surrounding the site. In 2018, the species was recorded on 167 days or 68% of total recording days (186 days or 77% in 2017, 175 days or 71% in 2016 and 152 days or 62% in 2015). A White Pheasant was seen on 7th Mar. Double figure counts included 12 on 24th Mar, 10 on 1st Apr, 12 on 8th Apr, 14 on 25th Apr, 15 on 17th Sep and 20 on 24th Sep.

Little Grebe (*Tachybaptus ruficollis*)

Regular visitor at all times, irregular breeder

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	2/17	6/20	2/22	1/22	1/23	1/23	1/22	2/20	7/16	5/18	9/24	2/17
Max nos	1	2	3	1	1	1	2	3	3	2	2	3

It was the best showing since 2010 and the first year since 2009 with records in every month. Little Grebe was recorded on 39 days or 16% of total recording days (10 days or 4% in 2017, 19 days or 8% in 2016 and 20 days or 8% in 2015). Three were recorded on 11th and 18th Mar. There were only four records from Apr to Jul, one record in each month, there were no reports of trilling. An adult and a juvenile were recorded on 12th Aug but the juvenile was large enough not to have been bred on site. Three were seen on three more dates: 30th Aug, 23rd Sep and 9th Dec.

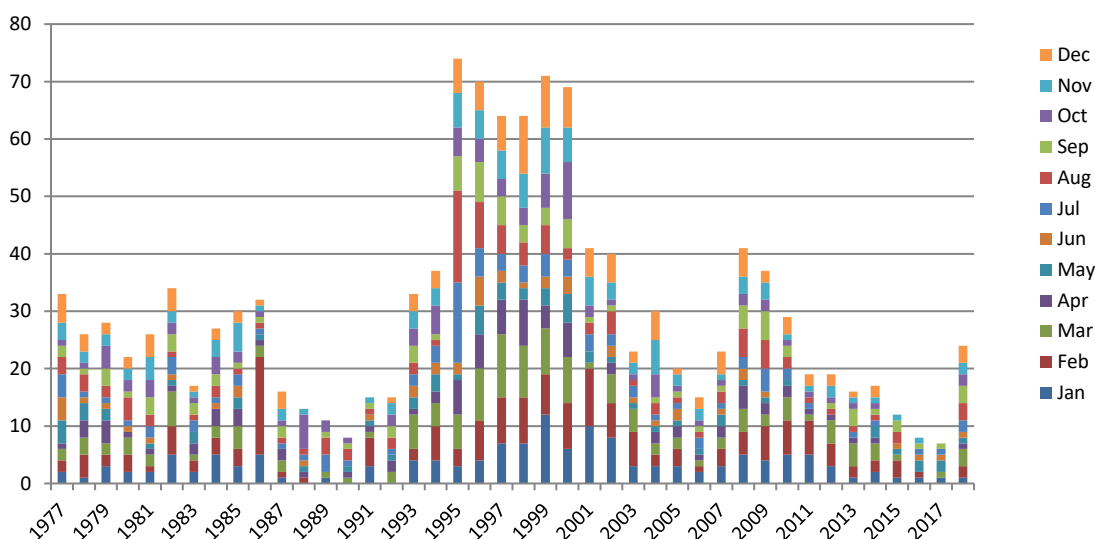


Figure 12 Annual totals of Little Grebe based on monthly maxima 1977 to 2018.

Great Crested Grebe (*Podiceps cristatus*)

Breeding resident

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	7	14	14	12	12	35	46	17	11	47	25
11	11	21	6	14	17	33	48	18	11	50	26
6	21	18		14	22	59	46	19	25	78	13
8	6	14	12	13	31	53	29		25	49	15

It was a good year for Great Crested Grebe with the highest annual total of monthly maxima counts posted since 2009. The highest count in the first winter period was 21 on 23rd Feb. Twenty-one were also recorded on 10th Mar. Display was recorded on 11 dates from 5th Mar to 28th May. However, no nest building was observed. Numbers dipped during Apr and May before increasing through Jun to Aug with 59 on 19th Jul, which represents the highest count for the month since 2009. A juvenile capable of flight was seen on 6th Aug and it is doubtful whether this bird was bred at Rostherne. The Sep peak was only 19 on 24th and numbers didn't rise above 25 until Nov. High numbers of grebes visited the Mere during Nov with 78 on 23rd Nov the highest ever count recorded for the month and the highest for any month since Aug 2013 (83). Numbers fell gradually from late Nov to Dec, with 15 the last count of the year on 28th Dec.

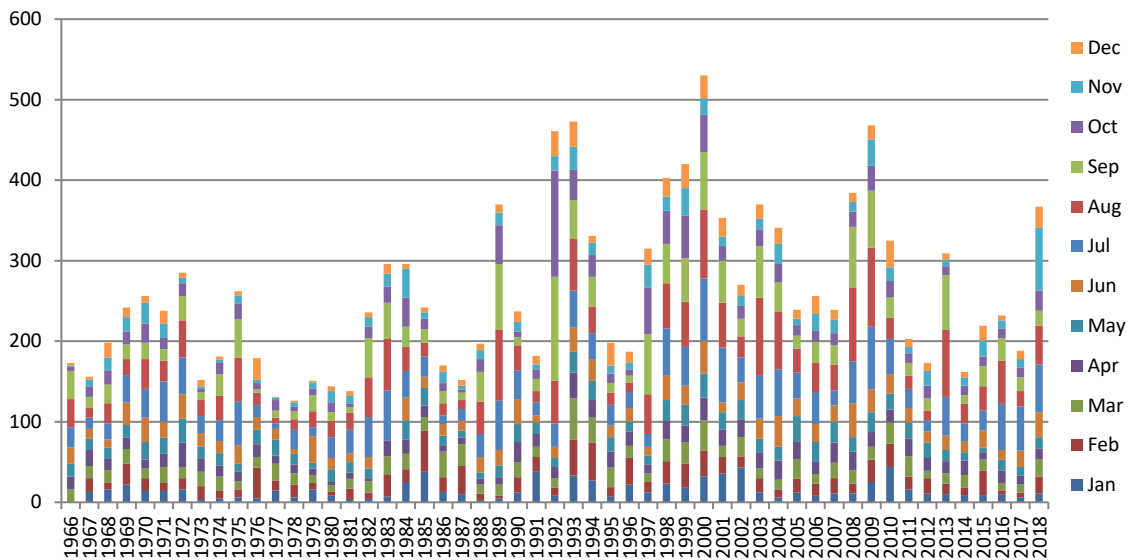


Figure 13 Annual totals of Great Crested Grebe based on monthly maxima 1966 to 2018.

Black-necked Grebe (*Podiceps nigricollis*)

Uncommon visitor, has bred

There were only two records in 2018. Two were seen on 3rd and 4th Apr.

The appearance of birds at Rostherne is thought to be related to the near proximity of the breeding colony at Woolston Eyes.

Bittern (*Botaurus stellaris*)

Uncommon visitor

It was a very poor year for Bittern sightings and the species was only seen on a single day when a bird flew from the reed bed near the Bittern Hide on 14th Dec. This represents a marked contrast to the frequency of sightings last year (13 days in 2017, six days in 2016 and one day in 2015).

Grey Heron (*Ardea cinerea*)

Regular visitor at all times

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	12/17	3/20	11/22	4/22	9/23	18/23	18/22	14/20	12/16	9/18	19/24	15/17
Max nos	3	1	3	1	2	8	6	4	2	3	4	3

Grey Heron was recorded on 144 days or 59% of total recording days (164 days or 68% in 2017, 188 days or 76% in 2016 and 163 days or 66% in 2015). Numbers ranged from one to four in the winter periods, with four recorded on 26th Nov. Higher counts outside this period included eight on 27th Jun and six on 12th Jul. Four were also logged on 5th Jul and 14th Aug.

Great White Egret (*Ardea alba*)

Very rare vagrant

There were two records of an individual perched along the shoreline of Harpers Bank Wood on 12th Dec and again on 18th Dec. These represent the fifth and sixth records for the Reserve. The species has been previously recorded in Feb 2008, Apr 2014, Sep 2016 and Sep 2017.

Little Egret (*Egretta garzetta*)

Rare vagrant

There were four records in 2018 (eight in 2017, three in 2016 and two in 2015). One was seen perched on the Mere Covert shoreline on 19th Sep. Singles were also seen on 17th Nov and 27th and 30th Dec, all perched along the Harpers Bank shoreline.

Cormorant (*Phalacrocorax carbo*)

Winter visitor and increasing breeding resident since 2004

Maximum counts:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	62	149*	180	287	282	237	150	108	26	130*	150*

*evening roost count

The total of annual monthly maxima increased above the 2016 and 2017 levels. However, only three of the counts were roost counts at dusk. It is therefore difficult to ascertain the accurate number of birds using the site as an evening roost throughout the year. The highest count for the year was 287 on 16th May.

Breeding started on 1st Feb. Seventy-nine nests were counted by 30th Mar. The number of nests peaked at 172 by 16th May, which set a new record for the Reserve. The figure below shows the increase in nest building from 2005 to 2011 and then a subsequent levelling off at around 160 nests. Interestingly, while the May count of 287 included many young birds it does not reflect the number of adults plus young (fledged or unfledged) likely to be present as many nests contained of three young and several four per nest! Numbers decreased after this period with only 26 seen on 29th Oct. The highest counts in the second winter period were 130 on 23rd Nov and 150 on 4th and 27th Dec.

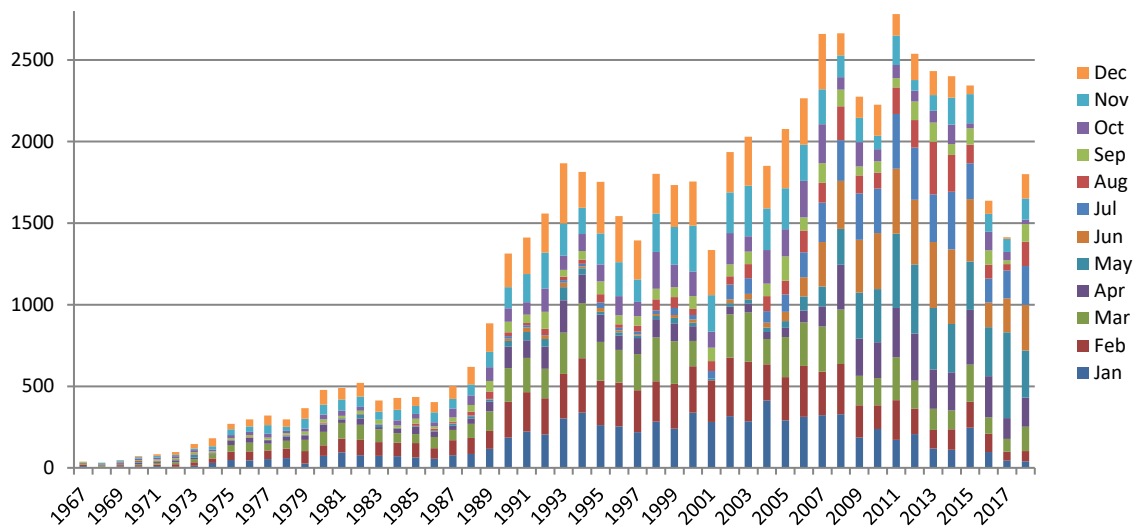


Figure 14 Annual totals of Cormorants based on monthly maxima 1967-2018.

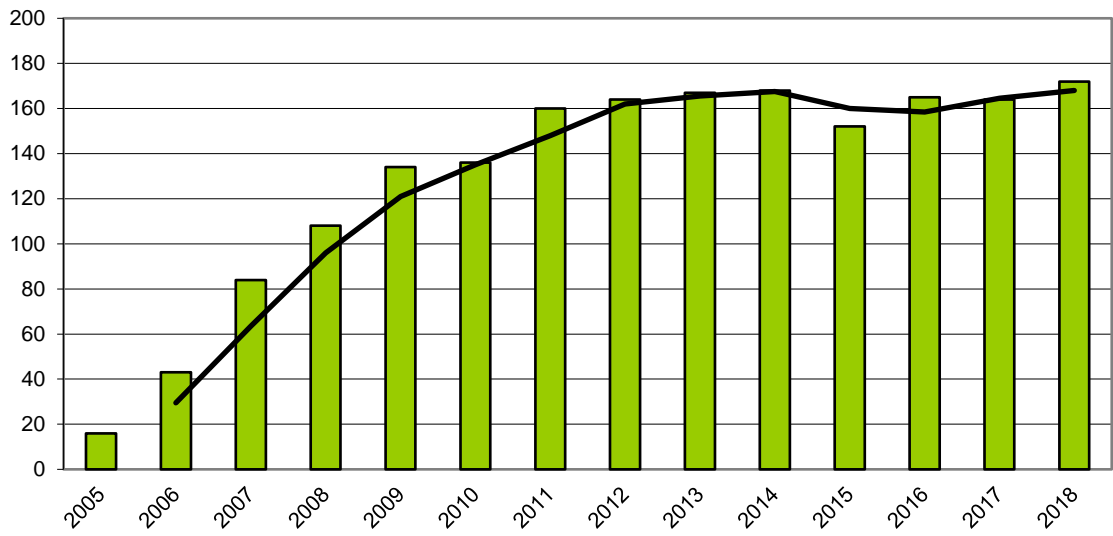


Figure 15 Numbers of Nests at Rostherne Mere 2005 to 2018. The trend line represents a moving average.



The Cormorant roost from the Stock Pond reed bed. Photo Malcolm Calvert.

Sparrowhawk (*Accipiter nisus*)

Breeding resident

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	7/17	6/20	6/22	5/22	3/23	1/23	1/22	4/20	4/16	3/18	5/24	12/17
Max nos	2	2	1	1	1	1	1	1	1	1	2	4

The species was recorded on 57 days or 23% of total recording days (42 days or 17% in 2017, 41 days or 20% in 2016 and 71 days or 29% days in 2015).

The majority of records were of single birds but two were seen on 10th Jan, 11th (displaying) and 12th Feb and 17th Nov. A juvenile was logged on 21st Aug. There was a good series of sightings from the Bittern Hide of birds hunting Starlings as they roosted in Dec. Two were seen on 3rd, 10th (hunting Long-tailed Tits) 12th and 22nd. Three were seen on 4th and four on 14th Dec.

Buzzard (*Buteo buteo*)

Breeding resident

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	15/17	12/20	18/22	21/22	17/23	21/23	19/22	14/20	12/16	12/18	13/24	11/17
Max nos	3	4	6	9	4	4	3	3	7	8	5	2

The species was recorded on 151 days or 62% of total recording days which represents the lowest recording rate for several years (176 days or 73% in 2017, 207 days or 84% in 2016 and 216 days or 88% in 2015).

The total of monthly maxima was higher than in 2016 and 2017 although no double figure counts were recorded. The highest count was nine birds seen circling over the Mere on 20th Apr. Eight were logged on 7th Oct and seven on 23rd Sep. In comparison, the highest count in 2017 was only six.

A pair built a nest in a Scot's Pine in Mere Covert, but the breeding attempt proved unsuccessful as it did last year, after a run of five successful years in which birds bred in the same tree. Subsequently, there were few reports of juvenile birds in the autumn with one on 12th Sep the only record.

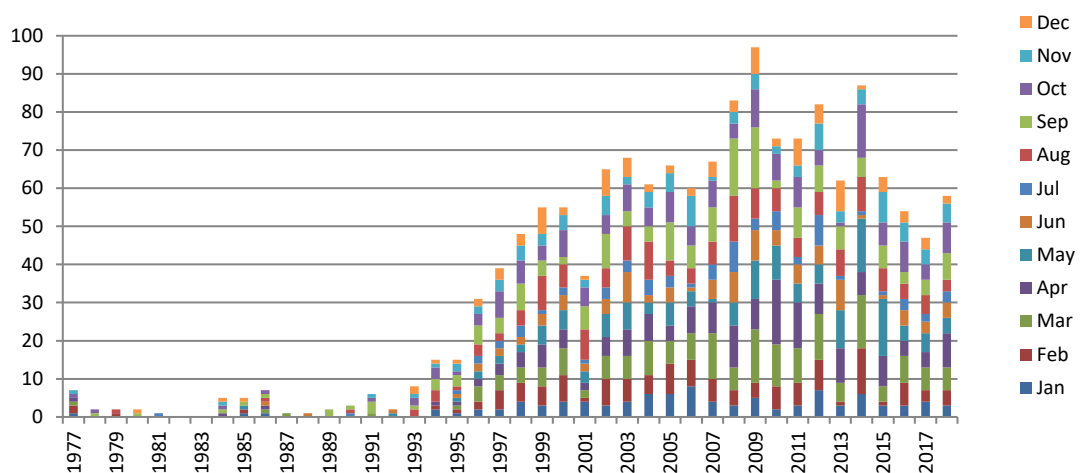


Figure 15 Annual totals of Buzzard based on monthly maxima 1977 to 2018.

Water Rail (*Rallus aquaticus*)

Passage migrant & winter visitor, has bred

The number of days in each month on which birds were seen or heard was as follows (ticks on the tick list have been taken as referring to single birds – this method can seriously distort the apparent number of records of single birds):

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	6/17	5/20	13/22	5/22	1/23	0/23	0/22	0/20	1/16	10/18	16/24	11/17
1 bird	4	1	9	4	1				1	7	10	3
2 birds		1	3	1						2	4	7
3 birds	2	3	1							1	2	1

Water Rail was recorded on 68 days or 28% of total recording days (57 days or 24% in 2017, 42 days or 17% in 2016 and 56 days or 23% in 2015).

The reed beds around Shaw Green Willows remain the most popular area to hear ‘sharming’ Water Rails, with the Bittern Hide providing an ideal site to hear birds calling from several separate locations. Three were heard on 10th, 24th Jan, 9th, 16th, 18th Feb, 24th Mar, 18th Oct, 17th, 28th Nov and 16th Dec. A single was heard calling from the Snipe Marsh on 1st May, the last record of the first half of the year. The next record was a single heard on 17th Sep. Singles were heard calling from below the Observatory near the Boathouse on 17th, 21st and 28th Oct.

Moorhen (*Gallinula chloropus*)

Breeding resident

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	2/17	2/20	6/22	5/22	0/23	0/23	8/22	11/20	6/16	11/18	15/24	7/17
Max nos	2	2	2	1			2	2	2	3	2	3

Moorhen was recorded on 73 days or 30% of total recording days which was a slight improvement on last year (63 days or 26% in 2017, 117 days or 48% in 2016 and 89 days or 36% in 2015). The highest count in the first half of the year was two, recorded on 10th Jan, 11th Feb and 11th Mar. An adult and one juvenile were recorded on 25th Jul. It is unknown whether the juvenile was bred on Reserve. Two birds were seen on 16 dates from Jul onwards. Three were recorded on 14th Oct, 16th and 27th Dec. Moorhens are unobtrusive and most probably under recorded at Rostherne as they are not prone to swimming about openly on the Mere. I would therefore ask readers to keep a keen eye out for birds on Dolls and Brook meadows and the damp fields around Shaw Green Willows.

Coot (*Fulica atra*)

Breeding resident

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	10	24	1	12	4		11	24	56	50	8	14
	24	20	14	3	5		20	70	87	28	12	27
	20	16	18		5	14	18	35	100	20	18	35
	18	18	9	4	5	5	14	68		1	15	20

The total of monthly maxima was slightly higher than last year. The highest count in the first winter period was 24 on 10th Jan and 1st Feb. A pair were seen sitting on a nest near the Bittern Hide on 25th Apr and 1st May. A juvenile was seen near the Bittern Hide on 12th, 15th and 19th Jul and was assumed to be from the nest. Post-breeding counts were higher than in recent years with 70 on 12th Aug, 87 on 12th and 100 on 24th Sep. These were the best Aug/Sep counts since 2008. The latter three figure count was the highest for Sep since 1986 (115). Numbers dropped away in the following weeks, with 50 recorded on 4th Oct. Weekly maximums ranged from 1 to 18 from the end of Oct to early Dec. There was a slight increase in Dec with 35 recorded on 18th.

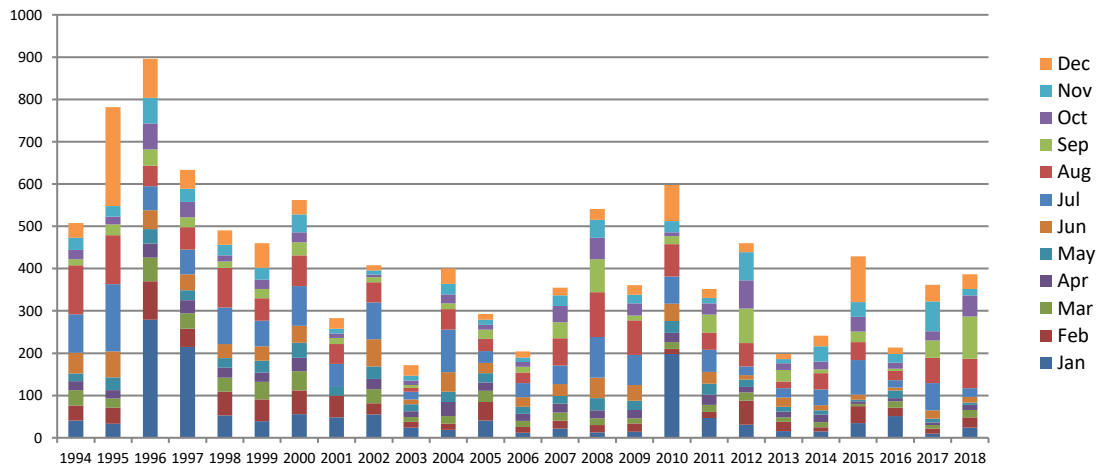


Figure 16 Annual totals of Coot based on monthly maxima 1994-2018.

Oystercatcher (*Haematopus ostralegus*)

Passage migrant & summer visitor, has bred locally

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1 bird				3	2	3	3	1				
2 birds			2		1		2					

Oystercatcher was again recorded on 17 days or 7% of total recording days in 2018 matching the recorded rate from the last two years (17 days or 7% in 2017, 16 days or 7% in 2016 and 5 days or 2% in 2015). However, numbers were low with no more than two birds recorded. The first record was of two seen perched on the rail in front of the Bittern Hide on 18th Mar. The majority of records were of birds flying around the Reserve, but they could have been disturbed from the mouth of Rostherne Brook where they may have been obscured from view. A single was seen in Dolls Meadow on 9th Jul and one on the Sandbar on 15th. The last record of the year was of one flying in the vicinity of Brook Meadow on 4th Aug.

Lapwing (*Vanellus vanellus*)

Declining resident

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	1/17	5/20	5/22	2/22	3/23	2/23	11/22	6/20	4/16	5/18	7/24	9/17
Max nos	1	120	36	2	1	1	13	105	84	75	c200	c2000

Lapwing was recorded on 60 days or 25% of total recording days (46 days or 19% in 2017, 55 days or 22% in 2016 and 53 days or 22% in 2015). The majority of winter sightings refer to flocks flying up from farmland west of the A556 and north of Gale Bog. Interestingly, there was only one record in Jan with a tick-list only entry on 24th. The next sighting was of 120 on 1st Feb. One was seen displaying near the NE Workshop on 7th Mar and two displaying over Mere Field and Mere Meadow on 8th and 25th Apr respectively. However, there was no evidence of successful breeding. Singles were seen displaying over Mere Field on 1st and 7th May. There were 11 records in Jul with mainly singles seen on the sandbar. Thirteen were flying over on 25th Jul. Maxima flying over in Aug, Sep and Oct were 105, 84 and 75 respectively. Numbers rising from fields west of the A556 increased in Oct with c200 seen on 24th and 26th Nov. They were even higher in Dec with c1000 on 19th, 28th and 30th, around 2000 were recorded on 24th and 27th Dec. These represent the highest counts recorded from the Observatory. However, Barber, Bellamy and Wall (2019) stated that ‘comparison with earlier periods is problematic as recording has not been systematic and consistent.’ It is not thought that the high counts during late Dec were weather related, as the large flocks were seen over several days and they were observed intermittently rising and descending from the local environs.

Barber S, Bellamy, B and Wall, T (2019) Rostherne Mere, Birds of mere and margin. One hundred and thirty years of observations, Tom Wall, walltom@hotmail.co.uk.

Ringed Plover (*Charadrius hiaticula*)

Rare passage migrant; Feb, May-Aug

Two were seen on the sandbar on 27th Jun. This record is the first since Aug 2006 and only the second involving more than one bird, matching the first ever account of two in Feb 1936!

Curlew (*Numenius arquata*)

Passage migrant, summer & winter visitor, has bred

Curlew was recorded on only six days or 3% of total recording days (9 days or 4% in 2017, 12 days or 5% in 2016 and 9 days or 4% in 2015). This represents the poorest showing since at least 1970. All of the records referred to birds either flying over the Reserve or were tick-list only entries. The last sighting of a bird on the Reserve was of a single seen near Rostherne Brook in Apr 2014. Breeding has not been confirmed on the Reserve since 1992, with 2004 the last year in which display was reported over the site, or close to its boundaries.

All records are listed below:

16 th Apr	1 flying over Mere Field.
17 th Apr	2 flying over.
18 th Apr	1 flying over.
29 th Apr	tick-list only.
18 th Jul	1 flying over.
24 th Jul	1 flying over.

Dunlin (*Calidris alpina*)

Uncommon passage migrant, summer & winter visitor

One was seen on the sandbar on 5th Mar. There was a probable sighting of two birds flying over in Dec 2012 and then one flying over in Dec 2010. This is the first record on the Reserve since Jul 2002!

Woodcock (*Scolopax rusticola*)

Winter visitor, former breeding resident

It was a good year for Woodcock records with 10 in total. In comparison, there was only a single record in 2017, four in 2016 and two in 2015.

All records are listed below:

28 th Jan	1 flew over the Cricket Pitch at 17:15.
7 th Mar	1 flushed from Rostherne Brook.
8 th Mar	1 no location details.
10 th Mar	1 flushed from Shaw Green Willows.
21 st Mar	1 flushed from Shaw Green Willows.
27 th Mar	1 flushed from Shaw Green Willows.
28 th Mar	tick-list only entry.
19 th Nov	1 no location details.
24 th Nov	1 no location details.
3 rd Dec	1 flushed from Wood Bongs.

Snipe (*Gallinago gallinago*)

Winter visitor, former breeding resident

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	1/17	2/20	5/22	2/22	1/23	0/23	0/22	0/20	2/16	1/18	1/24	0/17
Monthly max	4	2	2	1	1				1	1	1	

Snipe was recorded on only 15 days or 6% of total recording days (18 days or 7% in 2017, 23 days or 9% in 2016 and 29 days or 12% in 2015). Four birds were flushed from the foot of Long Pasture on 10th Jan, the highest count for the year, which is the lowest max since 2011 when it was also four. 2018 had the lowest total of monthly maximums since 2002 (11). Two were flushed from this area on 9th, 28th Feb and 24th and 28th Mar. All of the remaining records were of single birds, with only one of them from the Snipe Marsh on 8th Apr. It is possible that the paucity of records may reflect fewer visits to the Snipe Marsh. Furthermore, dense vegetation on the marsh has made access more difficult, which may have resulted in fewer birds being flushed from this area.

Common Sandpiper (*Actitis hypoleucos*)

Passage migrant & summer visitor, has bred

There was only one record in 2018, (four records in 2017, nine in 2016 and four in 2015). A single was seen near the sandbar on 22nd Apr. This represents the worst showing since 1967 and probably the worst ever! It is becoming evident that this once annual breeding bird has almost disappeared from Rostherne even as a passage migrant.

Green Sandpiper (*Tringa ochropus*)

Uncommon visitor

There were 12 records of Green Sandpiper in 2018 (11 in 2017, 21 in 2016 and four in 2015). All of the records were from the mouth of Rostherne Brook and sandbar area. Singles were seen on 18th, 23rd Feb, 24th Mar, 1st Apr, 1st May, 19th Jul, 6th and 14th Aug. Two were seen on 9th Sep. Singles were also recorded on 21st, 23rd Nov and 6th Dec.

Black-headed Gull (*Chroicocephalus ridibundus*)

Regular visitor at all times

The majority of counts were made during the gathering of gulls for the evening roost. There were 10 roost counts in total but only two were made from Jan to Feb with eight from Sep to Dec.

The Gull Roost table below lists the counts. Numbers were similar on the Jan and Feb counts with c1800 on 10th Jan and c2000 on 24th Feb. There were c600 seen in the Sep count on the 25th before numbers began to rise through Oct and Nov with c1500 on 7th Nov, peaking at c3000 on 15th and 23rd Nov. The three Dec counts demonstrated a degree of variability with a range c1200 to c3000.

A leucistic gull was seen in the roost on 9th Jan, 23rd, 24th Feb and 15th Oct.

Little Gull (*Hydrocoloeus minutus*)

Regular visitor at all times

A single adult visited the Mere on 22nd Apr, the most popular month for adult sightings. However, this is the first record since Apr 2011.

Common Gull (*Larus canus*)

Passage migrant & winter visitor

Common Gull was recorded on 29 days or 12% of total recording days matching last year's rate (43 days or 17% in 2016 and 27 days or 11% in 2015). Numbers were slightly higher than in 2017. The highest count was 50, seen in the roost on 10th Jan. Twenty-one seen during the day on 18th Mar was the only other double figure count. The only summer record was of two on 12th Jul. There were 16 records from Oct to Dec with three seen in the roost on 9th Oct and eight during the day on 6th Dec. The remainder of records were either of singles or tick-list only entries.

Great Black-backed Gull (*Larus marinus*)

Winter visitor

There were only eight records in 2018 (17 records in 2017, 19 records in 2016 and 23 records in 2015). Roost counts included four on 9th Oct, a single on 23rd Nov and two on 16th Dec. Two were also seen during the day on 19th Sep.

Herring Gull (*Larus argentatus*)

Winter visitor

There were 39 records representing a similar showing to last year (32 in 2017, 17 in 2016 and 12 in 2015). Seventy were seen in the roost on 10th Jan. This was the highest count of the year by some margin and the highest since Dec 2001 (97). Sixteen were in the roost on 9th Oct and five during the day on 6th Dec. Three visited the Mere during the day on 1st and 4th Apr.

[Caspian Gull (*Larus cachinnans*)

Very Scarce visitor

An adult was reported in the gull roost by Mike Duckham on 17th Nov. The notes below are taken directly from the Observatory log book:

'One adult, slightly paler mantle than Yellow-legged Gull, small headed, pear shaped head, snouty face going into parallel-sided bill. Bill pale yellow. Slim, attenuated rear end. Large primaries. Underside tip of p10 seen. Long white mirror nearly merging with white tip except for narrow black band near tip, very small eye is very noticeable. Calling mere side below Observatory.'

This is the first record of Caspian Gull at Rostherne Mere. The species was split from Herring Gull and Yellow-legged Gull in 2007 following much deliberation. The first county record for this species (the year before the split) was a first winter bird found by G. Thomas at Birchwood Pools, Moore Nature Reserve on 11th Mar 2006. There were several in the next couple of years and then in 2008 there was a flood of records with 13 in total as local gull enthusiasts got their eyes in. (Text taken from Rare and Scare Birds of Cheshire & Wirral, Allan Conlin and Eddie Williams, 2017).

Yellow Legged-Gull (*Larus michahellis*)

Scarce visitor

There were 21 records in 2018 which represents the highest annual recording of the species by some margin (five records in 2017 and two records in 2016). All the sightings were made during the evening gull roost by Mike Duckham and are listed below:

9 th Jan	3
28 th Jan	2
23 rd Feb	1
25 th Feb	1
28 th Feb	1
15 th Jul	1
9 th Oct	1
19 th Oct	2 adults
20 th Oct	1 adult
22 nd Oct	2 adults
15 th Nov	3
17 th Nov	3
19 th Nov	4
20 th Nov	1
21 st Nov	3
23 rd Nov	1
24 th Nov	2
29 th Nov	1
30 th Nov	1
7 th Dec	1
28 th Dec	1

Lesser Black-backed Gull (*Larus fuscus*)

Passage migrant & winter visitor

The species is the second commonest gull seen at Rostherne. It was recorded on 170 days or 70% of total recording days (165 days or 68% in 2017, 169 days or 69% in 2016 and 163 days or 66% in 2015). The highest Jan count was 300 during the evening on 9th with 200 counted in the roost on 10th. Thirty were seen in the day on 18th Mar and 56 on 1st Apr. Numbers fell away from May to Jul but began to build in late Aug. Sixty-five were recorded on 20th Aug and there were 95 in the roost on 25th Sep. The maximum for the year was 331 seen in the roost on 9th Oct. Additional three-figure counts were made in Dec and included 200 on 4th, 220 on 6th, 160 on 12th, 120 on 16th and 250 on 27th.

Gull Roost

The following table shows all the gull roost counts made in 2018.

	Black-headed Gull	Common Gull	Great Black -backed Gull	Herring Gull	Lesser Black -backed Gull
Date					
10 Jan	1800	50		70	200
24 Feb	2000				
25 Sep	600				95
09 Oct	1400	3	4	16	331
07 Nov	1500				

15 Nov	3000		
23 Nov	3000	1	
12 Dec	1200		160
16 Dec	2000	2	120
27 Dec	3000		250

Common Tern (*Sterna hirundo*)

Annual passage migrant, Apr-Oct

There were 9 records in 2018 (10 in 2017, four in 2016 and three in 2015). Three were seen on 16th Apr and one on 26th. Five were recorded during 2nd Jun with singles on 3rd and 4th. There were also several sightings in Jul with one on 14th, three on 15th and one on 17th. The last record of the year was of six on 17th Sep, the highest count since eight were seen in Jun 2011.

Arctic Tern (*Sterna paradisaea*)

Rare passage migrant, Apr-Nov

There was a single record in 2018. The first confirmation of the species since Jul 2013, although it is possible that there has been some confusion separating the species from Common Tern records since that time. Two were seen clearly sitting on buoys and positively identified from the Bittern Hide on 30th Jun.

Feral Pigeon (*Columba livia*)

Irregular visitor, probably under-recorded

The species is often seen in Rostherne village but rarely recorded far within the NNR boundary. They were six records in 2018 made from the path from the Natural England car park onto the Reserve. The highest count was 15 on 4th Oct.

Stock Dove (*Columba oenas*)

Breeding resident

Stock Dove was recorded on 112 days or 46% of total recording days (114 days or 47% in 2017, 135 days or 55% in 2016 and 133 days or 54% in 2015). Five birds were recorded on 10th Sep and four on 10th Jan, 1st Apr, 1st Aug, 11th Sep and 24th Dec. A pair bred in the new Barn Owl box in Dolls Meadow. A territory was plotted in Mere Covert and there was a registration in Harpers Bank Wood after the CBC-type survey.

Woodpigeon (*Columba palumbus*)

Breeding resident

Woodpigeon was recorded on 175 days or 72% of total recording days (177 days or 73% in 2017, 202 days or 82% in 2016 and 214 days or 87% in 2015). Counts above 25 included 30 on 12th Jul, 30 on 12th Aug and 40 on 9th Sep. Larger numbers were seen roosting in Harpers Bank Wood during Sep with c50 on 12th, c100 on 14th and c250 on 16th. Around 300 roosted on 4th Oct and c40 were logged on 6th Dec. A nest was recorded in Wood Bongs during the CBC-type survey.

Collared Dove (*Streptopelia decaocto*)

Irregular visitor, has attempted to breed

Collared Dove is often seen in Rostherne village and the species occasionally ventures onto the Reserve. It was recorded on 21 days. Two were seen on 18th Feb, 20th May, 4th Aug (from the Observatory), 9th and 12th Dec. Three were recorded on 16th Sep.

Barn Owl (*Tyto alba*)

Rare visitor, bred 2017 and 2018

It was another very good year for Barn Owl records with 54 in total (40 in 2017, one in 2016 and seven in 2015). In addition, two pairs bred with two chicks recorded in the Mere Field box and two in the Mere Meadow box. They were ringed on 25th Jun by Darren Meyer and Hugh Pulsford from the Mid-Cheshire Barn Owl Group.

There were 29 records from 7th Jan to 1st Apr. The majority of records were of single birds but one was in the Brook Meadow box and another was in the Mere Field box on 21st Jan. Three were recorded on 11th Mar with one in the Brook Meadow box, one in the Mere Field box and another in the Mere Meadow box. A single on 1st Apr was the last record until the Mere Field and Mere Meadow boxes were inspected on 13th May. A ringed female was sitting on two three-day old chicks and three eggs in the Mere Field box. A female was sitting on five eggs in the Mere Meadow box. The female in the box in Mere Field was ringed last year on 25th Jul as a pullus from a nest box at the Old Hall, Birtles Lane between Alderley and Macclesfield. She is a bird which survived last winter and managed a post fledging dispersal of 15 miles in a WNW direction to enter the breeding population. There were occasional sightings of mainly single birds from May to Aug with two seen around the Mere Field box on 29th Aug. There was a series of evening sightings from Marsh Lane during Sep as adult birds were observed leaving the Mere Meadow box and hunting over Snipe Marsh. Two were seen on 11th, 12th and 13th Sep and later during the year on 23rd Nov and 27th Dec.



Barn Owl. Photo Steve Collins.



Barn Owl chicks hatched in the Mere Field Box. Photo Steve Collins.

A full list of the dates of records from the boxes around the Reserve is shown below. All records refer to one bird unless indicated otherwise:

Mere Field Box

Jan 21st, 24th
Feb, 2nd, 4th, 9th, 10th, 16th, 23rd, 28th
Mar 4th, 7th, 11th, 13th, 27th, 28th
May 13th (1 female, 2 chicks and 3 eggs)
Jun 25th (1 female and 2 chicks)
Jun 23rd (3 chicks)
Aug 6th, 9th, 29th (2)

Mere Meadow Box

Mar 11th
May 13th (female sitting on 5 eggs)
Jun 25th (female with 2 chicks)
Sep 11th (2), 12th (2), 13th (2), 27th
Nov 23rd (2)
Dec 27th (2)

Brook Meadow Box

Jan 7th
Feb 5th
Mar 11th

New Barn Owl boxes have been built by the Rostherne volunteers, primarily Chris Hilder and Phil Dell. They have been put up in Dolls Meadow, Penny Croft and on the edge of Mere Covert near Penny Croft. The older boxes will be replaced in turn when they become too dilapidated to be used.

Tawny Owl (*Strix aluco*)

Breeding resident

Tawny Owl was recorded on 19 days or 8% of total recording days (6 days or 3% in 2017, 10 days or 4% in 2016 and 4 days or 2% in 2015).

There were only three records from Jan to Jun. One was recorded on 25th Jan and two were in Wood Bongs on 11th Mar with a single on 20th Jun. There were 16 records from Sep to Dec. A series of records was made during evening Barn Owl vigils from Marsh Lane. Two were heard on 17th Sep and singles heard on 25th, 26th and 29th. One was heard on 1st and two on 3rd Oct. Singles were recorded on 14th, 16th and 19th Oct and 6th Dec. Four were recorded on 27th Dec with two in Mere Covert and two in Church Field.

Little Owl (*Athene noctua*)

Previous breeding resident now scarce

There were eight records in 2018 after the species was not recorded last year. All of the sightings were in the vicinity of Marsh Lane and Shaw Green Farm from 1st Oct until 14th Nov. Interestingly, they were made during the evening whilst Ian McCulloch was waiting to observe Barn Owls feeding over the Snipe Marsh and adjacent fields. A single bird was seen on 1st, 3rd, 5th, 8th, 9th, 16th and 19th Oct and 14th Dec.



Little Owl near Shaw Green Farm. Photo Steve Collins.

Swift (*Apus apus*)

Passage migrant & summer visitor, Apr-Oct

Swift was recorded on 37 days in 2018 (23 days in 2017, 41 days in 2016 and 42 days in 2015). The first record of the year was one seen over Shaw Green Willows on 25th Apr, a day earlier than in 2017. There were four records in Apr with 20 on 30th. The maximum for the year was only around 50 seen feeding over the Mere on 10th May and 24 were over on 29th May. There were 12 records in Jun with 21 on 16th. There were nine records in Jul but there was only one double figure count with 12 seen on 17th. There were four records in Aug with the last record of two on 15th matching last year's date (three on 15th Aug in 2017).

Kingfisher (*Alcedo atthis*)

Irregular visitor

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1 bird	5	4	2	3	7		4	7		3	4	2
2 birds			1				2					

Kingfisher was recorded on 45 days in 2018 (49 days in 2017, 52 days in 2016 and 37 days in 2015).

Kingfishers were seen irregularly around the mere throughout the year in two main locations. These being the mouth of Rostherne Brook and in front of the Bittern Hide. Two birds were seen on 22nd Mar, 15th and 17th Jul but no location details were provided.

Once again, a Kingfisher was seen during a visit to Harpers Bank Wood during the CBC-type survey. This is only the third occurrence of the species during the survey.

A young female was ringed in Shaw Green Willows area on 4th Aug. This represents the 11th Kingfisher to be ringed at Rostherne since 1972.

Lesser Spotted Woodpecker (*Dendrocopos minor*)

Scarce resident

Lesser Spotted Woodpecker was recorded on six days in 2018 (eight days in 2017, four days in 2016 and five days in 2015). Five of the records were of singles but two birds were seen in Mere Covert during the CBC-type survey on 11th Apr. The last territory was plotted in Harpers Bank Wood in 2009. A full list of the records is shown below:

26 th Jan	Male near the Natural England car park.
11 th Mar	Wood Bongs.
8 th Apr	Flew out from Mere Covert over Long Pasture.
11 th Apr	Male and Female in Mere Covert.
15 th Sep	Tick-list only entry.
16 th Sep	No location.

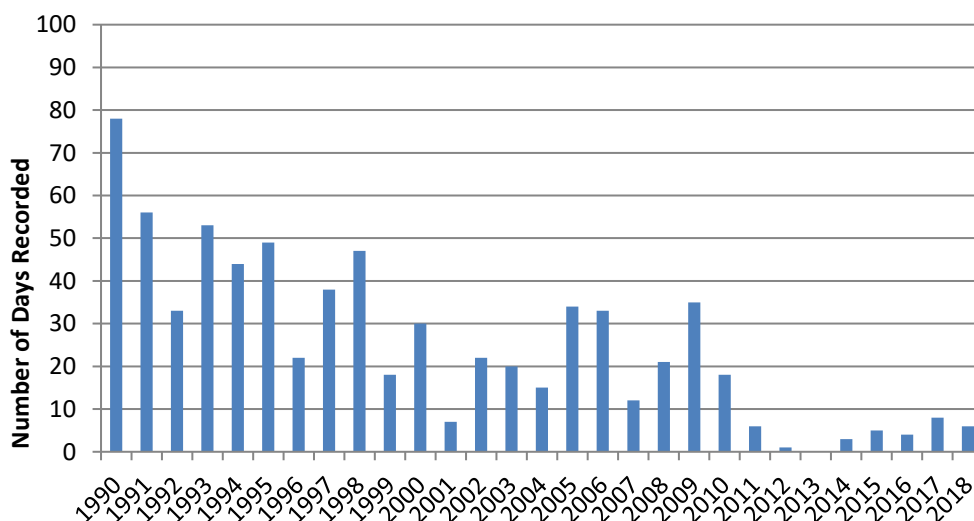


Figure 17 The number of days Lesser Spotted Woodpecker was recorded from 1990 to 2018.

Great Spotted Woodpecker (*Dendrocopos major*)

Breeding resident

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	11/17	7/20	18/22	15/22	20/23	17/23	13/22	12/20	7/16	7/18	4/24	9/17

The species was recorded on 140 days or 57% of total recording days (119 days or 49% in 2017, 98 days or 40% in 2016 and 114 days or 46% in 2015). There were 20 records of two birds with a m and f logged on 6th Apr and a f and juv logged on 20th Jun. Three birds were recorded on 8th Jan, 24th Mar and 25th Oct (Shaw Green Willows). Four were in Shaw Green Willows on 1st and five on 8th Apr. Four (two adults and two juveniles) were recorded on 31st May.

There was a total of six breeding territories in the three main woodlands equalling the best showing in these areas in 2013 and 2016. The breakdown was Mere Covert (2), Harpers Bank Wood (3) and Wood Bongs (1). There was also a registration in Shaw Green Willows.

An adult male was ringed near the Bittern Hide on 4th May. This represents the 11th bird to be ringed at Rostherne since 1972.

Green Woodpecker (*Picus viridis*)

Breeding resident

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	6/17	6/20	14/22	18/22	12/23	16/23	12/22	8/20	1/16	1/18	2/24	0/17

It was a much better year for Green Woodpecker records compared to recent years. The species was recorded on 96 days or 67% of total recording days (44 days or 18% in 2017, 28 days or 11% in 2016 and 67 days or 27% in 2015).

The majority of the records were of single birds seen in Wood Bongs. Two were logged on 11th and 29th Mar, 31st May, 7th, 11th and 21st Jun. A juvenile was first recorded on 22nd Jun and then 11th Jul. Two adults and one juvenile were recorded on 17th and 18th Jul. A juvenile was then recorded on 24th Jul. A breeding territory was recorded in Wood Bongs during the CBC-type survey and juveniles were noted in a nest. This was the first evidence of breeding on the Reserve since 2015. Wood Bongs held a territory in five of the years 2010-15.

There were only 12 records from Aug to Dec. The last record of the year was a tick-list only entry on 23rd Nov.

Kestrel (*Falco tinnunculus*)

Breeding resident

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	1/17	2/20	2/22	8/22	20/23	15/23	16/22	8/20	2/16	6/18	2/24	1/17
Max nos	1	1	1	2	3	2	2	1	1	2	1	1

Kestrel was recorded on 83 days or 34% of total recording days which was a notable improvement on the recording rate in 2017, only 13 days or 5% (50 days or 20% in 2016 and 133 days or 54% in 2015). The upturn in records was due to a pair breeding in a dead Alder near to the Boathouse.

The majority of records referred to single birds. The pair was first seen on 28th Apr and seen copulating on 6th May. They appeared emerging from the nest site on 23rd and 28th May. Three (two adults and one juvenile)

were recorded on 29th May. There was a series of almost daily sightings through Jun and Jul as the adults brought in prey to feed the hungry juveniles. Often only one juvenile was seen but two were seen together on 25th Jul. It is thought that both birds fledged. There were fewer records from Aug to Sep (19 in total). Two birds were seen on 4th and 10th Oct.

Hobby (*Falco subbuteo*)

Scarce passage migrant & summer visitor, Apr-Oct

There were 10 records of Hobby (15 in 2017, five in 2016 and 12 in 2015).

The first record of the year was of a single perched in a tree on the edge of Dolls Meadow on 25th Jul. There were six records in Aug with singles on 4th, 25th (hunting over Church Field), 26th, 29th and 30th. Two were logged on 16th. During Sep there were singles seen on 9th, 15th and 23rd.

Peregrine (*Falco peregrinus*)

Irregular visitor at all times, primarily in autumn and winter

Once again, there was a poor showing of Peregrine. The species was recorded on only four days or 2% of total recording days (seven days or 3% in 2017 and 2016, 21 days or 9% in 2015).

One flying along Mere Covert on 17th Jan was the only record until one was recorded on 3rd Oct. One was perched in the Cormorant trees on 11th Nov and an immature female was recorded on 23rd Nov.

Over the years, Peregrines have used several of the tall trees in Harpers Bank Wood as perches. A particular favourite was a dead tree which stood near the main path through the wood. Unfortunately, this tree fell during an autumn gale in 2017.

Jay (*Garrulus glandarius*)

Resident, probably breeding regularly

Jay was recorded throughout the year. Four birds were seen on three dates; 1st, 21st Apr (Shaw Green Willows) and 23rd Sep. Jays were recorded in the three main woodlands during CBC-type survey work but registrations were insufficient to plot any territories.

Magpie (*Pica pica*)

Breeding resident

Magpie was often seen on the fields surrounding the Mere. However, there were no double figure counts recorded in 2018. The highest number was only four seen on five dates: 10th, 24th Mar, 1st, 8th Apr and 23rd Sep. Magpies were recorded in Mere Covert, Harpers Bank and Wood Bongs during the CBC-type survey but as with Jay there were insufficient registrations to plot any territories.

Jackdaw (*Corvus monedula*)

Breeding resident

Jackdaws are often seen around the churchyard and occasionally on Church Field during the daytime. They also often roost in large numbers during the winter in the surrounding woodland. Counts of over 20 included c50 on 24th Feb, c25 on 24th Mar and c25 on 5th Sep. Counts of birds roosting in Mere Covert included c100 on 10th Jan, c50 on 23rd Nov and c100 on 6th Dec. Jackdaws were recorded in Mere Covert and Harpers Bank Wood during the CBC-type surveys.

Rook (*Corvus frugilegus*)

Resident, bred in 1990

Rooks are often seen in the fields surrounding the Reserve but are rarer on the fields within the Reserve boundary, where there is less intensive crop and pasture management. There were four records in 2018, all in Nov with tick-list only entries on 15th, 17th, 19th and 23rd.

Carrion Crow (*Corvus corone*)

Breeding resident

Carrion Crow was recorded throughout the year. High counts included eight on 18th Feb and 6th Aug. Four nests were found during the CBC-type survey with three in Mere Covert and one in Harpers Bank Wood. This represents the best showing in the areas since 1989 when eight were located with six in Mere Covert and two in Harpers Bank Wood.

Raven (*Corvus corax*)

Scarce visitor, has bred

Raven was recorded on 22 days or 9% of total recording days (21 days or 9% in 2017, 16 days or 7% in 2016 and 14 days or 6% in 2015).

The majority of records referred to single birds flying over the Reserve. All records with the exception of tick-list entries are shown below:

7 th Jan	1
25 th Jan	1
28 th Jan	1
1 st Feb	1
7 th Feb	2
18 th Feb	2
9 th Mar	1
10 th Mar	2
30 th Jun	2
17 th Jul	1
25 th Jul	1 flying over Shaw Green Willows.
15 th Aug	1
13 th Sep	2
17 th Sep	1
19 th Sep	2
26 th Sep	1
30 th Sep	2
4 th Oct	2
18 th Oct	1 flying over Mere Covert.
17 th Nov	2

Coal Tit (*Periparus ater*)

Breeding resident

Four birds were logged on 18th Feb, 10th, 11th, 24th Mar, 4th, 8th Apr and 7th Oct. Although Coal Tits were recorded in all four areas during the CBC-type survey only two territories were plotted, both were in Wood Bongs.

Willow Tit (*Poecile montana*)

Former breeding resident now scarce

One visited the feeders near the Bittern Hide on 29th Mar. This was the only record during the year.

Blue Tit (*Cyanistes caeruleus*)

Breeding resident

Double figure counts of birds seen around the Reserve in the first half of the year included 12 on 10th Jan, 12 on 24th Mar and 10 on 8th Apr. Family parties seen in Aug included 12 on 1st, 14 on 6th and 12 on 14th and 20th. Later in the year 20 were seen on 4th Oct, 10 on 14th Oct and 10 on 2nd Dec. There were 27 Blue Tit territories, plus an extra territory in Long Pasture.

Reported movement of Blue Tit:

Ring no.	Ring code/sex	Date	Place	Movement
AZB7425	3J	22/07/18	Knutsford Moor, Cheshire	
R		05/09/18	Rostherne Mere	5 km N

3J – bird of the year in juvenile plumage

Great Tit (*Parus major*)

Breeding resident

Notable counts of birds seen around the Reserve include 10 on 10th Mar, 24th Mar, 8th Apr and 11 on 28th Dec. Six juveniles were recorded on 15th Jul. There were 13 Great Tit territories plotted, which, with 2012, is the lowest in the areas surveyed since 1994. The breakdown of territories was Mere Covert (4), Harpers Bank Wood (3), Wood Bongs (5) and Shaw Green Willows (1).

Skylark (*Alauda arvensis*)

Autumn passage migrant, irregular visitor, may breed occasionally

Skylark was recorded on 10 days (11 days in 2017, six days in 2016 and 13 days in 2015). There were five log entries and five tick-list only entries. Three were flying over on 28th Feb and one heard singing with no location given on 26th Apr. One was seen singing over Mere Meadow on 23rd May. Singles were recorded on 17th, 18th Oct and on 3rd Nov.

Sand Martin (*Riparia riparia*)

Passage migrant, Feb-Oct

There were only 24 records marking a downward trend in recent years (31 records in 2017, 42 in 2016 and 38 in 2015). The first arrivals were 12 on 27th Mar which is markedly later than last year (seven seen on 18th Mar). There were 11 records in Apr with 24 on 4th, 25 on 8th and 40 on 12th, the highest count during the year. There was only one record in May with two on 1st. There were five records between Jun and Jul with the highest count of only 5 on 25th Jul. The highest count in Aug was 20 on the 17th, with the last record of the year a tick-list only entry on 29th (10th Sep in 2017).

Swallow (*Hirundo rustica*)

Passage migrant & summer visitor, has bred; Mar-Nov

Swallow was recorded on 76 days (60 days in 2017, 77 days in 2016 and 83 days in 2015). The first arrivals were two birds seen on 4th Apr matching the date in 2017. There were 47 records where counts were made, the remainder were tick-list only entries. Counts over 30 included c50 on 11th Apr and c60 on 25th Apr. The highest count of the year was c100 seen over the Mere on 1st May. Later in the year c60 were recorded on 5th Jul and 35 on 12th Jul. The last record of the year was three on 23rd Sep (8th Oct in 2017).

House Martin (*Delichon urbicum*)

Passage migrant & summer visitor, has bred; Mar-Oct

The species was recorded on 21 days (18 days in 2017, 33 days in 2016 and 2015). The first arrival was a single seen on 4th Apr (15th Apr in 2017). There were 14 records where counts were made. There were no sightings

from 3rd May to 14th Jul. Double figure counts included c20 on 1st May and 25th Aug with 18 on 9th, 10 on 17th and c80 on 23rd Sep. This last record was the last of the year (5th Oct in 2017).

Cetti's Warbler (*Cettia cetti*)

Rare vagrant

There were 13 records from 17th Oct to 24th Nov. An unaged female was caught near the Bittern Hide by Malcolm Calvert on 17th Oct. Interestingly, the majority of accounts referred to a single bird calling in the reed bed near the Boathouse below the Observatory. However, two were recorded on 20th Nov with a single near the Boathouse and another near the Bittern Hide. The species was last recorded on 26 Sep 2015 when a female was ringed near the Whitley Hide by Malcolm Calvert.



Female Cetti's Warbler caught on 17th Oct. Photo Malcolm Calvert.

Long-tailed Tit (*Aegithalos caudatus*)

Breeding resident

The species was recorded on 117 days or 48% of total recording days in 2018 (136 days or 56% in 2017, 140 days or 57% in 2016 and 125 days or 51% in 2015). During the first winter period 11 birds were seen on 7th Jan. There were no further double figure counts until 14 were recorded on 27th Jul. The highest count of the year was 20 on 20th Aug and 7th Nov. Seventeen were seen in Mere Covert on 25th Nov and 14 recorded on 23rd Dec. There was a total of five breeding territories. The breakdown was Mere Covert (2), Wood Bongs (1), Shaw Green Willows (1) with an extra one at the foot of Long Pasture; there were insufficient registrations for a territory to be plotted in Harpers Bank Wood.

Willow Warbler (*Phylloscopus trochilus*)

Breeding summer visitor, Mar-Nov; declining

It was a much better year for Willow Warbler records compared to last year. The species was recorded on 42 days or 17% of total recording days (27 days or 11% in 2017, 47 days or 19% in 2016 and 26 days or 11% in 2015). The first record of the year was a single on 5th Apr (2nd Apr in 2017). Three birds were heard singing on 8th Apr (one near Church Field and two in Penny Croft) and three in Shaw Green Willows on 25th Apr. Single

juvenile birds were seen in front of the Observatory on 27th Jul and 1st, 2nd Aug. The last record of the year was a single on 20th Aug (3rd Sep in 2017). There were four Willow Warbler territories plotted matching last year's total with single territories in Harpers Bank Wood, Wood Bongs, Shaw Green Willows and one at the foot of Long Pasture.

Chiffchaff (*Phylloscopus collybita*)

Breeding summer visitor, rare in winter

Chiffchaff was recorded on 105 days or 43% of total recording days (98 days or 40% in 2017, 109 days or 44% in 2016 and 102 days or 41% in 2015). The first record for the year was of two birds, one heard singing in Shaw Green Willows and another in Mere Covert on 24th Mar (19th Mar in 2017). High counts included a party of eight birds on 4th Aug and a post-breeding flock of 20 on 17th Aug. There were also 10 seen on 30th Aug and eight seen on 16th Sep. The last record of the year was a single seen on 25th Oct. There were 17 breeding territories plotted, plus one on Long Pasture, which was slightly lower than last year. The breakdown of territories was Mere Covert (7), Harpers Bank (5), Wood Bongs (3), Shaw Green Willows (2), plus one at the foot of Long Pasture. A total of 51 birds were ringed including three adults and 48 juveniles. The juveniles were caught between 23rd Jun and 29th Sep.

Reported movement of Chiffchaff:

Ring no.	Ring code/sex	Date	Place	Movement
KCN092	3J	01/07/18	Knutsford Moor, Cheshire	
R		22/08/18	Rostherne Mere	5 km N

3J – bird of the year in juvenile plumage

Sedge Warbler (*Acrocephalus schoenobaenus*)

Breeding summer visitor, Apr-Sep

The species was recorded on 27 days for the third consecutive year (29 days in 2015). The first record of the year was of two in Shaw Green Willows on 29th Apr (28th Apr in 2017). There were 16 records in May with four recorded in Shaw Green Willows on 4th and 12th May. In contrast there were only three records in Jun. Single juvenile birds were recorded on 4th, 5th and 7th Jul, with a family party of four on 14th. The last record of the year was of two juveniles on 1st Aug (27th Aug in 2017). Only two Sedge Warbler territories were plotted, both in Shaw Green Willows. This represents the poorest showing since two in 1998! Fourteen birds were ringed including 10 adults and four juveniles. The juveniles were caught between 4th and 14th Jul.



Sedge Warbler. Photo Sheelagh Halsey.

Reed Warbler (*Acrocephalus scirpaceus*)

Breeding summer visitor, Apr-Oct

The first arrival was a single heard in Shaw Green Willows on 6th Apr. This is only two days after the earliest record for the Reserve (4th Apr 2006). The last record was of two birds on 5th Sep, a month earlier than last year (4th Oct).

An estimated 45 pairs bred, two less than last year. A total of 102 adults were caught comprising 44 new birds, five controls and 53 retraps. The oldest retrap was a bird ringed as a juvenile on 31st Jul 2010!

Reported movements of Reed Warblers:

Ring no.	Ring code/sex	Date	Place	Movement
E460436	3J	31-07-96	Rostherne Mere	
R	F	06-07-97	Holme Pierrepont, Nottingham, Notts	98 km ESE
(Reported very late)				
A409233	3	19/08/15	Paul de Coura, Viano do Castela, PORTUGAL	
R		09/06/16	Marton Mere, Blackpool, Lancashire	1395 km
NNE				
R	F	26/06/17	Rostherne Mere	1364 km
NNE				
(Entry in the Bird Report 2017 but bird also controlled in intermediate year)				
S706512	4F	31/05/17	Rostherne Mere	
R		07/05/18	Woolston Eyes, Warrington, Cheshire	11 km WNW
S731129	3	25/07/17	Attingham Park, Shrewsbury, Shropshire	
R	M	08/05/18	Rostherne Mere (& 24/05/18)	77 km NNE

S706549 R	4F	01/07/17 09/05/18	Rostherne Mere (& 25/07/17) Woolston Eyes	11 km WNW
S706529 R	4F	14/06/17 12/05/18	Rostherne Mere Woolston Eyes (& 19/05/18)	11 km WNW
S180100 R	4 M	09/08/16 19/05/18	Icklesham, East Sussex Rostherne Mere (& 03/06/18)	343 km NW
S706521 R R	4	11/06/17 09/07/17 27/05/18	Rostherne Mere Knutsford Moor, Cheshire Knutsford Moor	5 km S
S158905 R	4M	21/07/16 27/05/18	Rostherne Mere Knutsford Moor	5 km S
Z881004 R	4	03/06/16 03/06/18	Portland Bill B.O., Dorset Rostherne Mere	315 km N
AAA4390 R	4 F	01/06/18 29/06/18	Woolston Eyes Rostherne Mere	11 km ESE
AZB7502 R	4F	04/05/18 09/07/18	Rostherne Mere Woolston Eyes	11 km WNW
S706630 R	3J	16/08/17 13/07/18	Rostherne Mere Woolston Eyes (& 24/07/18)	11 km WNW
8157647 R	3 F	19/09/17 24/07/18	Plaisance, Charente-Maritime, France Rostherne Mere	834 km N
S157622 R	3J	17/08/16 05/08/18	Rostherne Mere Knutsford Moor	5 km S

Pull – pullus

R – caught & released by ringer

3 – bird of the year

3J – bird of the year in juvenile plumage

4 – adult with year of hatching unknown but older than one year

F – adult female

M – adult male

Blackcap (*Sylvia atricapilla*)

Breeding summer visitor, occasional in winter, no Feb records

Blackcap was recorded on 98 days or 40% of total recording days which represents a good showing (86 days or 36% in 2017, 77 days or 31% in 2016 and 84 days or 34% in 2015). The first record of the year was of a male singing in front of the Observatory on 6th Apr (26th Mar in 2017). Six were singing in various locations around the Reserve on 20th May. A family party of an adult and two juveniles were seen on 17th Jul and an adult with three juveniles on 24th Jul. Later in the year a family party of seven was recorded on 9th Sep. The last record of the year was a tick-list only entry on 19th Sep matching last year's date. There was a total of 28 breeding territories, plus one on Long Pasture. This equals the best ever showing for these areas reached in 1993! The ten year averages to 2018 and 2008 are 19.9 and 15.7 respectively. The spread of territories was Mere Covert (14), Harpers Bank (5), Wood Bongs (7), Shaw Green Willows (2), plus one at the foot of Long Pasture.

Garden Warbler (*Sylvia borin*)

Summer visitor, Apr-Sep

There were only four records in 2018 (11 in 2017, 13 in 2016 and one in 2015). The first record for the year was a single heard near Shaw Green Willows on 10th May (29th Apr in 2017). One was heard in the same location on 27th May. Later in the year one was seen and heard in front of the Observatory on 1st and 2nd Aug. There were no registrations of Garden Warbler during the CBC-type surveys in the three main areas of woodland, or in Shaw Green Willows and even the foot of Long Pasture where there was a territory in 2016 and 2017.

Lesser Whitethroat (*Sylvia curruca*)

Passage migrant, occasionally breeds; Apr-Sep

There were five records of Lesser Whitethroat which was an improvement on a single record in 2017. One was on the hedge boundary between Mere Field and Mere Meadow on 19th Apr, a day later than the earliest date of 18th Apr 2009. A single bird was recorded in front of the Observatory on 24th, 25th Jul and 1st, 2nd Aug. There were no Lesser Whitethroat registrations again in 2018. A territory was last plotted on the Reserve in 2014 in Mere Meadow, an area not surveyed since then.

Whitethroat (*Sylvia communis*)

Passage migrant, breeds irregularly; Apr-Sep

Whitethroat was recorded on 20 days (11 days in 2017, 34 days in 2016 and 10 days in 2015). The first arrival as a single seen in Mere Field on 1st May (2nd May in 2017). All the records were of single birds with one seen at the foot of Long Pasture on 29th May, a male was singing in Dolls Meadow on 6th Jun and one was in a hedge near Old Meadow on 27th Jun. The last report was a single ringed by Malcolm Calvert on 17th Aug (20th Jun in 2017). There was only one breeding territory plotted, at the foot of Long Pasture where there was also a territory last year.

Goldcrest (*Regulus regulus*)

Breeding resident

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	2/17	1/20	4/22	6/22	6/23	4/23	1/22	3/20	6/16	4/18	7/24	6/17

Goldcrest was recorded on 50 days or 20% of total recording days (61 days or 25% in 2017). The species was seen in every month throughout the year. Three birds were seen on 18th Oct and two birds were recorded on 13 dates. These were as follows:

10th Mar
7th May
20th May
1st Aug
14th Aug
4th Sep
13th Sep
15th Sep (Wood Bongs)
8th Nov
6th Dec
9th Dec
23rd Dec
28th Dec

There were three breeding territories plotted, with one in Mere Covert, Harpers Bank Wood and Wood Bongs. The total was one less than last year which was the best showing since a Reserve record of nine were plotted in 2008.



Goldcrest. Photo Steve Collins.

Wren (*Troglodytes troglodytes*)

Breeding resident

The highest count of birds logged included 15 on 7th May, 14 on 8th Apr and 15th May. There was a total of 62 territories following the CBC-type survey, plus one on Long Pasture. The ten-year averages to 2018 and 2008 were 70 and 64 respectively. There was a marked decrease in territories in Harpers Bank Wood from 33 in 2017 to 17 in 2018. This was not offset by smaller increases in Mere Covert and Wood Bongs.

Nuthatch (*Sitta europaea*)

Breeding resident

Seven were recorded from a walk around the Reserve on 24th Mar and six on 6th Aug. There was a total of six territories plotted after the CBC-type survey. The ten year averages to 2018 and 2008 are 6.5 and 6.8 respectively. The breakdown of territories was Mere Covert (3), Harpers Bank Wood (1) and Wood Bongs (2).

Treecreeper (*Certhia familiaris*)

Breeding resident

Three birds were seen on 28th Jan (one in the Oak near the Observatory and two in Wood Bongs). Three were also recorded on 24th Mar and 8th Apr. Five Treecreeper territories were plotted in 2018, which was a slight increase from four plotted in 2017. However, there were insufficient registrations to plot a territory in Mere Covert for the first time since 1989! The breakdown of territories was Harpers Bank Wood (3), Wood Bongs (1) and Shaw Green Willows (1).

Starling (*Sturnus vulgaris*)

Breeding resident

Starling was recorded on 48 days or 20% of total recording days (38 days or 16% in 2017, 14 days or 6% in 2016 and 24 days or 10% in 2015). Around 70,000 were roosting in the reed beds surrounding the Reserve on 10th Jan. Interestingly, the reed beds appeared to be completely flattened, especially in Shaw Green Willows, by the end of Dec 2017, so this was a surprising account and the only record of roosting birds in Jan. Double figure counts in the first half of the year included c60 around Gale Bog on 23rd Feb and c30 on 10th Mar. The first record of roosting birds in the second half of the year was c200 around Shaw Green Willows on 8th Aug increasing to c400 on the evening of 9th Sep. There were around 1000 by 19th Oct. Numbers increased throughout Nov from c1000 on 3rd to c20,000 on 25th, 26th and 30th. There were 12 counts made in Dec as observers enjoyed the spectacular murmurations from the comfort of the Bittern Hide. An estimated 30,000 birds were seen on the 3rd, 10th and 12th. The highest count for this period was c50,000 on 14th. Numbers decreased rapidly in late Dec as the reed bed was eventually flattened by the weight of roosting birds. Only around 200 birds were recorded on the 27th, 28th and 30th.



Roosting Starlings. Photo John Hancock.



Roosting Starlings. Photo John Hancock.

Blackbird (*Turdus merula*)

Breeding resident

Double figure counts included 12 on 24th Mar and 10 on 16th Sep and 23rd Dec. There were 24 Blackbird territories plus one on Long Pasture, which was fewer than last year. The averages for the ten year periods to 2018 and 2008 are 22.3 and 16.

Fieldfare (*Turdus pilaris*)

Winter visitor & passage migrant

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	4/17	2/20	10/22	0/22	0/23	0/23	0/22	0/20	0/16	0/18	2/24	1/17
Max nos	c80	10	c30								4	1

Fieldfare was recorded on 19 days or 8% of total recording days (12 days or 5% in 2017, nine days or 4% in 2016 and 10 days or 4% in 2015). There were 16 records in the first winter period. Around 80 were seen with several Redwing on 8th Jan. This was the highest count since c200 were seen in Nov 2013. Double figure counts included 10 on 20th Feb, 25 on 8th, c30 on 9th and c30 on 13th Mar. The last record of the first winter period was a tick-list entry on 29th Mar. The first record in the second half of the year was four on 7th Nov but there were only three records in Nov and Dec with two birds logged on 11th Nov and one on 28th Dec.

Redwing (*Turdus iliacus*)

Winter visitor & passage migrant; Sep-Apr

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	10/17	5/20	11/22	0/22	0/23	0/23	0/22	0/20	0/16	6/18	6/24	4/17
Max nos	c50	c30	25							15	10	113

Redwing was recorded on 42 days or 17% of total recording days matching last year (40 days or 16% in 2016 and 54 days or 22% in 2015). There were 26 records in the first winter period with around 50 birds recorded on 9th Jan, 34 on 10th Jan and c30 on 20th Feb. The last record of the first winter period was a tick-list only entry on 29th Mar. There were 16 records in the second winter period. Fifteen was the first record on 14th Oct. The highest count was 113 on 28th Dec.

Song Thrush (*Turdus philomelos*)

Breeding resident

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	7/17	6/20	13/22	12/22	17/23	12/23	9/22	2/20	3/16	4/18	1/24	10/17

Song Thrush was recorded on 96 days or 39% of total recording days (67 days or 28% in 2017, 94 days or 38% in 2016 and 84 days or 34% in 2015). Four birds were seen on the Cricket Pitch on 2nd Jan and then four in the Split Limes on 10th Jan. Four were recorded on 23rd May, five on 28th May, five on 11th Sep, seven on 16th Sep and four on 28th Dec. The number of Song Thrush territories was 10, with an extra one at the foot of Long Pasture, the first recorded there. The split was Mere Covert (3), Harpers Bank Wood (3), Wood Bongs (2), Shaw Green Willows (1) and the foot of Long Pasture (1).

Mistle Thrush (*Turdus viscivorus*)

Scarce breeding resident

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	10/17	4/20	10/22	3/22	3/23	3/23	7/22	3/20	3/16	6/18	11/24	7/17

The species was recorded on 70 days or 29% of total recording days (63 days or 26% in 2017, 50 days or 20% in 2016 and 48 days or 20% in 2015). Counts of more than two birds included five on 2nd Jan and six on 17th Jan. There were four on 13th Feb and five on 14th Oct. Two adults and a juvenile were recorded on 1st Aug. There was one Mistle Thrush territory plotted in Wood Bongs.

Spotted Flycatcher (*Muscicapa striata*)

Scarce, breeding summer visitor, Apr-Oct

It was another very good year for Spotted Flycatcher sightings. There were 31 records (16 in 2017, five in 2016 and two in 2015). A single in Harpers Bank Wood on 21st May was the first record of the year. Once again, there was a series of records of a nesting pair in Wood Bongs from 31st May to 2nd Jul. Two birds were seen on 7th, 14th, 21st, 25th, 28th Jun. Two adults and a juvenile were seen on 25th Jul and a family party of four was recorded on 1st Aug. Singles were seen feeding around the Split Limes on 2nd Aug, 4th and 5th Sep. A single territory was plotted in Wood Bongs for the second year running, only the second on the Reserve since 1989! The last record of the year was a bird seen in front of the Observatory on 19th Sep.



Spotted Flycatcher with fly. Photo Steve Collins.

Robin (*Erithacus rubecula*)

Breeding resident

Double figure counts of birds seen around the Reserve included 11 on 18th Feb and 13 on 24th Mar. There were 35 territories plotted, plus one on Long Pasture. The averages for the ten-year periods to 2018 and 2008 are 32.3 and 44.4 respectively. The BBS results in England show a significant 13% decline from 2017 but a significant 32% gain 1995-2017.

House Sparrow (*Passer domesticus*)

Breeding resident

House Sparrow is a breeding resident in several properties surrounding the Reserve and is occasionally logged when birds are seen just outside the Reserve boundary, or when they stray into the boundary hedgerows and fields on the Reserve. There were 25 records in 2018, but no precise location details were given. Ones and twos were seen, with the highest count of five on 4th Oct.

Dunnock (*Prunella modularis*)

Breeding resident

Four were heard singing around the Reserve on 18th Feb and six on 1st Apr. There were only two Dunnock territories plotted, both in Shaw Green Willows, plus another on Long Pasture. There were no registrations in either Harpers Bank Wood or Mere Covert and not enough registrations for a territory in Wood Bong.

Grey Wagtail (*Motacilla cinerea*)

Irregular visitor, had bred

There were nine records in 2018 (two in 2017). One bird was seen on the sandbar at the mouth of Rostherne Brook on 5th Mar. Two were seen around the churchyard on 8th Apr and a male and female displaying near the churchyard on 24th May (see photo). Singles were logged on the edge of the cattle drink in Dolls Meadow on 21st and 27th Jun. Singles with no location were reported on 5th Jul and 9th Dec.



Grey Wagtail display near the Church. Photo Steve Collins.

Pied Wagtail/White Wagtail (*Motacilla alba yarrellii/alba*)

Breeding resident

There were 44 records in 2018 (33 in 2017, 16 in 2016 and 19 in 2015). There were 29 records where counts were made, the remainder being tick-list only entries. All birds were seen in the vicinity of the Cricket Pitch and on the edge of Church Field. Two were seen on 2nd, 31st Jan, 30th, 31st May, 5th Jun, 24th Sep with three on 6th Nov.

Meadow Pipit (*Anthus pratensis*)

Passage migrant & scarce winter visitor; no known June records

There were 20 records in 2018 (17 in 2017, five in 2016 and 14 in 2015). All of the birds were seen in the vicinity of the Cricket Pitch between 2nd Jan (17) and 10th Mar (2). The dates of double figure counts are listed below:

2 nd Jan	17
19 th Jan	14
25 th Jan	10
31 st Jan	27
4 th Feb	27
10 th Feb	30
11 th Feb	30
13 th Feb	22
18 th Feb	10
19 th Feb	22
23 rd Feb	13
25 th Feb	13

The counts of 30 were the highest since 45 were seen on the Cricket Pitch in Apr 2004, although possibly up to several hundred travelling in small parties flew over the Reserve on passage on 29th Sep 2005.

Chaffinch (*Fringilla coelebs*)

Breeding resident

Double figure winter flocks included 10 on 20th Feb and 11 on 28th Dec. There were only 14 territories plotted on the Reserve. The averages for the ten-year periods to 2018 and 2008 are 15.6 and 29.1 respectively. The

breakdown of territories was Mere Covert (3), Harpers Bank Wood (5), Wood Bongs (5) and Shaw Green Willows (1).

Hawfinch (*Coccothraustes coccothraustes*)

Very rare visitor

During autumn 2017 Hawfinches were seen in mass numbers in England due to an influx from Europe. They were seen in several locations throughout Cheshire and Wirral from 14th Oct 2017, when a single was seen flying over Bidston Moss. Rostherne joined the list on 2nd Nov when a single bird was seen with a flock of Goldfinches in the trees on the edge of Church Field. Six were then seen in the same trees from the permissive path adjacent to Church Field on 3rd and four in trees near Old Hall Wood on 4th. Hawfinch was recorded on a total of 18 days in 2017 from 2nd Nov until 20th Dec.

Records continued to be made into 2018, with 14 made between 8th Jan to 6th Mar. Hawfinches were seen on a total of 32 days from Nov 2017 to Mar 2018, a series of sightings which will live long in the memory.

As in 2017, many of the sightings in 2018 were of birds either on the very edge of the Reserve or on its boundary. The full list of sightings is shown below:

8 th Jan	1 in the trees near the eastern boundary of the Cricket Pitch and the Natural England car park.
9 th Jan	1 female in the trees as above.
10 th Jan	1 female in the trees as above.
12 th Jan	2 in the trees as above.
21 st Jan	1 in the trees as above.
25 th Jan	1 in the trees as above.
30 th Jan	1 in the trees as above.
2 nd Feb	2 in the trees as above.
4 th Feb	1 in the trees as above.
5 th Feb	6 in the trees as above.
11 th Feb	1 in the trees as above.
12 th Feb	1 in the trees as above.
20 th Feb	1 female in the trees as above.
6 th Mar	3 in the trees as above.



Hawfinch. Photo John Hancock.

Bullfinch (*Pyrrhula pyrrhula*)

Breeding resident

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	13/17	13/20	18/22	13/22	15/23	9/23	12/22	16/20	10/16	15/18	18/24	12/17
Max nos	12	5	3	3	3	1	2	6	6	4	5	6

Bullfinch was recorded on 164 days or 67% of total recording days (145 days or 60% in 2017, 111 days or 45% in 2016 and 131 days or 53% in 2015). As in most years, the majority of records were of birds visiting the Bird Table in front of the Observatory. However, winter flocks of nine and 12 were seen at the foot of Long Pasture on 7th and 15th Jan respectively. Six were seen on the Bird Table on 12th and 21st Jan. Five were recorded on 18th Feb. Five (m, f and three juveniles) were seen on 1st and six on 14th Aug. Six were seen on 16th Sep and five on 17th Nov. The highest count in Dec was six (five m, one f) on 6th. The birds recorded in Harpers Bank and Shaw Green were the first on the CBC-type survey since 2013, but registrations were insufficient to qualify for a territory. However, the records of family parties suggest the species did breed on or near the Reserve. An adult Bullfinch was ringed on 10th Sep.

Greenfinch (*Carduelis chloris*)

Resident, breeds nearby

Greenfinches are common in the gardens of properties surrounding Rostherne Mere. However, they are infrequently recorded on the Reserve. There were 11 records in 2018 matching 2017. The majority of records

were of single birds but two were seen on 20th Feb. A juvenile was reported on 9th Sep. All but one of the records had no location details provided. One was seen in Wood Bongs on 23rd Nov.

Linnet (*Carduelis cannabina*)

Irregular visitor, has bred

There were four records in 2018 matching 2017. All sightings were of single birds made from the Observatory during Aug on 15th, 20th, 21st and 29th.

Lesser Redpoll (*Carduelis cabaret*)

Irregular visitor, has bred

Lesser Redpoll was seen on only 4 days or 2% of total recording days (11 days or 5% in 2017, 18 days or 7% in 2016 and 29 days or 12% in 2015). All records were from the Observatory. One was seen on 14th Nov, two on 6th and 7th Dec and one on 14th Dec.

Goldfinch (*Carduelis carduelis*)

Resident, breeds nearby

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	11/17	15/20	15/22	8/22	7/23	10/23	5/22	11/20	7/16	3/18	9/24	11/17
Max nos	c50	c50	c30	4	4	10	4	c30	c50	3	c20	c100

Goldfinch was recorded on 112 days or 46% of total recording days (106 days or 43% in 2017, 98 days or 40% in 2016 and 76 days or 31% in 2015). In the first winter period around 30 birds were recorded on 10th Jan with c50 on 25th Jan, 24th Feb and c30 on 4th Mar. Around 30, including many young birds, were recorded on Church Field on 20th Aug. There were c50 on 9th Sep. Approximately 30 were recorded on 18th Dec and the highest count of the year was c100 on 28th Dec. There were registrations in Wood Bongs and Shaw Green Willows during the CBC-type survey but they were insufficient for a territory to be plotted.

Siskin (*Carduelis spinus*)

Passage migrant & winter visitor

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No of Days Recorded	3/17	3/20	1/22	0/22	0/23	0/23	0/22	0/20	0/16	3/18	10/24	5/17
Max nos	4	c30	1							1	c30	c50

Siskin was recorded on only 25 days or 10% of total recording days (41 days or 17%, 55 days or 22% in 2016 and 77 days or 31% in 2015). There were seven records in the first winter period from 8th Jan to 7th Mar. The highest count was c30 on 18th Feb. There were no further records until a tick-list only entry on 19th Oct. There were 18 records from 19th Oct to 28th Dec. Double figure counts included c30 on 11th and 18th Nov, 50 on 18th and 35 on 28th Dec.

Yellowhammer (*Emberiza citrinella*)

Irregular visitor, may breed nearby

One was seen near Dirty Lane on 25th Jul. This was the second record since May 2014, with one seen in Jul last year.

Reed Bunting (*Emberiza schoeniclus*)

Breeding resident

Reed Bunting was seen throughout the year. The highest count from Jan to Mar was seven seen around the Reserve on 11th Mar. Five were seen in Shaw Green Willows in 12th Jan. Later in the year, double figure counts included 12 on 8th Apr, 10 on 5th, 12 on 7th and 12 on 15th May, 10 on 17th, 11 on 21st and 10 on 17th Jun. A nest with 5 eggs was found in Shaw Green Willows on 4th May. Eight breeding territories were plotted plus an extra two at the foot of Long Pasture. This represents the best showing since 10 in 2013. Ten-year averages to 2018 and 2008 in all the areas surveyed are 7.7 and 9.3 respectively. The breakdown of territories was Mere Covert (1), Harpers Bank Wood (1), Shaw Green Willows (6) and the foot of Long Pasture (2). A total of 74 birds was ringed including 23 adults and 51 juveniles.

Escapes**Bar-headed Goose (*Anser indicus*)**

Presumed escaped or feral bird

A single was seen within the Canada Goose flock on 15th May and 17th Jun.

	RINGING TOTALS				Grand Total		
	2018 pullus (p)	2018 full-grown (fg)	1972-2017 p	1972-2017 fg	1972-2018 p	1972-2018 fg	total
Barn Owl	4	1	4	1	8	2	10
Kingfisher		1		10		11	11
Great Spotted Woodpecker		1		10		11	11
Wren		24		410		434	434
Dunnock		1	2	186	2	187	189
Robin		9	60	326	60	335	395
Blackbird		4	25	227	25	231	256
Song Thrush		2	9	72	9	74	83
Cetti's Warbler		1		3		4	4
Sedge Warbler		14	5	595	5	609	614
Reed Warbler	9	135	4647	3323	4656	3458	8114
Whitethroat		1		126		127	127
Blackcap		25		616		641	641
Chiffchaff		51		784		835	835
Willow Warbler		4	33	748	33	752	785
Long-tailed Tit		6		587		593	593
Coal Tit		1	11	12	11	13	24
Blue Tit		57	340	1521	340	1578	1918
Great Tit		13	341	617	341	630	971
Treecreeper		5	6	136	6	141	147
Nuthatch		2	11	15	11	17	28
Bullfinch		1	3	137	3	138	141
Reed Bunting		74	77	736	77	810	887

	pullus	full-grown	
2018 TOTALS	13	433	
1972 – 2017 TOTALS	5981	12904	
GRAND TOTAL OF ALL SPECIES RINGED	5994	13337	19331

COMMON BIRDS CENSUS AT ROSTHERNE MERE NNR 2018

2017 was a settled year for both surveyors and the areas surveyed. However, lack of free time meant that Bill Bellamy was unable to take on a survey area in 2018. This resulted in a mini-reshuffle and the welcome addition of three new surveyors, all of whom are experienced local birders. Phil Dell moved from Harpers Bank Wood to Mere Covert where he was assisted on several visits by Ted Lock. Judith Halman and Tony Usher took over from Phil in Harpers where they were welcomed on their first visit by constant rain, fortunately weather conditions did improve for them during the survey season! Steve Collins and Sheelagh Halsey continued to survey Wood Bongs and Shaw Green Willows respectively. Bill's involvement in the survey continued however, as in addition to standing in for Sheelagh on two visits and assisting Phil on one visit, he prepared the species registrations maps for Harpers and Shaw Green, while the species maps for Mere Covert and Wood Bongs were prepared by Phil Dell and Steve Collins respectively.

Excepting 2001, when Foot & Mouth disease access restrictions applied, Harpers, Mere Covert and Wood Bongs have been surveyed in every year since 1976 while the run of surveys in Shaw Green began in 1977. Gale Bog was not surveyed in 2018 thus breaking a run of survey years there stretching from 1993 to 2017.

Figures given in the Results table for 1976-2017 refer to Harpers Bank, Mere Covert, Shaw Green (not including Long Pasture) and Wood Bongs. Throughout this CBC Report, unless stated, information and comparisons relate solely to the areas surveyed in 2018. The ten-year averages (2009-2018 & 1998-2008), where given, relate to all the areas surveyed in 2018 but do not include results from the foot of Long Pasture.

The 2018 results of the survey are based on a total of 39 visits, 10 from each plot except Mere Covert (nine). The number of visits to each survey area has scarcely varied over at least the last ten years. Details of weather conditions were noted for each of the visits. Conditions were predominantly bright, clear or sunny on 15 visits and on a further 10 visits there were at least some sunny periods (totals 12 & 11 in 2017, 17 & 8 in 2016, 17 & 6 in 2015, 11 & 8 in 2014, 23 & 2 in 2013). Generally cloudy conditions prevailed on 14 visits and rain fell on three of these (totals 17 including 6 in 2017, 15 incl. 6 in 2016, 17 incl. 9 in 2015, 21 incl. 9 in 2014, 15 incl. 9 in 2013). Happily, foggy conditions were again not encountered. Windy conditions were noted on four of the 39 visits (7 in 2017, 4 in 2016, 5 in 2015, 4 in 2014, 6 in 2013) and three of the visits were made in what were described, or indicated by thermometer readings (5 degrees C or less), as cold conditions (3 in 2017, 5 in 2016 & 2015, 6 in 2014, 12 in 2013).

It is considered that no habitat management work took place between the 2017 and 2018 seasons which might have impacted survey results. It should be noted that rhododendron clearance work in Wood Bongs continued in 2016 and there was very little left there by the year end. Habitat management work in earlier years included the clearance of part of Gale Bog in early 2015, the removal of rhododendron in parts of Mere Covert in 2011 and 2012 and the extensive clearance of willow scrub undertaken in Shaw Green prior to the 2013 breeding season.

*My comments in recent Reports regarding the use of broken and unbroken lines on CBC visit maps still stand. I repeat: as I worked on plotting the number of territories from species maps I again became aware of a lack of the use of broken and unbroken lines on the maps for some species in some areas. These lines indicate whether registrations on the map refer respectively to the same or a different individual bird. They are **very important** when it comes to plotting territories and a species map with few of these lines is likely to result in a less accurate total of territories, particularly where registrations are made of birds within yards of one another without any indication of whether the same bird is responsible for the registrations. Please make full use of dotted and unbroken lines on the visit maps.*

2018 Results - Summary

From 2014 to 2017 this summary has included a number of references to the annual Preliminary Report of results of the BTO Constant Effort Survey to give national context to the Rostherne CBC survey. Unfortunately, at the time of writing, the CES Report for 2018 is not available. However, the report of the Breeding Bird Survey (BBS) for 2018 is available <https://www.bto.org/sites/default/files/bbs-report-2018.pdf> and has been used in the same way. Please bear in mind that any comparisons are between the results of our CBC-type survey and the results achieved by the BBS, which began in 1994, – a different type of survey. The differences

between the two surveys were discussed in the Rostherne Natural History Report 2003.

Pheasants were recorded in all four survey areas but only two territories were plotted compared with seven last year. Given the enormous numbers released annually in the UK this reduction is unlikely to be of anything other than very local significance.

Neither *Sparrowhawk* or *Kestrel* was recorded during survey work; *Buzzard* was recorded in all three areas of woodland but, unlike 2016 when two nests were found in Mere Covert, none were found this year.

Water Rail was recorded in Shaw Green for the third year running, but again a combination of location and insufficient registrations meant that no territory could be plotted. No registrations were made after May 1st, an indication perhaps that bird(s) had left the area.

Given the scarcity of *Lapwings* on the Reserve it is worth noting that Lapwing was recorded above Mere Meadow/Mere Field on three survey visits to May 7th.

A single *Stock Dove* territory was plotted in Mere Covert and the species was also recorded in Harpers Bank. Outside the survey areas a nest was found on Mere Field. This showing is similar to that of recent years.

Although found to be present in the three main areas of woodland, coverage of *Woodpigeon* again appears to have been incomplete. Nevertheless, a nest was found in Wood Bongs.

The single appearance of a *Cuckoo* in a survey area last year – the first since 2008 - was taken as a hopeful sign; however there were no records during survey work in 2018.

As in the two previous years there was just a single registration of *Tawny Owl*, this year's was in Mere Covert as opposed to Wood Bongs.

Last year's single appearance of *Kingfisher* was only the second ever during a survey visit, this was followed by a sighting during a visit to Harpers Bank in 2018.

Over the years Wood Bongs has been by far the most favoured area for *Green Woodpecker* and recently held a territory in five of the years 2010 – 2015 but not in the following two years. However a territory was plotted there this year and, as a bonus, juveniles were noted in a nest.

Six *Great Spotted Woodpecker* territories in the three main areas of woodland equalled the best showing in these areas - in 2013 and 2016; also recorded in Shaw Green.

That *Lesser Spotted Woodpecker* was recorded during two visits to Mere Covert is encouraging, given that birds were previously recorded during survey work in just three years since 2009, when a territory was last plotted (in Harpers Bank). A bird was also seen in flight over Long Pasture on April 8th.

Jay and *Magpie* were recorded in all three main areas of woodland and Jackdaw in Harpers Bank and Mere Covert but, as usual, registrations were insufficient to plot any territories.

Three *Carrion Crow* nests were found in Mere Covert and one in Harpers Bank – the best showing in the areas surveyed since 1989 when eight were located – six in Mere Covert and two in Harpers Bank.

The three *Goldcrest* territories plotted compares with four last year, which was the best showing since a Reserve record total of nine in 2008. The ten-year ranges to 2018 and 2008 is one to four and four to nine respectively. BBS results for England showed a large and significant decline compared with 2017. The BBS Report considered that this could be due to the effects on this, the smallest of our resident species, of the spell of fierce winter weather (Beast from the East) in late February/early March. However the Rostherne population seems to have been relatively unaffected.

After two years of reductions the number of *Blue Tit* territories stabilised at 27 – the same number as last year. The results were somewhat contradictory with increases in three areas compensating for a sizeable reduction in Mere Covert. The ten year averages to 2018 and 2008 are 28 and 32.5 respectively. The BBS results for England showed a significant gain of 12% on 2017.

The total of 13 *Great Tit* territories is, with 2012, the lowest in the areas surveyed since 1994. As with Blue Tit there are contradictory results with reductions in Mere Covert and Shaw Green compared with increases in the other two areas. The ten year averages to 2018 and 2008 are 18 and 24.6 respectively. The BBS results for England showed a significant gain of 17% on 2017.

Coal Tit registrations allowed only two territories to be plotted – both in Wood Bongs; registrations in the three other areas were insufficient to enable territories to be plotted. The total of two is down from four last year but equals the two plotted each year 2013-2015. The ten year averages to 2018 and 2008 are 2.9 and 4.5 respectively.

The four *Long-tailed Tit* territories plotted, plus the one at the foot of Long Pasture, is similar to the previous three years, suggesting an improved and stable population compared to 2012 to 2014, when there were either none or one territory. The long-term average 1998-2018 is 3.35 territories. This is one of those small, resident species which suffered a large, significant decline on the BBS in England possibly due to the effects of the Beast from the East. As with Goldcrest this is not reflected in the Rostherne results.

After two years of record high numbers of *Chiffchaff* territories there was a fall this year from 22 in 2017 to 17.

There were reductions in all areas except for Harpers Bank where there was an increase. The ten year averages to 2018 and 2008 are 14.5 and 10.3 respectively. A territory has been held at the mere end of Long Pasture in each year from 2015. BBS results for England show a significant decline of 30% on 2017.

Single *Willow Warbler* territories were plotted in Harpers Bank, Shaw Green, Wood Bongs and at the foot of Long Pasture, giving the same total as in the last two years; song was recorded on two dates in Mere Covert but this was insufficient to qualify for a territory. 2018 was the 42nd year in which this CBC-type survey has been carried out. Over the first 21 years (to 1996) the average number of Willow Warbler territories was 14.5 with a range from 1 – 41, in the second 21 years the average was 1.9 with a range of 1 – 4. The BBS shows interesting short and long-term trends for Willow Warbler. Results for England show a significant 30% decline on those from 2017, not reflected at Rostherne. Long-term English results show a significant 44% decline 1995-2017, whereas the results for the North West England region (within which Cheshire falls) show a stable situation over that period. The long-term Rostherne results seem to reflect this pattern.

The number of *Blackcap* territories rose for the second year, from 24 in 2017 to 28 this year, equalling the best ever total for these areas reached in 1993; a single territory was again plotted in Long Pasture. The ten year averages to 2018 and 2008 are 19.9 and 15.7 respectively. BBS results for England show a significant gain of 7% on 2017.

As last year there were no registrations of *Garden Warbler* in the three main areas of woodland, or in Shaw Green. Even the foot of Long Pasture, where there was a territory in 2016 and 2017, was deserted this year. Otherwise the last territory plotted was in Mere Covert in 2010. Garden Warblers held territory in almost every one of the first 21 of the 42 years of CBC-type surveys at Rostherne with a range of 0 – 8 territories and an average of 2.9 per year. The second 21 years have been a different story with no territories being plotted in 11 years, a range of 0 – 2 and an average of 0.5 per annum. BBS trends for England 1995-2017 show a significant 31% decline. It is not surprising that surveyors have been struggling to find this species on the Reserve.

There were no *Lesser Whitethroat* registrations again this year. A territory was last plotted on the Reserve in 2014 in Mere Meadow, an area not surveyed since then.

The only *Whitethroat* territory was plotted at the foot of Long Pasture where there was also a territory last year. There were no registrations in Shaw Green where up to three territories have been held in most years this century.

2018 was a blank year for *Grasshopper Warbler* after last year when the single territory plotted in Shaw Green was only the third ever plotted on the Reserve – the others being in 2004 and 2010 in the same area.

Following a marked drop in numbers in 2017, *Sedge Warbler* suffered a further decrease this year with just two territories plotted. Both the territories were in Shaw Green which is much the favoured area of this species, although in the first half of the present decade territories were also held at the foot of Long Pasture and along the bottom of Mere Covert. The ten year averages to 2018 and 2008 are 6.1 and 5.5 respectively. Two territories is the poorest showing since two in 1998. BBS English trends in 2017 were fairly neutral compared to 2016, but the 2018 results show a significant 30% decline compared to 2017. The Waterways Breeding Bird Survey section of the BBS Report shows a 42% decline from 2007 to 2017, compared to an 18% decline on the BBS which covers all habitat types. The Report goes on to attribute annual fluctuations in UK trends to overwinter survival, but it seems apparent that, overall, the population is in decline and it will be interesting to see what happens to the small Rostherne population in years to come.

Nuthatch territories in the three main areas of woodland reversed last year's showing in that they reduced from eight to six. The ten year averages to 2018 and 2008 are 6.5 and 6.8 respectively. However, BBS results for England show a significant 25% gain on 2017.

Five *Treecreeper* territories was a slight increase from the four in 2017. Although recorded in Mere Covert for the first time since 1989 there were insufficient registrations to qualify for a territory there. The ten year average to 2018 is 5.5 territories.

The total of 62 *Wren* territories compares with 71 in 2017 and 10-year averages to 2018 of 70 and to 2008 of 64. The reduction is due mainly to a large decrease in Harpers Bank which wasn't offset by smaller increases in Mere Covert and Wood Bongs. As in 2017 there was a single territory at the foot of Long Pasture. BBS trends for England show a significant 18% decline from 2017.

After reaching a high point of 34 territories in 2016, bettered only by 38 in 1977, the total of *Blackbird* territories reduced from 28 last year to 24 in 2018. The reduction from 2017 is mainly due to fewer territories being plotted in Mere Covert. The ten year averages to 2018 and 2008 are 22.3 and 16.9 respectively. As in 2017 Long Pasture held a single territory. BBS trends for England show a significant 5% decline from 2017.

The number of *Song Thrush* territories showed a slight variability from survey plot to plot compared with last year but the overall territories remained the same at ten. An additional territory on Long Pasture was the first recorded there. The ten year averages for the same areas to 2018 and 2008 are 7.5 and 4.4 respectively. The

BBS trend for England shows a significant 26% gain 1995-2017.

Mistle Thrush is an uncommon breeding bird on the Reserve and the single territory plotted in Wood Bongs reflects this, as does the fact that the two territories plotted last year is the best showing since 2007.

For the second year running a *Spotted Flycatcher* territory was plotted in Wood Bongs, the territory was again based on a nest and is only the second territory plotted on the Reserve since 1989 when one was located in Mere Covert.

Slight reductions in the number of *Robin* territories in three areas are compensated for by an increase in Wood Bongs resulting in 35 territories, the same as last year. The ten year averages for the same areas to 2018 and 2008 are 32.3 and 44.4 respectively. As in 2017 there was a single territory at the foot of Long Pasture. BBS trends for England show a significant 13% decline from 2017 but a significant 32% gain 1995-2017.

Dunnoek made a very poor showing in 2018. There were no registrations in either Harpers Bank or Mere Covert and not enough registrations for a territory in Wood Bongs. The two territories in Shaw Green is similar to its status there over the last dozen years. The ten year averages for the same areas to 2018, 2008 and 1997 are 3, 10.1 and 19 respectively! As in 2017 there was a single territory at the foot of Long Pasture. BBS trends for England show a significant 6% decline from 2017 but a significant 16% increase 1995-2017, while the North West region trend shows a significant 23% gain over the same period. Other factors are obviously at play at Rostherne where the number of territories has been in decline since the early years of the 1990s.

House Sparrow is rarely recorded during survey visits on the Reserve and it is assumed that the four birds collecting food in Wood Bongs on May 17th were breeding in the village.

After slumping to the lowest ever total of six territories in 2014, *Chaffinch* numbers recovered in 2015 (21) and 2016 (20) before reducing to 12 last year. Numbers improved slightly to 14 in 2018. The averages for the ten year periods to 2018 and 2008 are 15.6 and 29.1. BBS trends for England show a small but significant decline of 4% from 2017. The North West England region trend shows a significant decline of 14% over the period 1995-2017. The decline at Rostherne over the same period has been much greater.

There were no registrations of *Greenfinch* on any of the survey plots for the third year running – the last territory plotted was in the Gale Bog area in 2015.

Goldfinches were recorded in Wood Bongs and Shaw Green but it was not possible to plot any territories. A family party flew over Mere Meadow on June 6th.

The *Bullfinches* recorded in Harpers Bank and Shaw Green were the first on the survey since 2013 but registrations were insufficient to qualify for a territory.

The total of eight *Reed Bunting* territories was the best showing since ten in 2013, two more were plotted at the foot of Long Pasture. There were six territories in Shaw Green where ten year averages to 2018 and 2008 are 6.4 and 7.8 respectively. Ten year averages to 2018 and 2008 in all the areas surveyed this year are 7.7 and 9.3 respectively. The BBS trend for England shows a significant 15% decline on 2017 but a significant 39% gain 1995-2017, while over the same period the North West England regional trend is a non-significant 5% gain.

Steve Barber May 2019

COMMON BIRDS CENSUS AT ROSTHERNE MERE NNR 2018 RESULTS

The tables which follow present the results of CBC-type survey fieldwork in 2018. It will be noted that for several species figures appear in parentheses in the table of results from Shaw Green Willows. These relate to the additional number of territories plotted in the most westerly part of Long Pasture. These results also appear in parentheses in the 'Year Total' column. The purpose of the parentheses is to allow for like-by-like comparisons of results with past years. The report "Common Birds Census at Rostherne Mere NNR 1976-1983" (Sellwood and Wall, 1984) should be referred to for background information and that report highlights the limits of this census method. The results for 2018 have been arrived at in the way outlined in that report.

Survey work in 2018 was carried out by Steve Collins, Phil Dell, Judith Halman, Sheelagh Halsey, Ted Lock and Tony Usher, while Bill Bellamy stood in for Sheelagh on two visits in Shaw Green and joined Phil on a visit to Mere Covert. The initials of all the recorders appear in the Census Visit Data Tables which follow. The species map analyst, Steve Barber, would like to thank Bill, Steve and Phil for producing the sets of species maps from the original visit maps.

In the table of results the following symbols are used:

r = species recorded but probably not holding territory

nc = no count: species probably holding territory but no proper assessment was possible from the registrations made

n = adjacent to the assessed number, indicates the figure was based entirely on a count of active nests

a blank = this species not recorded during census visits

Aquatic species have been included in the results table but see the systematic list for full breeding season details. Coverage of Pheasant, Stock Dove and Woodpigeon appears to have been uneven but registrations have been analysed and results appear in the tables below. Reed Warbler continues to be studied separately.

In the results table for species with a total of ten or more territories in any year from 1990 the range of territories from 1976-2017 is also given.

CENSUS VISIT DATA 2018

	Mere Covert	Harpers Bank Wood	Wood Bongs	Shaw Green Willows
No of visits	9	10	10	10
Duration	15 hrs 25 mins	23 hrs 30 mins	19 hrs	18 hrs 45 mins
First visit	5 Apr	2 Apr	6 Apr	1 Apr
Last visit	2 Jun	4 Jun	7 Jun	4 Jun
Recorder	PD & TL (5) PD (3) PD & BB (1)	JH & ACU (9) ACU (1)	SC	SH (8) BB (2)
Species map preparation	PD	BB	SC	BB
Species map analysis	SB	SB	SB	SB

RESULTS 2018

	Mere Covert	Harpers Bank Wood	Wood Bongs	Shaw Green Willows	Year Total	Range 1976-2017
Mallard	r	r	r	r		
Pheasant	nc	r	1	1	2	
Buzzard	r	r	r			
Water Rail				nc		
Moorhen				r		
Stock Dove	1	r			1	
Woodpigeon	r	nc	1n		1n	
Tawny Owl	r					
Kingfisher		r				
Green Woodpecker			1		1	
Great Spotted Woodpecker	2	3	1	r	6	
Lesser Spotted Woodpecker	r			(r)		
Magpie	r	r	r			
Jay	r	r	r			
Jackdaw	r	r				
Carrion Crow	3n	r	1n	r	4n	
Goldcrest	1	1	1		3	
Blue Tit	6	9	8	4 (1)	27 (1)	13-41
Great Tit	4	3	5	1	13	7-31
Coal Tit	r	nc	2	r	2	
Long-tailed Tit	2	r	1	1 (1)	4 (1)	0-11
Chiffchaff	7	5	3	2 (1)	17 (1)	4-22
Willow Warbler	r	1	1	1 (1)	3 (1)	0-41
Blackcap	14	5	7	2 (1)	28 (1)	6-28
Whitethroat				(1)	(1)	
Sedge Warbler				2	2	0-9
Nuthatch	3	1	2		6	0-10
Treecreeper	r	3	1	1	5	1-11
Wren	22	17	14	9 (1)	62 (1)	24-84
Blackbird	8	8	6	2 (1)	24 (1)	9-38
Song Thrush	3	3	2	2 (1)	10 (1)	0-12
Mistle Thrush			1		1	
Spotted Flycatcher			1		1	

	Mere Covert	Harpers Bank Wood	Wood Bongs	Shaw Green Willows	Year Total	Range 1976-2017
Robin	9	8	16	2 (1)	35 (1)	10-56
Duncock		r	r	2 (1)	2 (1)	1-24
House Sparrow			r			
Chaffinch	3	5	5	1	14	6-41
Goldfinch			r	r		
Bullfinch		r		r		
Reed Bunting	1	1	r	6 (2)	8 (2)	2-18

Early and Late Dates at Rostherne

The species are divided into sections based mainly on their status in Cheshire. Because each of Common Sandpiper, Blackcap and Chiffchaff over-winter in tiny numbers in Cheshire, no latest dates have been given. Furthermore, Bittern has been removed from the Winter Visitors list as occasional birds do turn up in summer months.

	Earliest Date	Latest Date
Winter Visitors		
Bewick's Swan	21 st October 1977 & 1990	21 st April 1922
Whooper Swan	23 rd September 2012	27 th May 2018
Smew	2 nd November 1994	6 th June 1979
Fieldfare	29 th September 2008	12 th May 1986
Redwing	17 th September 2000	20 th May 2001
Brambling	9 th October 1980	6 th May 1980
Summer Visitors		
Hobby	27 th March 2010	9 th October 2004
Cuckoo	4 th April 1993	18 th September 1976
Swift	14 th April 1996	15 th October 1978
Sand Martin	23 rd February 2008	15 th October 2011
Swallow	21 st March 2009	11 th November 1962
House Martin	20 th March 2009	27 th October 1963 & 1995
Yellow Wagtail	11 th April 1970 & 1977	11 th October 1981
Redstart	12 th April 1997	27 th September 1997
Wheatear	20 th March 1994	10 th November 1968
Sedge Warbler	13 th April 2015	24 th September 2003
Reed Warbler	4 th April 2006	18 th October 2003
Lesser Whitethroat	18 th April 2009	26 th September 1990
Whitethroat	14 th April 1995	18 th September 2005
Garden Warbler	19 th April 2008	25 th September 1988
Willow Warbler	26 th March 1989 & 2005	22 nd November 1986
Spotted Flycatcher	29 th April 1977	16 th October 1967
Pied Flycatcher	11 th April 1993	2 nd September 1980

Dates for the earliest singing Blackcap on the reserve are 24th March 2009 and for singing Chiffchaff 4th March 2014.

Passage Migrants

Garganey	19 th February 1956	20 th October 1963
Long-tailed Duck	17 th October 1991	16 th May 1990 & 1992
Osprey	31 st March 2012	20 th September 2003
Common Tern	10 th April 2011	12 th October 1978
Arctic Tern	9 th April 2012	20 th September 1999
Black Tern	20 th April 1911, 1987 & 1996	9 th November 2001

So far as can be ascertained the dates above refer to birds on or over the Reserve. Earlier or later dates very nearby are:

Wheatear	19 th March 1977	near Briddonweir
Redwing	16 th September 1990	in the churchyard
Willow Warbler	25 th March 1990	in Manor Wood.

2018 Butterfly Records: Rostherne Mere National Nature Reserve

This report details the results of butterfly surveys undertaken during 2018 at Rostherne Mere NNR. The Rostherne Mere Butterfly Survey is the oldest in Cheshire and started in 1976. Rostherne Mere is a national recording site and part of the United Kingdom Butterfly Monitoring Scheme (UKBMS). This survey represents the fifth survey after a 10-year gap and the results are compared with results from 2014 to 2017. Many thanks to Sheelagh Halsey for her considerable help during the survey in 2018.

Species	2018 Records	2014-17 Range	2018 (max/day)	2014-17 Range (max/day)
Small Skipper +	4	2-27	2	1-6
Large Skipper -	12	8-15	8	3-5
Brimstone =	1	2-6	1	1-2
Large White ++	31	8-15	14	2-4
Small White ++	132	7-24	39	2-11
Green-veined White ++	454	322-408	79	65-79
Orange-tip =	32	32-47	14	9-15
Purple Hairstreak +	6	1-4	2	1-4
Small Copper -	2	1-4	2	1
Common Blue =	5	14-34	2	2-5
Holly Blue +	6	1-4	5	1
Red Admiral -	15	16-75	4	5-22
Painted Lady -	1	3-5	1	1
Small Tortoiseshell -	8	5-70	4	1-12
Peacock +	25	15-124	6	3-20
Comma -	26	4-48	4	1-9
Speckled Wood -	186	191-375	22	34-52
Gatekeeper +	92	88-131	32	27-47
Meadow Brown -	535	589-915	207	188-242

Butterfly records in 2018 and range 2014 to 2017.

Butterflies were surveyed for 24 weeks from 1st Apr to 30th Sep. A total of 1572 butterflies were recorded with an average of 66 seen per week. The results represent a slight increase in numbers after a consecutive decrease in the years 2014-17. This was due to notable increases in records of Large Whites, Small Whites and Green-veined Whites. However, a number of species also posted lower numbers compared to 2017. A total of 19 species were recorded, one higher than last year as Holly Blue was added to the list. The commonest butterfly in 2018 was once again Meadow Brown with 535 records, but this represents the lowest number since surveys re-commenced in 2014. The range from 2014-17 was 589 to 915.

The 5 commonest butterflies for years 2018, 2017 and 2016 are shown below.

	2018	2017	2016
1st	Meadow Brown	Meadow Brown	Meadow Brown
2nd	Green-veined White	Green-veined White	Green-veined White
3rd	Speckled Wood	Speckled Wood	Speckled Wood
4th	Small White	Gatekeeper	Gatekeeper
5th	Gatekeeper	Red Admiral	Orange-tip

Year	Weeks	Butterfly Total	Butterfly Average/Week
2014	24	2112	88
2015	26	2023	78
2016	26	1629	63
2017	26	1500	58
2018	24	1572	66

Date	Highest Count	Date	Lowest Count
27/06/2018	240	01/04/2018	0
		08/04/2018	0

Details of the species recorded in 2018 follow. The account of each species begins with a statement of its Cheshire status, as compiled by Barry Shaw. This shows how recording at Rostherne fits into a county pattern.

Small Skipper (*Thymelicus sylvestris*)

Cheshire status: Now an abundant and widespread resident, although virtually unknown in the county prior to the mid-1970's. Single-brooded from early July to mid-August. Most numerous in lowland areas of rough grassland, but also recorded in small numbers in the Pennine foothills.

There were four records during the year, two more than last year. One was seen on Transect 6 (Penny Croft) on 21st Jun, an early date, and again on 27th Jun. One was seen on Transect 3 (across Mere Field) on 5th Jul and another on Transect 15 (Doll's Meadow) on the same date.

Large Skipper (*Ochlodes sylvanus*)

Cheshire status: A common and widespread resident, but some reduction in the size of colonies has been noted during the last few years. Single-brooded from late May to late July. Found in a range of habitats where uncultivated grasses are allowed to grow.

There were 12 records in 2018 (14 in 2017). Eight were seen on 21st Jun with four on Transect 5 (Shaw Green Willows), two on Transect 6 (Penny Croft) and two on Transect 12 (grassland around Gale Bog). The last Large Skipper record of the year was one seen on Transect 6 on 25th Jul. While the species is recorded in low numbers at Rostherne (range 8-15 from 2014-17) it was encouraging to see the species in five of the 15 transects for the third consecutive year.

Brimstone (*Gonepteryx rhamni*)

*Cheshire status: A fairly common resident in the east of the county, but scarcer in the west. As recently as the mid-1970's there were no breeding sites in the county. Single-brooded flying from late July to September, but most frequently recorded following emergence from hibernation in early spring. In Cheshire breeding is confined to Alder Buckthorn (*Frangula alnus*).*

There was only one Brimstone record in 2018. One was seen on Transect 4 (Shaw Green Willows) on 5th Jul.



Brimstone. Photo Sheelagh Halsey.

Large White (*Pieris brassicae*)

Cheshire status: A common and widespread resident with numbers sometimes augmented by immigrants. Double-brooded with the second emergence larger than the first and even a partial third brood in some years – recorded throughout the season. This is a highly mobile butterfly that occurs in a wide range of habitats, especially allotments and crop fields.

There were 31 records of Large White. This represents a marked increase compared to recent years (range 8-15 from 2014-17) The first record was a single seen on Transect 6 (Penny Croft) on 15th May. Eight were seen on 5th Jul and 14 on 19th Jul with 10 on Transect 15 (Brook and Dolls meadows). The last record was a single on Transect 4 (Shaw Green Willows) on 5th Sep. Large Whites were seen in five of the 15 transects.

Small White (*Pieris rapae*)

Cheshire status: An abundant and widespread resident, but seen in low numbers in upland areas. Double-brooded with the second emergence larger than the first although immigrants may augment these numbers. Occurs in a wide range of habitats and may be seen throughout the season from early April to early October.

It was a very good year for Small White with 132 records. The range from 2014-17 was only 7-24. The species was recorded from 5th Jul to 24th Sep. The largest emergence was in Jul with 39 and 35 recorded on 19th and 25th Jul respectively. Transect 1 (Church Field) provided the most favourable habitat with 18 on 12th Jul, 24 on 1st Jul and 22 on 25th Jul. The maximum number of records was an amazing 395 in 1976.

Green-veined White (*Pieris napi*)

Cheshire status: Widespread and abundant, especially in damp, sheltered areas. Breeds in a range of habitats from sea-level to the Pennine hills where it is the most likely “white” to be encountered. Double-brooded with the largest numbers normally seen during the second emergence.

The Green-veined White is the “white” butterfly most commonly seen at Rostherne Mere. Once again, it was the second commonest butterfly with a total of 454 records in 2018. Much higher than the range 322-408

recorded from 2014-17. The highest day count in the spring was 28 on 7th May, while 79 were recorded during the second emergence on 19th Jul.

Orange-tip (*Anthocharis cardamines*)

Cheshire status: A common and widespread resident, especially in damp grassy habitats. Despite the loss of traditional meadows due to modern farming methods it is presently more numerous than ever. Single-brooded flying from mid-April to mid-June.

There were 32 records of Orange-tip, matching last year's total and similar to the 36 records recorded in 2015 and 2016. The first record was a single on 19th Apr and the last two were seen on 28th May. The highest day count was 14 on 7th May. The species was seen in transects 3, 4, 5, 6, and 15. Historically, Transect 15 (the wet areas on Brook Meadow and Dolls Meadow) has been the most important area for the species on the Reserve. However, Transect 3 (Mere Field) and Transect 6 (Penny Croft) proved the most favourable areas in 2018.

Purple Hairstreak (*Favonius quercus*)

Cheshire status: Formerly considered scarce, but with recent survey work revealing many new breeding sites, especially on the Wirral and in the south-west of Cheshire. This is an inconspicuous treetop butterfly that has probably been overlooked in the past, although there is evidence to suggest some range extension in recent years. Single-brooded flying from late June to mid-August.

This species is difficult to survey during transect work as it becomes most active on sunny evenings within the canopy of mature Pedunculate or English Oak. There were six records in 2018 which is the highest since the survey recommenced in 2014. An early record was made on 21st Jun when a single was seen on Transect 4 on the boardwalk in Shaw Green Willows. It is thought that hot weather might have forced the species out of the Oak canopy to look for moisture near the ground. Two were seen in Oaks near the Observatory on 27th Jun and 5th Jul. One was seen in the same location on 12th Jul.

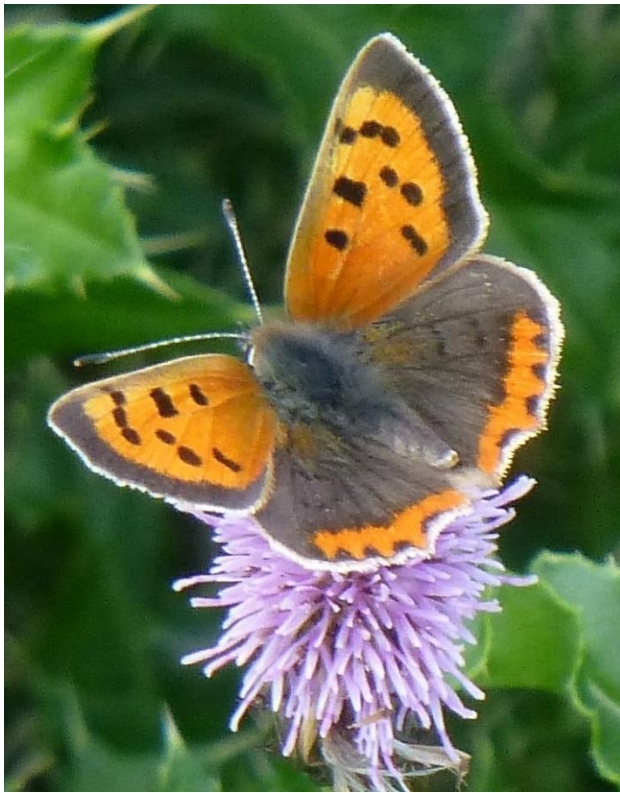


Purple Hairstreak on the boardwalk near Shaw Green Willows. Photo Sheelagh Halsey.

Small Copper (*Lycaena phlaeas*)

*Cheshire status: A common and widespread resident normally recorded in small numbers, although significant fluctuations occur in populations from year-to-year. Double-brooded at most sites, but can be continuously brooded during favourable weather conditions, Breeds in a range of habitats on Common Sorrel (*Rumex acetosa*) and Sheep's Sorrel (*Rumex acetosella*).*

Small Copper continues to be in low numbers at Rostherne. There were only two records in 2018 and the range from 2014-17 was only 1-4. Both were seen on 13th Sep with a single on Transect 1 (Church Field) and another on Transect 15 (Dolls Meadow).



Small Copper. Photo Sheelagh Halsey.

Common Blue (*Polyommatus icarus*)

Cheshire status: Still a relatively widespread resident, but survey work has revealed significant losses extending over a number of years. Reductions at lowland sites can be attributed to loss of habitat caused by modern farming methods, but this does not explain why the butterfly has almost disappeared from the Pennine foothills. Normally double-brooded at most sites with breeding occurring in a range of habitat.

Common Blue disappeared from the Reserve in 2000 and was considered to be temporarily extinct at the site, as it had been in decline for several years. There were only four records in 2002 but then a recovery with 23 records in 2003. Interestingly, some 11 years later, 22 records were posted in 2014. There were 34 records in 2015, but the number of records dropped to 14 in 2016, with a maximum day count of only three on 19th June. There were only five records in 2017 and only five in 2018. In 2017 all of the records were from the steep grassy banks on Transect 12 where Bird's-foot Trefoil grows, a favoured foodplant of Common Blue. In 2018 it was encouraging to see a single on Transect 1 (Church Field) on 25th Apr (an early sighting) and one on Transect 6 (Penny Croft) on 19th Jul. Two were seen on Transect 12, the usual favoured location, on 12th Jul, with another one on 6th Aug.

Holly Blue (*Celastrina argiolus*)

Cheshire status: Normally a common and widespread resident, although cyclical fluctuations occur with rapid increases in population followed by equally sharp declines. Double-brooded flying from mid-April to late May, with the second generation seen from mid-July to early September.

The species was not recorded in 2017 but it was encouraging to see six records in 2018. One was seen on Transect 1 (Church Field near Wood Bongs) on 12th Jul and four on 19th Jul with one on the same date on Transect 15 (Brook Meadow).



Holly Blue. Photo Sheelagh Halsey.

Red Admiral (*Vanessa atalanta*)

Cheshire status: An annual immigrant of varying abundance, generally common and widespread with a scattering of sightings in even the poorest years. Negligible, though increasing, numbers have hibernated successfully in the county over the last few years. Breeds in a range of habitats with largest numbers generally recorded in the late summer.

2017 was a very good year for Red Admiral records with 75 in total. In comparison, 2018 was very poor with only 15. This was just below the range 16-75 from 2014-17. The species was recorded from 21st Jun to 24th Sep. The highest day count was only four on 24th Sep.

Painted Lady (*Vanessa cardui*)

Cheshire status: An annual immigrant, normally recorded in small numbers, although 1996 and 2009 produced massive influxes. Breeds in a range of habitats, especially where thistles grow in abundance. Peak numbers occur at any time between late July and early September depending on levels of migration.

There was only a single record in 2018. The range from 2014-17 was only 3-5. One was seen on Transect 4 (Shaw Green Willows) on 27th Jun.

Small Tortoiseshell (*Aglais urticae*)

Cheshire status: An abundant and widespread resident with immigration noted in some years. A recent population decline is disturbing, although there is little evidence of any long-term change of status. This is, however, a nomadic insect whose numbers tend to fluctuate from one year to another depending on weather conditions. It is normally double-brooded and also flies in early spring after hibernation.

There were eight records in 2018, which was lower in 2017 (16). The range was 5-70 from 2014-17. The highest day count was four recorded on 19th Apr.

Peacock (*Inachis io*)

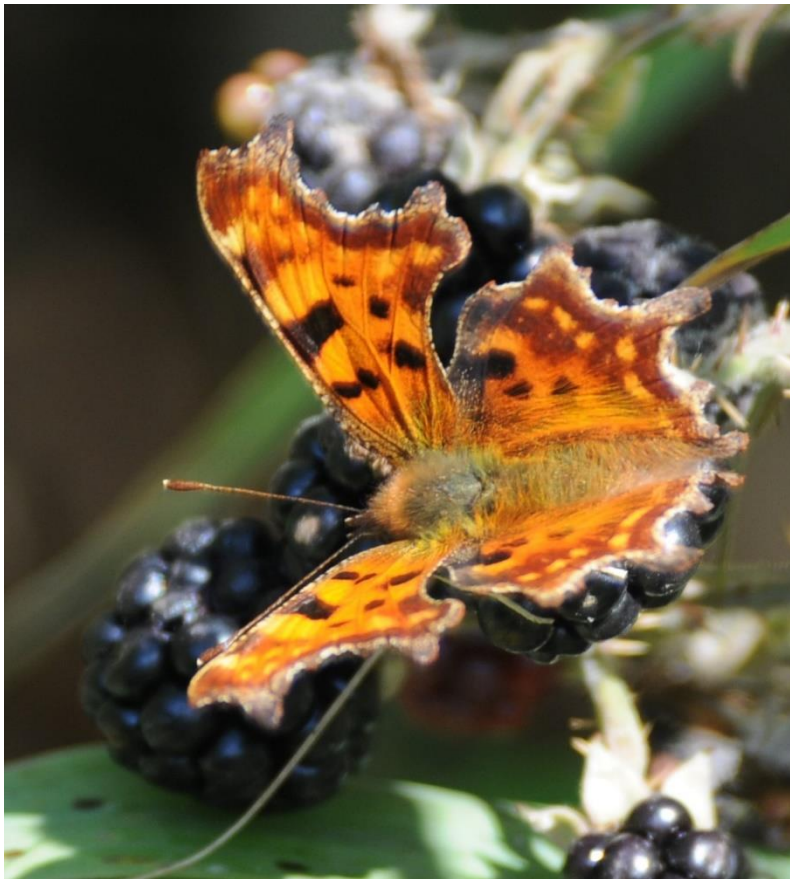
Cheshire status: An abundant and widespread resident, which has become more numerous since the 1970's, especially in the east of the county. It is a single-brooded butterfly with peak numbers from late July and throughout August, but flies again in early spring after hibernation.

There were 25 records of Peacock (21 in 2017, 15 in 2016, 64 in 2015 and 124 records in 2014). The highest day count was only six recorded on 19th Apr.

Comma (*Polygonia c-album*)

Cheshire status: A common and widespread resident that has been slowly extending its range in Cheshire since at least the 1940's. This range extension accelerated from the early 1980's with small numbers now often recorded in the Pennine foothills. This is a double-brooded insect that also hibernates to appear again in early spring. Its favoured habitats are woodlands and mature hedgerows.

There were 26 Comma records which was markedly lower than 48 last year. Singles were seen on transects 1, 3 and 4 on 21st Jun. The highest day count was four seen on 30th Aug, 5th Sep and 24th Sep.



Comma. Photo Bill Bellamy.

Speckled Wood (*Parage aegeria*)

Cheshire status: An abundant and widespread resident. Since the late 1980's its range has significantly extended in a north-easterly direction and it can now be found in small numbers in the Pennine foothills. It would appear that the species has benefited from woods becoming shadier places, although warmer weather conditions may also have helped. Two or three overlapping broods mean that sightings can occur throughout the year from April to October.

The number of Speckled Wood records was reduced for the fourth consecutive year, to 186 records from 191 in 2017, 254 in 2016 and 375 records in 2015. Speckled Wood is seen throughout the Reserve and was often the only butterfly seen in the shaded transects in Wood Bongs, Mere Covert and Harpers Bank Wood. The

highest day count was 22 on 19th Jul. The highest count in a single transect was 11 on Transect 4 on the path alongside the hedge between Shaw Green Willows, Mere Field and Mere Meadow.

Gatekeeper (*Pyronia tithonus*)

Cheshire status: Presently an abundant and widespread resident. In the 1930's this butterfly was virtually unknown on the Cheshire Plain, but a range expansion has been underway since that time which seems to have accelerated since the early 1980's. In the last few years breeding colonies have even become established in the Pennine foothills. Single-brooded flying throughout July and August.

There were 92 records of Gatekeeper in 2018 (88 in 2017, 113 records in 2016, 131 in 2015 and 112 in 2014). The species was first seen on 27th Jun (an early date) and last seen on 6th Aug. The maximum day count was 32 on 12th Jul. The highest count in a single transect was 14 on Transect 1 (Church Field)

Meadow Brown (*Maniola jurtina*)

Cheshire status: Nowadays an abundant and widespread resident, although in the early 1900's it was quite scarce in some areas of the county. Despite the loss of traditional farming methods which will have resulted in some declines in lowland area, there does not appear to be any change of status in the less intensely farmed upland regions where numbers have always been lower. Favoured habitat is unimproved grassland. Single-brooded flying from early June to late August.

Once again, Meadow Brown was the commonest butterfly at Rostherne Mere in 2018. It remained at the top of the list with 535 records which was the lowest number since the survey recommenced in 2014. The range was 589-915 from 2014-17. The grass meadows in transects 1, 3, 6 and 12 provide good habitat for the species. The species was first seen on 21st Jun and last spotted on 6th Aug. Transect 12 (grazed grassland around Gale Bog) posted the highest numbers with 108 individuals recorded on 27th Jun. The highest individual day count for the whole site was 207 on the same date.

Dragonflies and Damselflies Survey 2018

2018 represented the third year of the Dragonflies and Damselflies Survey undertaken by Sheelagh Halsey. Sheelagh recorded species, abundance and location during 22 visits from 7th May to 18th Oct. References to locations replicate the transect numbers used in the Butterfly Survey. The areas covered by the survey included Transect 1 (Church Field including the Boat House), Transect 3 (Mere Field), Transect 4 (Along the edge of Mere Meadow and Shaw Green Willows), Transect 5 (Shaw Green Willows), Transect 6 (Penny Croft) and Transect 15 (Dolls Meadow shoreline). The results are shown in the tables below:

Visit Number	Date	Start Time	Duration (hrs)	Weather
1	07/05	10:40	2	24°C, 0/8 cloud, no breeze
2	15/05	10:50	2.5	18°C, 0/8 cloud, light breeze
3	20/05	11:05	1.75	23°C, 1/8 cloud, no breeze
4	28/05	10:10	2	23°C, 0/8 cloud, no breeze
5	21/06	13:30	3	15°C, 4/8 cloud, moderate breeze
6	27/06	13:30	2	28°C, 0/8 cloud, moderate breeze
7	05/07	13:30	2.5	25°C, 1/8 cloud, moderate breeze
8	12/07	13:30	2	23°C, 8/8 cloud, light breeze
9	19/07	13:45	2	23°C, 5/8 cloud, moderate breeze
10	25/07	13:00	2	24°C, 1/8 cloud, light breeze
11	01/08	10:30	2.5	23°C, 6/8 cloud, light breeze
12	06/08	13:15	2.5	23°C, 4/8 cloud, no breeze
13	14/08	11:00	1.5	20°C, 7/8 cloud, moderate breeze
14	20/08	13:40	1.5	24°C, 7/8 cloud, light breeze
15	30/08	13:30	2	17°C, 2/8 cloud, no breeze
16	05/09	11:30	1.5	17°C, 4/8 cloud, light breeze
17	13/09	13:30	2	16°C, 3/8 cloud, moderate breeze
18	17/09	13:15	1.5	22°C, 6/8 cloud, moderate breeze
19	24/09	13:45	1.25	13°C, 4/8 cloud, moderate breeze
20	04/10	13:50	1.5	16°C, 7/8 cloud, moderate breeze
21	10/10	10:30	2	22°C, 0/8 cloud, light breeze
22	18/10	14:00	1.25	14°C, 0/8 cloud, no breeze

Table 1 Visit Details.

Species	Visits	1	2	3	4	5	6	7	8	9	10
Azure Damselfly		1	25+	36+	70+	50+	5+	2	1		
Blue-tailed Damselfly				15+	120+	70+	25+	10+	1	1	
Large Red Damselfly		1	7	12+	10+	1					
Banded Demoiselle				1	20+	1		1			
Common Blue Damselfly				20+	70+	110+	120+	100+	40+	35+	45+
Broad-bodied Chaser				2	1						
Four-spotted Chaser					1						
Black-tailed Skimmer						4	4	5	2	3	
Common Darter											1
Ruddy Darter								1			
Brown Hawker							8	5	4	7	9
Southern Hawker											1
Migrant Hawker											
Emperor						2	1				

Table 2 Species Counts.

Species	Visits	11	12	13	14	15	16	17	18	19	20
Azure Damselfly											
Blue-tailed Damselfly			5			2					
Large Red Damselfly											
Banded Demoiselle											
Common Blue Damselfly	40+	50+	25+	30+	10+	10+	5	2			
Broad-bodied Chaser											
Four-spotted Chaser											
Black-tailed Skimmer											
Common Darter		2			3	3	9	8	2	3	3
Ruddy Darter											
Brown Hawker		2			3	1					
Southern Hawker		9	1		5	3					
Migrant Hawker					1	4	9	8	4	5	2
Emperor											

Table 2 Species Counts (continued).

Species	Visits	21	22 (no T15)	Transect
Azure Damselfly				1, 4, 5, 6
Blue-tailed Damselfly				1, 4, 5, 6, 15
Large Red Damselfly				4, 5
Banded Demoiselle				4, 5, 6, 15
Common Blue Damselfly				1, 3, 4, 6, 15
Broad-bodied Chaser				4, 15
Four-spotted Chaser				5
Black-tailed Skimmer				4, 15
Common Darter	15	4		1, 4, 5, 6, 15
Ruddy Darter				5
Brown Hawker				1, 3, 4, 5, 6, 15
Southern Hawker				1, 3, 4, 6, 15
Migrant Hawker	5	1		1, 4, 5, 6, 15
Emperor				1

Table 2 Species Counts (continued).

Visits	Total no. species per visit
1	2
2	2
3	6
4	7
5	7
6	6
7	7
8	5
9	4
10	4
11	1
12	5
13	2
14	5
15	6
16	3
17	3
18	3
19	2
20	2
21	2
22	2

Table 3 Total no. of Species Per Visit.

Church Field / Boathouse (T1)	Common Blue Damselfly	Ovipositing
	Southern Hawker	Mating
Bittern Hide (T4)	Large Red Damselfly	Ovipositing
	Common Blue Damselfly	Mating
Shaw Green Willows (T5)	Large Red Damselfly	Mating
	Azure Damselfly	Ovipositing
	Blue-tailed Damselfly	Mating
	Common Darter	Ovipositing
Penny Croft (T6)	Common Blue Damselfly	Mating
Dolls Meadow edge (T15)	Common Blue Damselfly	Ovipositing
	Blue-tailed Damselfly	Mating
	Common Darter	Mating

Table 4 Observations on reproduction.

There were a total of 14 species recorded during the survey, one more than last year as **Ruddy Darter** was added to the list. The species was last recorded on 27th Jul 2001.

Azure Damselfly (*Coenagrion puella*)

The Azure Damselfly was seen on eight visits from 7th May until 12th Jul. The highest counts for the year were 70+ on 28th May and 50+ on 21st Jun which were markedly lower than last year (600+ and 400+). It was observed ovipositing in the pond in Shaw Green Willows.

Blue-tailed Damselfly (*Ischnura elegans*)

The species was seen on nine visits from 20th May until 30th Aug with 120+ on 28th May and 70+ on 21st Jun. It is a common species and was recorded on the majority of the transects surveyed. It was seen mating in Shaw Green Willows and on the edge of Dolls Meadow.

Large Red Damselfly (*Pyrrhosoma nymphula*)

The Large Red Damselfly was seen flying from 7th May until 21st Jun. Approximately 12 were seen on 20th May and 10 on 28th May. As in 2017, it was only recorded on Transect 4 and 5 (Shaw Green Willows). It was seen mating in Shaw Green Willows and ovipositing near the Bittern Hide.

Banded Demoiselle (*Calopteryx splendens*)

The Banded Demoiselle was recorded on four visits with singles recorded on all but one visit. It was first seen on 20th May. The highest count was 20+ on 28th May. The last record was one seen on 5th Jul. The species was recorded from Shaw Green Willows, Penny Croft and the edge of Dolls Meadow.

Common Blue Damselfly (*Enallagma cyathigerum*)

The species was first seen on 20th May when 20+ were recorded. Common Blue Damselfly is the commonest species seen on the Reserve and was logged on 16 of the 22 visits. High counts included 110+ on 21st Jun, 120+ on 27th Jun and 100+ on 5th Jul. The highest count in 2017 was 100+ on 1st Jul. It was seen on all of the transects except Transect 5, the path around the ponds near Blackburns Brook. It was seen mating in Penny Croft, near the Bittern Hide and near the Boathouse and was observed ovipositing near the edge of the Mere in Dolls Meadow. The species was last seen on 17th Sep.



Common Blue Damselflies mating. Photo Sheelagh Halsey.

Broad-bodied Chaser (*Libellula depressa*)

Broad-bodied Chaser is often the first species of dragonfly to be seen on the Reserve, but usually in low numbers and for a short period of time. Two were seen on 20th May and one on 28th May. It was seen in two locations, in Shaw Green Willows and the edge of Dolls Meadow.

Four-spotted Chaser (*Libellula quadrimaculata*)

As in 2016 and 2017 there was only one record of Four-spotted Chaser. A single was seen near Blackburns Brook on 28th May.

Black-tailed Skimmer (*Orthetrum cancellatum*)

The species was seen from 21st Jun to 19th Jul with a total of 18 records (21 records in 2017 from 14th Jun until 27th Aug). However, numbers were higher than in 2017 (1-3) with four on 21st Jun, 27th Jun and five on 5th Jul. The main site for the species is the cattle drink on the edge of Dolls Meadow, but as in 2017 it was also recorded on Transect 4 on the path along the edge of Shaw Green Willows.

Common Darter (*Sympetrum striolatum*)

Common Darter was recorded from 25th Jul until 18th Oct. Counts ranged from 1 to 15 (10th Oct). It was seen on all of the transects surveyed except Transect 3 across Mere Field. It was seen mating at the edge of Dolls Meadow and ovipositing in the pond in Shaw Green Willows.



Common Darter, male. Photo Sheelagh Halsey.

Ruddy Darter (*Sympetrum sanguineum*)

Less abundant than the Common Darter, one was seen in Shaw Green Willows near the ponds on 5th Jul. This is the first record since the survey commenced in 2016. It was last logged on 27th Jul 2001, so it is reassuring that the species has been recorded on the Reserve again.

Brown Hawker (*Aeshna grandis*)

It was first seen on 27th Jun. The highest count was nine on 25th Jul. It was last recorded on 30th Aug (1). Brown Hawker was the only species of dragonfly or damselfly which was recorded on all of the transects surveyed.

Southern Hawker (*Aeshna cyanea*)

It was first seen on 25th Jul when a single was recorded. The highest count was nine seen on 6th Aug. The last count was three on 30th Aug. A total of 19 records were made in 2018, the highest since the survey commenced in 2016. The species was seen in the majority of transects surveyed and was observed mating near the Boathouse.

Migrant Hawker (*Aeshna mixta*)

There were 38 records of Migrant Hawker which is similar to previous years (35 in 2016 and 44 in 2017). The species was first seen on 20th Aug (1). The highest counts were nine on 5th Sep and eight on 13th Sep. The last record was a single seen on 18th Oct, the last survey of the year. Migrant Hawker was seen on five of the six transects with the exception being across Mere Field.



Migrant Hawker. Photo Sheelagh Halsey.

Emperor Dragonfly (*Anax imperator*)

Britain's largest dragonfly has been spreading north in recent years and was first recorded at Rostherne in 2016. In 2017, there were nine records. There were only three records in 2018 with two seen on 21st Jun and one seen on 27th Jun. All records were from near the Boathouse.