

Chippenham Fen NNR

Reserve Report

April 2018 - March 2019

**Michael Taylor
Reserve Manager**



Reserve Management

Staff

Management work was carried out by Reserve Manager Mike Taylor, Senior Reserve Manager Chris Hainsworth, NNR Apprentice Tom Booth and Emma Quick, also of Natural England, assisted at times by a number of volunteers.

Grazing

Buffalo

The six water buffalo grazed parts of the reserve as follows (grazing units named as on Map 2 Grazing areas) :

Pigeon	23 April – 9 May; 29 June – 2 August; 5 October - 9 November (85 days)
Baxter west	1 April – 23 April; 2 – 30 August (c9 and part c10 only); 30 August - 3 September; 30 November-31 March (174 days).
East meadows	9 May – 29 June; 3 September – 5 October; (83 days).
North meadows east	9 – 30 November (21 days)
North meadows west	Not grazed by buffalo this year

The table below compares buffalo grazing duration in days for each unit since 2009/10:

	Grazing Unit Name (Compartment Number)				
	Pigeon (c 7,8 and11)	Baxter west (c9/10)	East Meadow (c13)	North meadow east (c1)	North meadow west (c2)
2009/10	55	182	110	18	
2010/11	75	165	81	44	
2011/12	78	199	70	18	
2012/13	51	215	58	41	
2013/14	48	199	78	40	
2014/15	38	159	119	32	17
2015/16	67	163	92	44	
2016/17	85	154	83	43	
2017/18	59	174	132		
2018/19	85	174	83	21	

After the very dry summer of 2018, the 2018/19 winter remained relatively dry and largely quite mild – there was only one short cold snap when there was a little lying snow.

Despite this one or two of the buffalo showed signs of losing condition around Christmas so we began feeding on 4 January, using the first of 10 large round hay bales which Will Taylor had made on the buffer land outside the Fen. We began feeding barley straw on 9 January and continued with 2 bales of barley straw and a bag of carrots each day until early April, plus the remaining 9 large hay bales which were put into the feeding area at intervals using the front loader. Growth was again very slow in spring 2019 – in previous years we have stopped feeding and moved the buffalo by early April, or even late March, but this year there was just not enough growth to allow us to do this until well into April.

The table below summarises the quantities of feed (straw and carrots, and this year large round hay bales from edge of fen) that we have given the animals since we began supplementary feeding in 2009-10:

	Number of days fed	Barley straw (small bales)	Carrots (15-20 kg bags)	Large round hay bales
2009/10	105	212		
2010/11	93	136		
2011/12	91	206		
2012/13	92	274	60	
2013/14	89	150	65	
2014/15	84	180	65	
2015/16	50	100	47	
2016/17	94	194	86	
2017/18	108	254	103	4
2018/19	109	168	91	10

Lice infestation was as usual evident during the winter but the animals were not treated with Trodax this year.

No dung samples were taken this year.

The electric fence around the Baxter west grazing compartment was strimmed twice; in June and again over several days in October and November; the fence around Pigeon grazing compartment was strimmed twice, in June and October. Fences were checked several times per week when buffalo were grazing, and any repairs made as necessary. Several fallen or dangerous leaning trees were removed along the fence-lines during the year. Several willows were cleared from the Baxter west fence and the gate at the west end of Baxter replaced on 13

June – a large tree had again crushed the gate, the third time this had happened in the same place in the last few years.

The worst buffalo-poached areas in Baxter west, notably the feeding area at Bullock Hill, were rotovated on 16 May, when the feeding area was also tidied up. Extensive repairs were made to the Baxter West, Pigeon, East meadow and Compartment 1 fences through the year, with many rotted fence posts being replaced. A new bridge was built across a ditch on the outside of the Pigeon Ride fence on 4 July – this replaced a rather unsafe single sleeper bridge and made checking the fence a lot easier.

On 19 July Will Russell came from the Suffolk Coast NNRs to lend his expertise in felling the large hung up ash trees that had fallen across the Baxter West fence near the buffalo feeding area during the winter.

In order that the buffalo could graze compartment 9 and part of compartment 10 in July without harming the Cambridge Milk parsley a temporary electric fence was erected to exclude the buffalo from the main milk parsley area in compartment 10.

Some trees were felled on the approach to the buffalo feeding area from adjacent buffer land and a new gate erected in the boundary fence in December – this was to allow tractor access to the feeding area with large hay bales.

The weekend buffalo checking rota, involving NE staff and volunteers, continued throughout the year. For most of the year checking was done only once per weekend, but each day between 12 January-April when we were feeding the animals.

Cattle

Grazier Will Taylor moved 25 cattle (16 cows, 8 calves and a bull) from the buffer land outside the fen up the footpath into compartment 1 on 26 June. Until 17 August they were excluded from the Cambridge Milk Parsley area in the west of the compartment.

On 3 September the cattle (now numbering 30 in total) were moved across the footpath from compartment 1 to compartment 2, where they stayed until 24 September when they were moved back into compartment 1. On 12 October they were moved back into compartment 2 for a few days, before being taken off the reserve via the gate at the west end of the compartment on 17 October.

Ragwort was abundant in compartment 1 this year. Some was hand pulled by NE and our grazier, but the bulk was cut with the Ryetec in late July/ early August. A temporary electric fence was erected across the compartment to exclude the cattle from the cut area.

Rides/ Ride-Cutting

All main rides were cut on 24 May, using the Gator and flail mower. Mechanical problems with the Wessex meant that it was out of action from mid-June. Subsequently limited ride cutting was carried out using the BCS. The extremely dry conditions during the summer meant that the Kubota could be used for some ride management; a 45 degree cut on selected rides was carried out on 20 July, and on 6 August all accessible rides were cut with the Kubota and Ryetec. The last ride cutting was carried out on 5 October, using the BCS.

Any windblown trees/branches were promptly cleared from rides. Several fallen trees were cleared from 40 acre ride on 13 April. Trees on the approach to East meadow were cut back on 3 September. The main footpath north of the river was widened by cutting back encroaching scrub on 11 October.

Topping/Cut and gather

The rain gauge area was cut and raked on 17 April. Reed in the ditch bank between the shed and Baxter West and in the wetter parts of Ian McLeans plot was topped with strimmers on 8 May.

Several days were spent cutting selected areas in compartments 1, 2, 4, 11 and 13 using the tractor and Ryetec cut and collect machine between early July and late September.

The traditional areas, like Ian McLeans plot and the Bogbean were cut by BCS and brushcutter over 3 man-days in September. These were raked off during two Cambridge Conservation Volunteer tasks, on 9 and 16 September.

Areas in compartments 8 and 11 were cut with the BCS in late summer/autumn – these were raked and piled by volunteers, including during a joint NE Cambridge Team/Cambridge Wildlife Trust/ Great Fen Project/ Cambridge CC meeting on 18 August. .

The Ryetec was again loaned to Woodwalton/ Collyweston NNRs in the autumn. Jim Rileys shooting area adjacent to the reserve was topped once, in May.

Woodland management work in that area prevented any further topping.

The small pond at the west end of compartment 2 was trimmed and raked on 1 October.

The main bogbean area was extended and the cut material raked during a weekend volunteer task on 7 October.

The area around dipwell 9 was cut with the BCS on 29 November and raked on a weekend volunteer task on 2 December.

Sedge Cutting

Marcus Setchell carried out the sedge cutting this year in compartment 4 starting on 6 September. In all about 1500 bundles were cut and carted off , and most of the waste material tidied up.

Water

Tracks to our dipwells, and the EA dipwells on the north meadows and in compartment 8 were periodically strimmed/mown for ease of access. Some collar dams were manipulated in order to keep the fen wet during the very hot and dry conditions this summer.

Water samples from various ditches around the reserve continued to be taken monthly until around July and analysed by Lucy Hatcher and others from NE Conservation Services Team.

The rain gauge was checked by the Met office/EA on 24 April.

Brian Wheeler and Ros Tratt visited on 18 July prior to the completion of the Sheffield University hydrology report.

Access

Numerous fallen trees were cleared from rides around the reserve during the year. The western arm of the top footpath was strimmed once during the summer.

A few trees were cleared at the main spring on 7 January. The rather unsafe boardwalk to the staff gauge here was replaced.

A new rain gauge enclosure was built on 3 October.

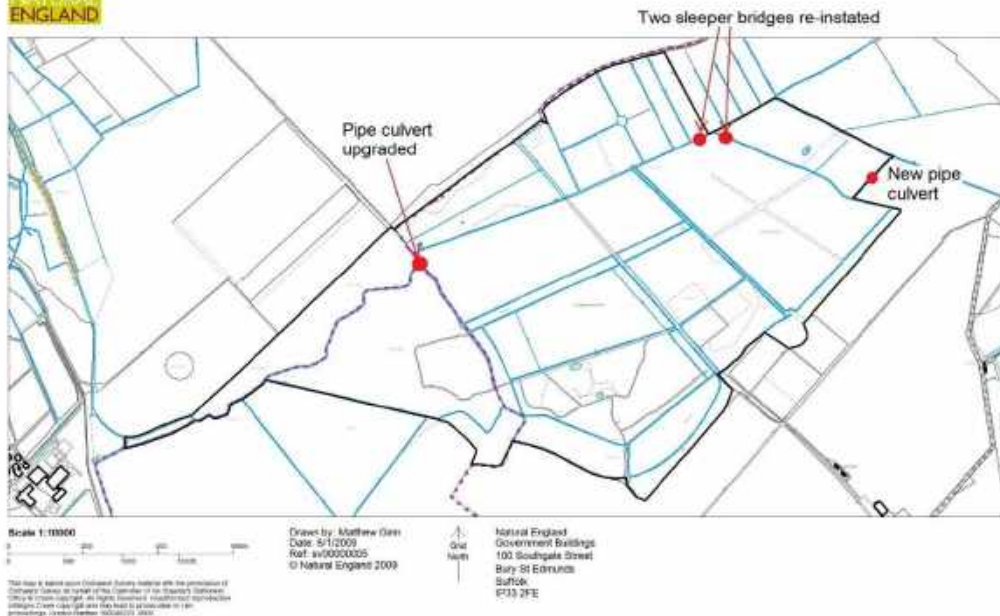
Bridge/Culvert Project

Last year we successfully bid for funding through the DEFRA-funded Capital Works project in order to improve access on the reserve; specifically to upgrade a pipe culvert in Poors Fen, re-instate two sleeper bridges in compartments 1 and 13 and to install a completely new pipe culvert and access point on the southern boundary of compartment 13. Once completed, these would allow for the movement of livestock between North and East meadows, and provide tractor access to East Meadow via adjacent farmland rather than using tracks inside the fen, which are often very wet.



Chippenham Fen NNR

Culvert Works 2017-18



GM Utilities Ltd began the work in November but it became too wet to complete, so was postponed until the fen dries out in Summer 2018. In the meantime, bridge materials and posts for fencing a walkway between the two bridges were purchased. However, over the winter problems with this particular contractor at other NNRs emerged and we had to find another contractor to complete the work. Fen Ditching Ltd duly made good one culvert and erected the two new bridges between 11 and 23 October.

Ragwort Control

The higher, drier parts of compartment 1 were particularly badly affected by ragwort this year. Control measures have been outlined in the grazing section above.

Deer/Pest control

Jim Riley carried out stalking activities on the fen as usual. On 142 visits, 20 muntjac bucks, 17 muntjac does, 5 roe bucks and 11 roe does were shot.

NNR Workbase

The office, lobby and w.c/shower were cleaned every two weeks by Mark Day on contract. The workshop and tractor area were swept/tidied by NE staff when time allowed.

The fire alarm system was serviced by M-Fire on 26 February. NE staff tested the fire alarms on a monthly basis.

The building alarm went off twice during the night on 1 May – it was checked by Aztec on 2 May.

John White (NE) assisted by a Woodbastwick volunteer carried out PA testing and HAV testing of all our equipment on 13 November.

CAMTRAK carried out our LOLER testing on 1 June and 29 November.

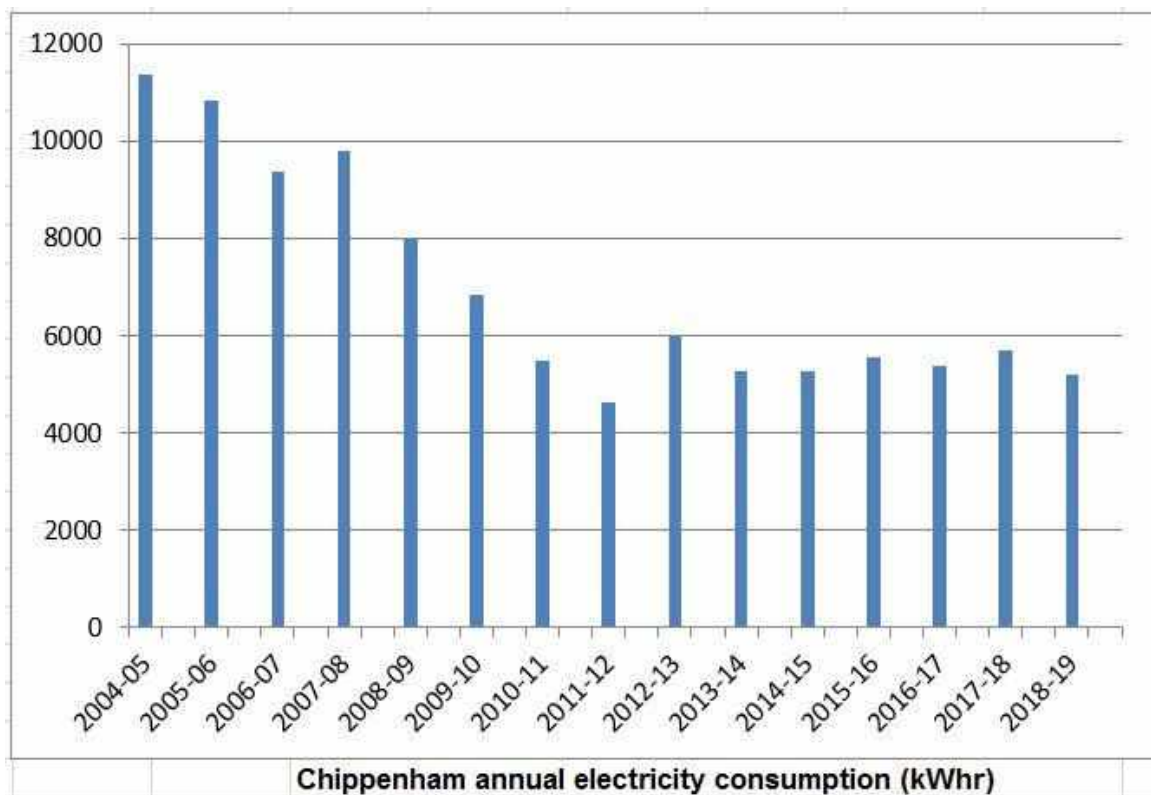
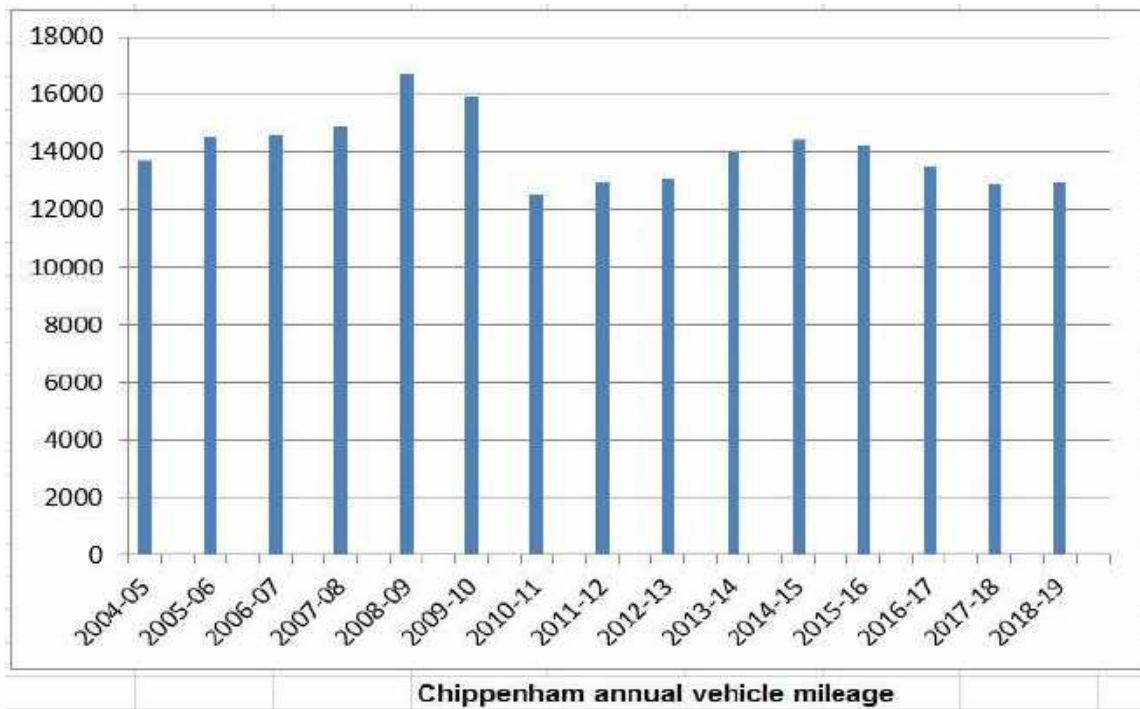
The septic tank was emptied this financial year, with 5000 gallons of cess being removed over two visits on 2 and 10 October.

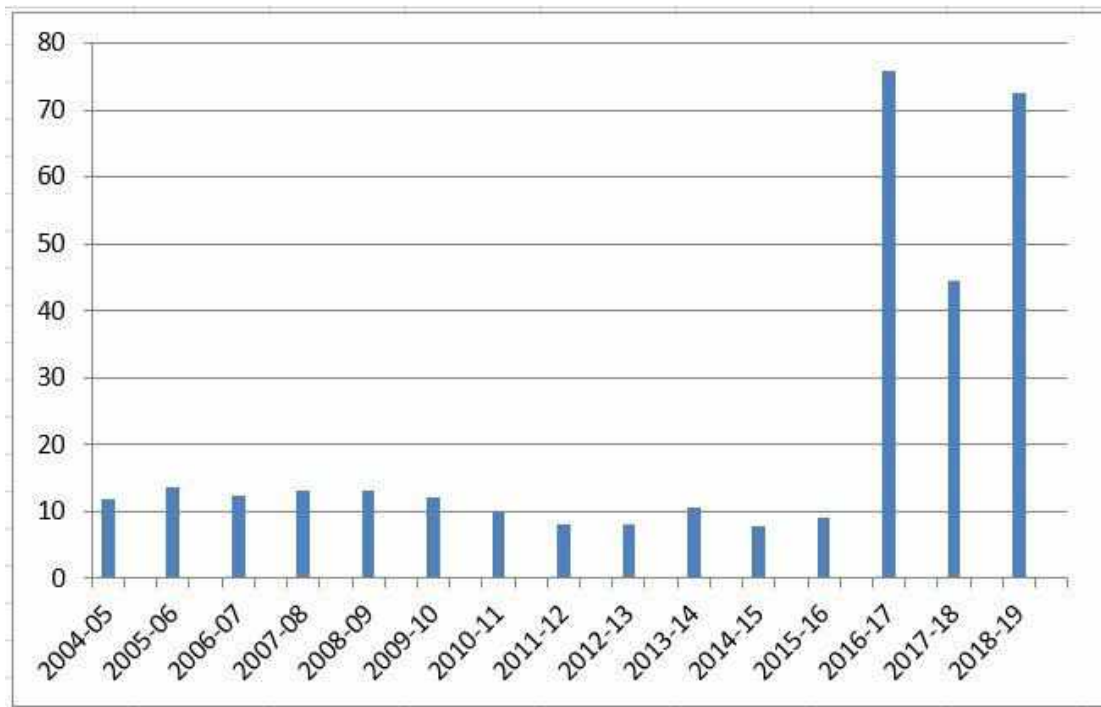
The two tractors, Gator, Wessex flail mower, Votex flail, rotovator, Ryetec and BCS were serviced by Stephen Eyles on 22 February. A suitably trained volunteer, Ed Widdick, serviced the road trailers on 8 February.

The bird feeder in front of the workbase, and the feeder near the buffalo pen, were kept filled throughout the year, only sunflower hearts being used.

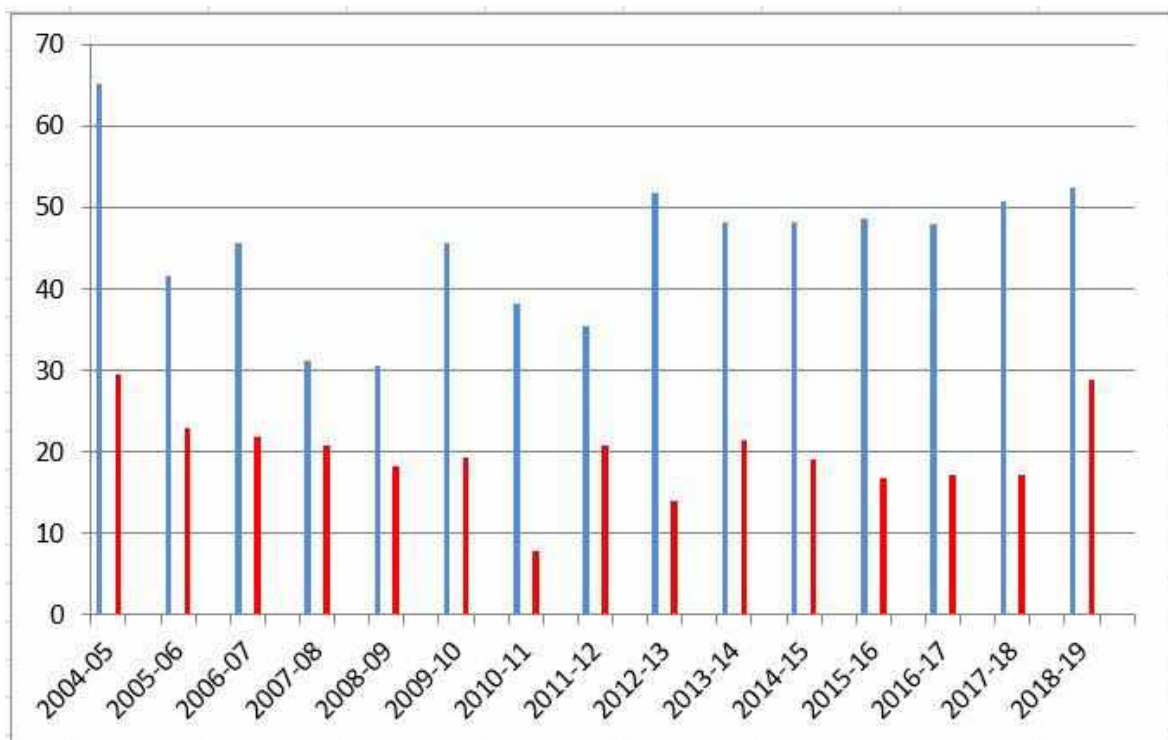
Browns of Burwell delivered 500 litres of diesel to our tank in late March.

For a number of years we have recorded environmental data for the work base each month, together with vehicle mileage data. Charts showing the annual totals of mileage, electricity consumption, water consumption, cess, rubbish and recycling produced are below:

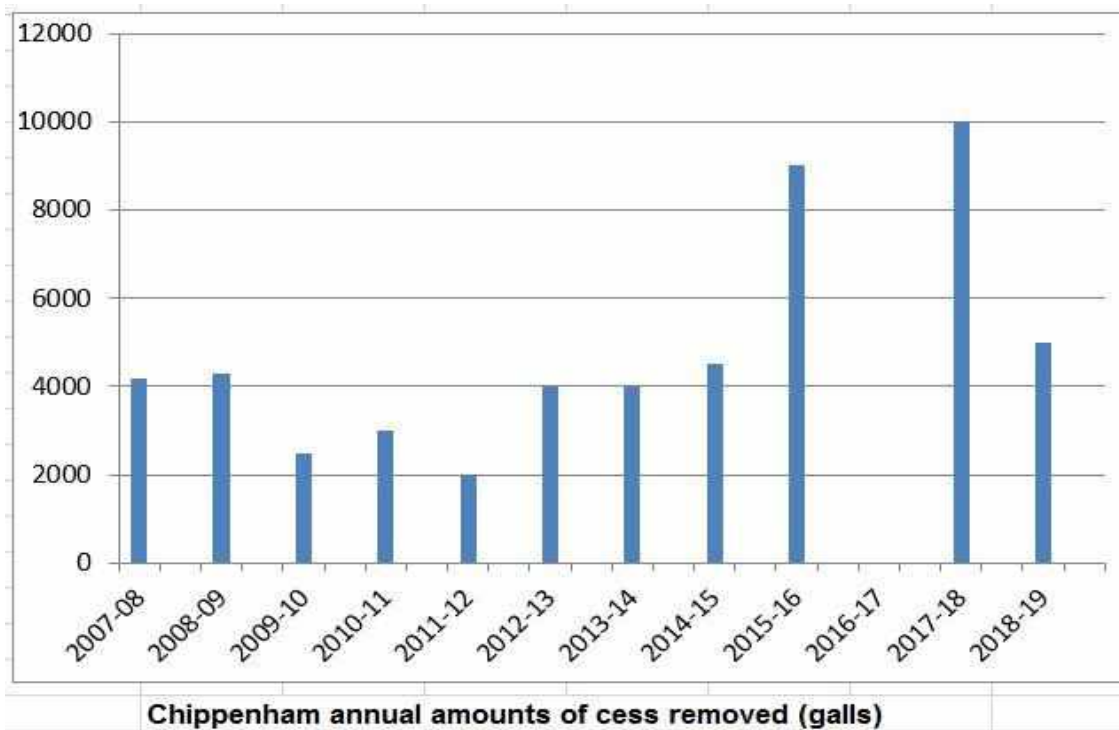




Chippenham annual water consumption (m3)



Chippenham rubbish (kg - blue) and recycling (kg - red)



Most of the charts are self-explanatory and are reasonably comparable from year to year, apart from high water consumption recently due to supplying water to the graziers cattle when they were on the buffer land outside the fen and possibly an indication that the septic tank requires emptying more regularly in the last few years – the reason for this is not known, but we have speculated that water may be seeping into the tank through a crack in the wall.

Health and safety

Access structure and tree safety checks were carried out on 4 January.

There was an Area 9 H&S workshop for NNR staff held on 4 October.

A new member of the NE H&S team came to Chippenham for an orientation visit with Sarah Worthy on 25 October.

All the NNR risk assessments were reviewed during the year.

Adam Burrows carried out the workbase H&S peer review on 14 March.

Volunteers

We are extremely grateful to a number of volunteers who contributed greatly to the management and surveying of the reserve this year. In all, a total of 101

person-days were worked by volunteers, and this can be broken down into 47 days of practical management , 21 days of livestock checking and 33 days of survey work.

With thanks to:

Bruce Martin, Phil Brown,
Owen Marks
Terry and Glen Riley, Nick Sibbett,
Ruth Angrave, Alastair Burn,
Christoph Zockler, Sam Mortlock

Dusk survey (3 days)

Cambridge Conservation Volunteers

Spent two days assisting
with practical management
works (19 days)

Terry and Helen Moore

Amphibian and orchid
surveys (2+ Days)

Annie Osborn, Phil Brown,
Dale Hing, Pamela Abbott
Phil Vigrass, Monica O'Donnell
Alex Nichols, Ruth Angrave
Bill Mansfield, James Hurst

Weekend buffalo
checks (21)

Phil Brown, Phil Vigrass, Colin
Bailey, James Hurst,
Sam Mortlock and the
Weekend volunteers

Practical management

Alan Leslie

Plant recording

Mike Holdsworth, Peter Bircham et al

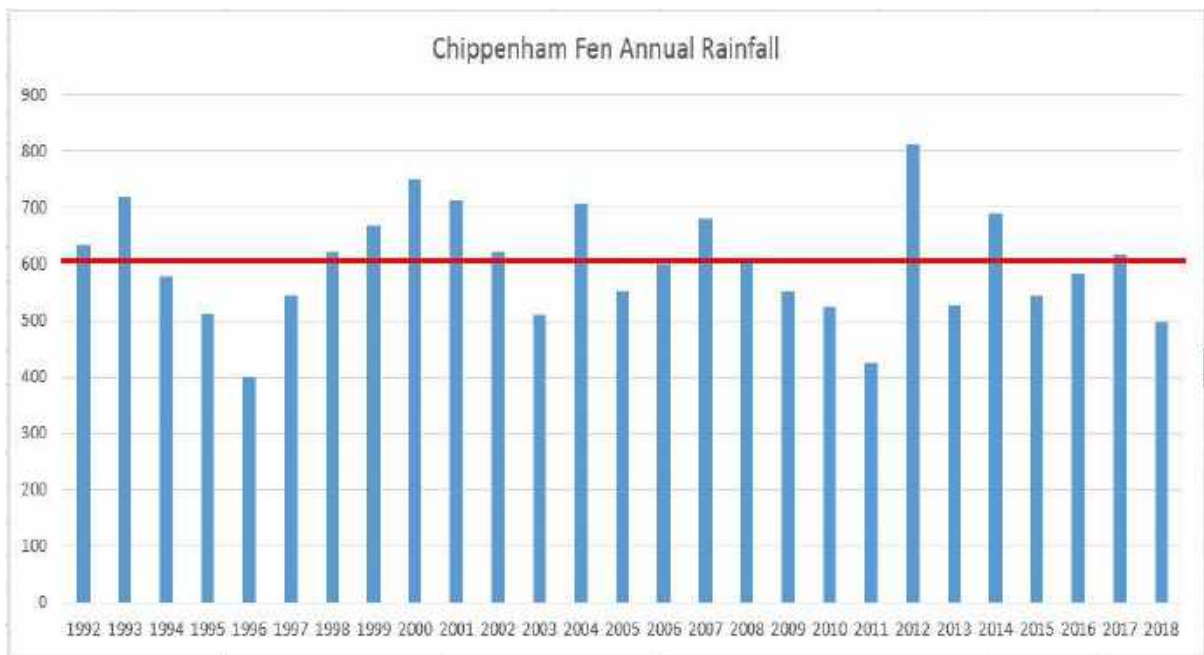
Bird ringing (21 days)

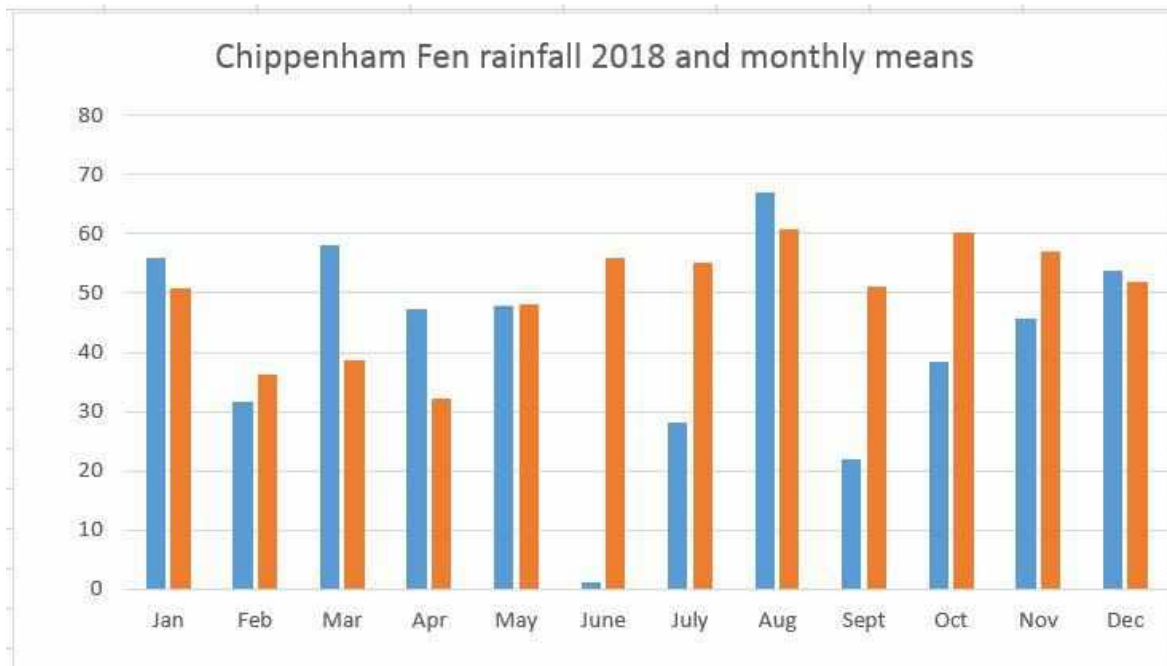
Survey and Monitoring

Water levels/Rainfall

Dipwell readings were taken every two weeks, and rainfall readings weekly. All data were entered onto the dipwell spreadsheet.

Rainfall in 2018 was considerably below the long term average (red line in the chart below). June, July, September and October were particularly dry.





The above chart shows monthly rainfall in 2018 (blue bars) compared with the long term average for each month (orange bars).

Birds

Woodcock survey

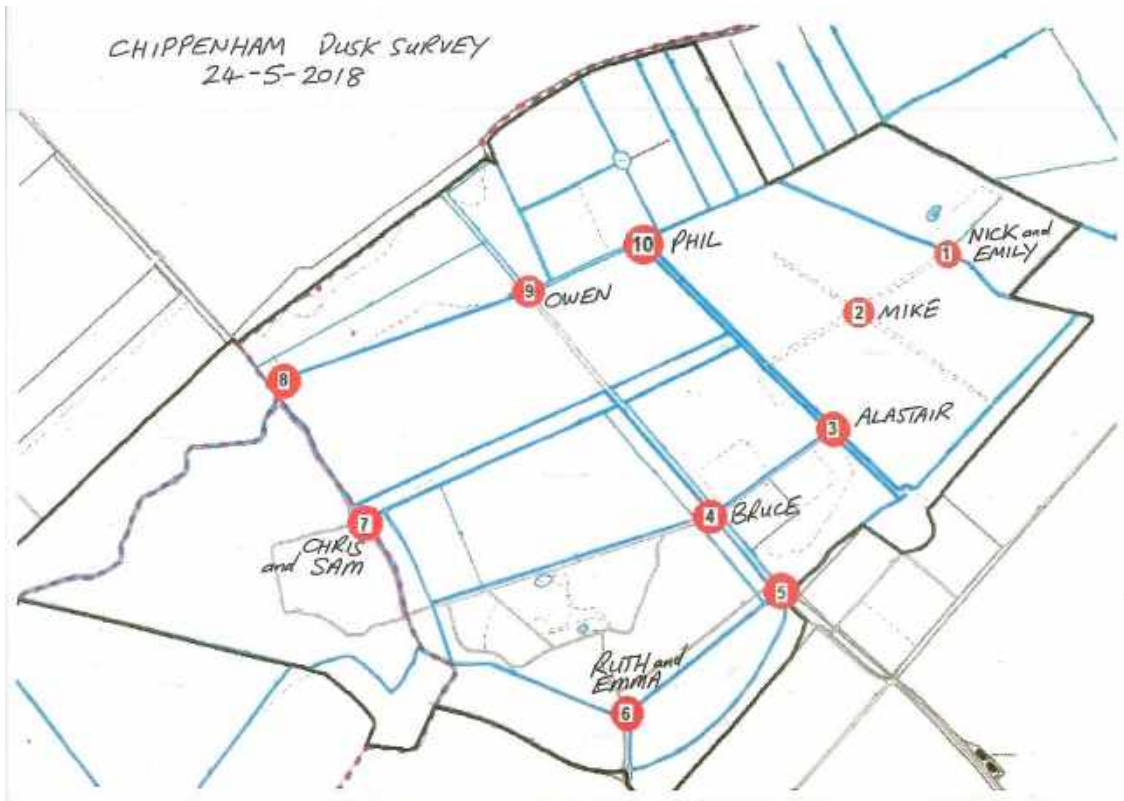
The annual dusk survey was carried out on 24 May. Below is a short report of the evening:

Chippenham Fen Dusk Woodcock Survey 24 May 2018

In contrast to 2017, when the weather was sunny and warm, this year conditions for the survey were less than ideal: dull and overcast with a humid 'thunderly' feel it rained more or less continuously, but with varying intensity, throughout. The survey began at 8pm and woodcock activity was noted very soon after, 20-30 minutes earlier than last year. Due to the rain, the survey was abandoned at 9:01pm, but this still gave us an hour of results

This year we again recorded woodcock in two ways: using our 'traditional' method of mapping roding birds seen from each point for one minute periods every ten minutes between 2000hrs and around 2101hrs, plus recording every woodcock sighting on BTO woodcock survey forms.

Between us we covered 8 of the 10 regular points around the fen:

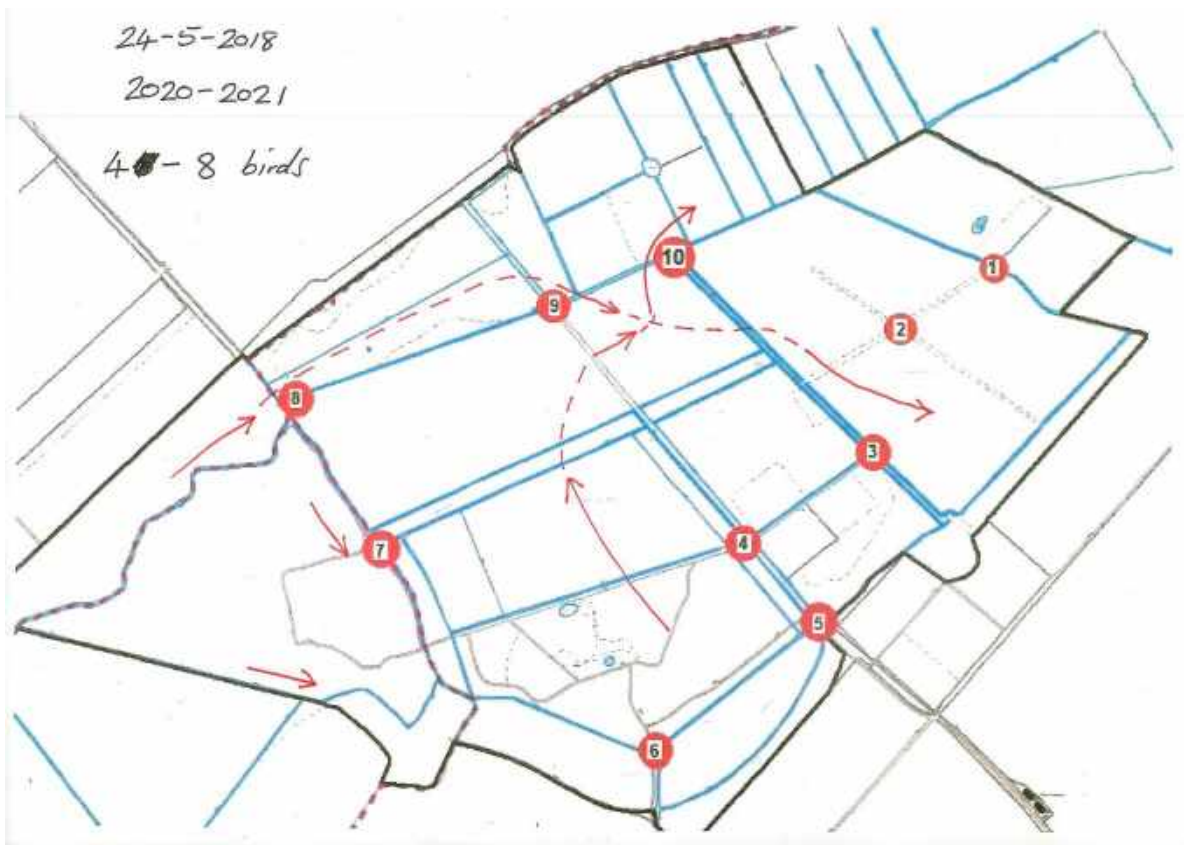


Mapping

We were in position by 2000hrs, and roding activity started almost immediately. The table below summarises the results for the one minute mapping periods:

Time period	Total woodcock contacts mapped	Best estimate of number of different birds involved
2000-01 hrs	0	0
2010-11 hrs	6	4
2020-21 hrs	8	4
2030-31 hrs	5	4
2040-41 hrs	5	4
2050-51 hrs	4	3
2100-01 hrs	4	3

As can be seen, from the mapping of roding flights the estimated maximum number of definitely different birds recorded in any one minute period was 4 – one less than last year. However, it is possible that up to 8 different birds were roding during the 2020-21 period, although this is unlikely as when all observers maps are combined it is likely that some of the birds were recorded from more than one point. The combined map for 2020-21 shows the direction arrows for all observers, with red dashes joining up arrows that probably relate to the same bird seen from more than one point:



BTO survey forms

Recording all woodcock fly-pasts during the evening showed that there was considerable activity throughout. The table below shows all the woodcock seen and/or heard (recorded contacts) from each point between 2000 hrs and when the survey was prematurely curtailed at 2101hrs . There were some recorded contacts before 2000 and after 2101 hrs, but as in previous years these have not been included in the analysis.

Point	Observer 2018	Single bird contacts	Two birds together contacts	Total recorded Contacts 2018	Total Recorded Contacts 2017	Total recorded contacts 2016	Total recorded contacts 2015
1	Nick & Emily	7	1	9	14	5	28
2	Mike	18	2	22	29	16	16
3	Alastair	22	4	30	29	45	56
4	Bruce	8		8	11	7	19
5							
6	Ruth & Emma	22	1	24	34		23
7	Chris & Sam	16	3	22	28	35	25
8							
9	Owen	17	1	19	33	31	13
10	Phil	16	1	18	27	16	

As can be seen from the table above, the number of recorded contacts at each point varies considerably from year to year. As a rather crude comparison of activity between years, one can calculate the mean number of contacts each year, by dividing the total contacts at all points by the number of points covered:

Year	Total woodcock contacts	Number of points covered	Mean number of contacts per point
2015	180	7	25.7
2016	155	7	22.1
2017	205	8	25.6
2018	152	8	19

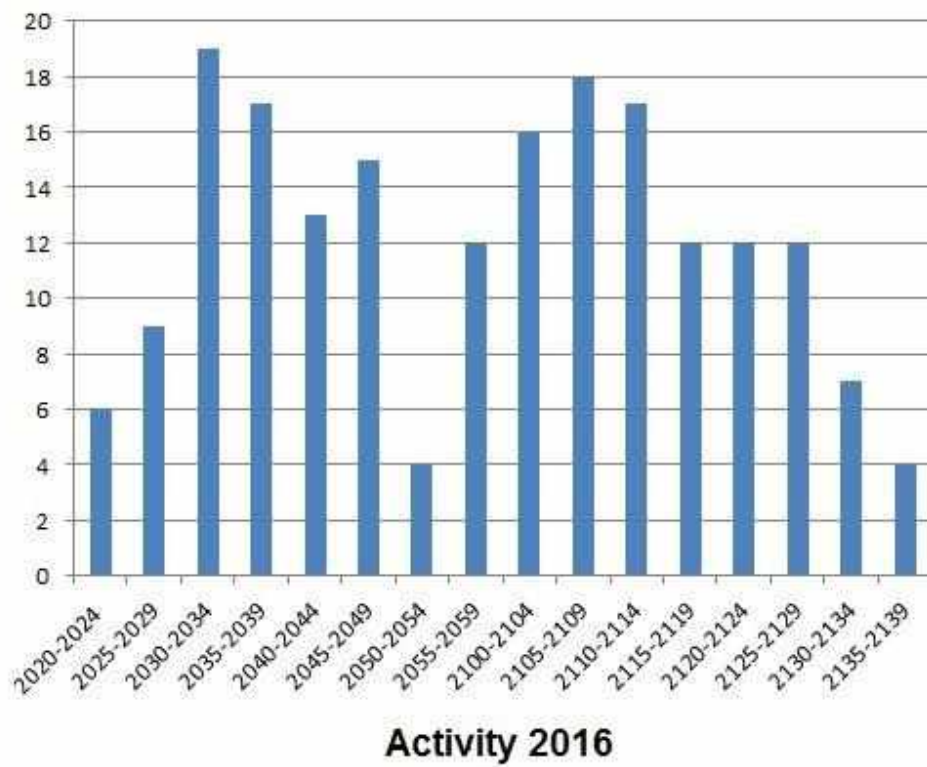
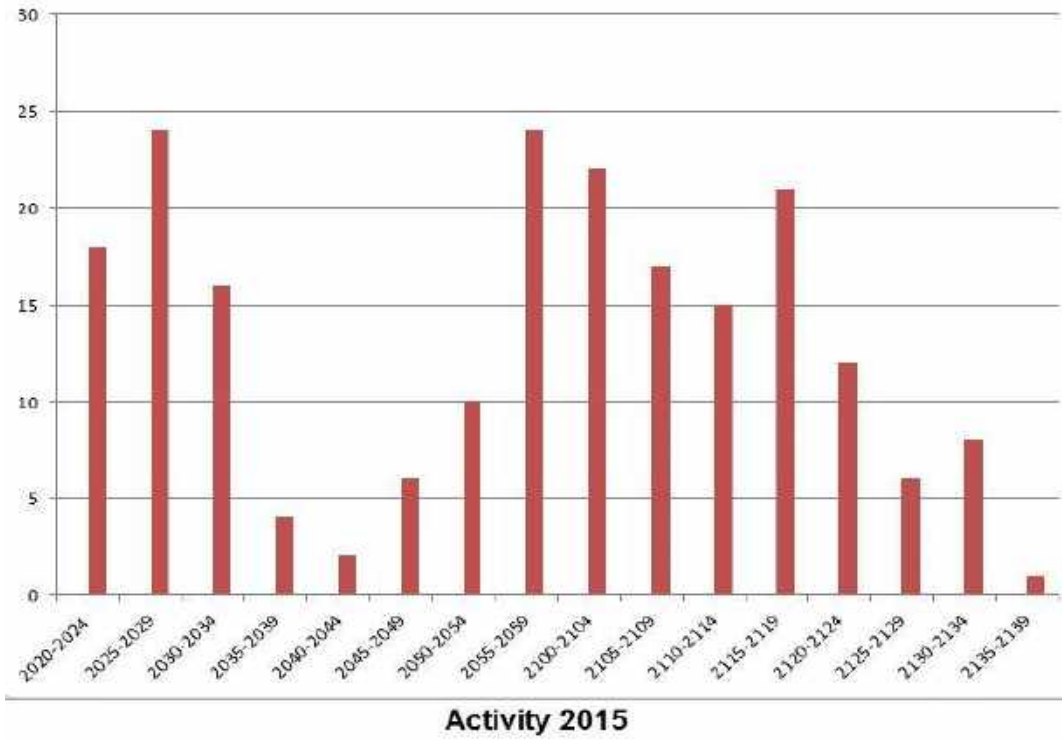
So the amount of activity in 2018 overall was lower than in the previous three years, but this can be explained in part by the shorter duration of this years survey, and perhaps by the poor weather. However, light rain did not seem to deter activity significantly but less roding was observed during the periods of heavier rain.

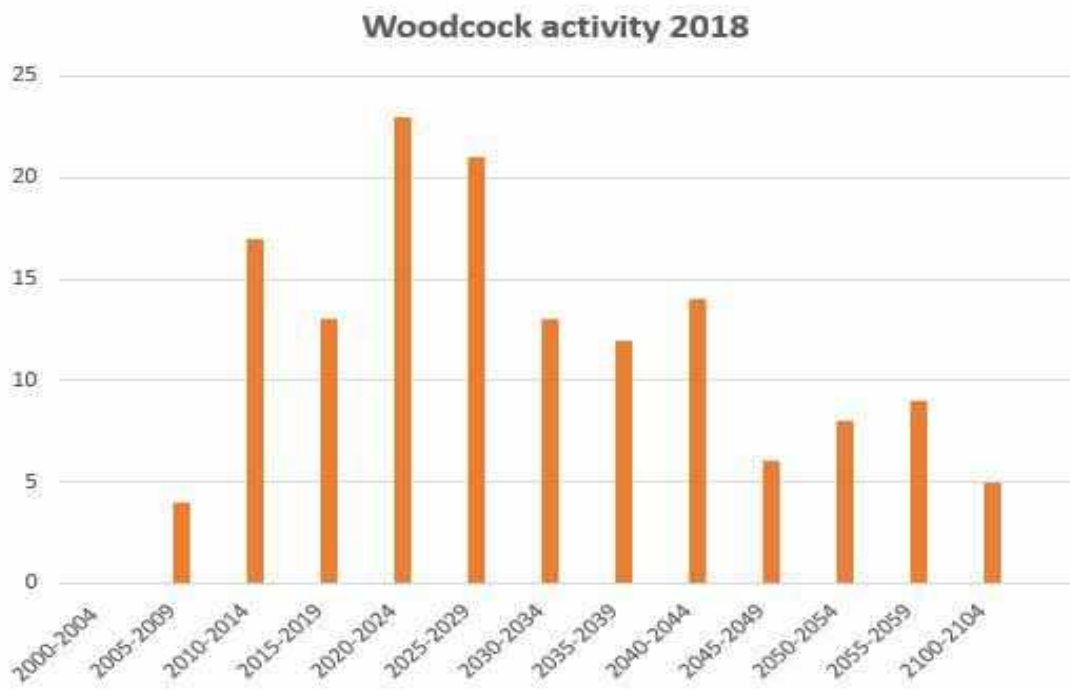
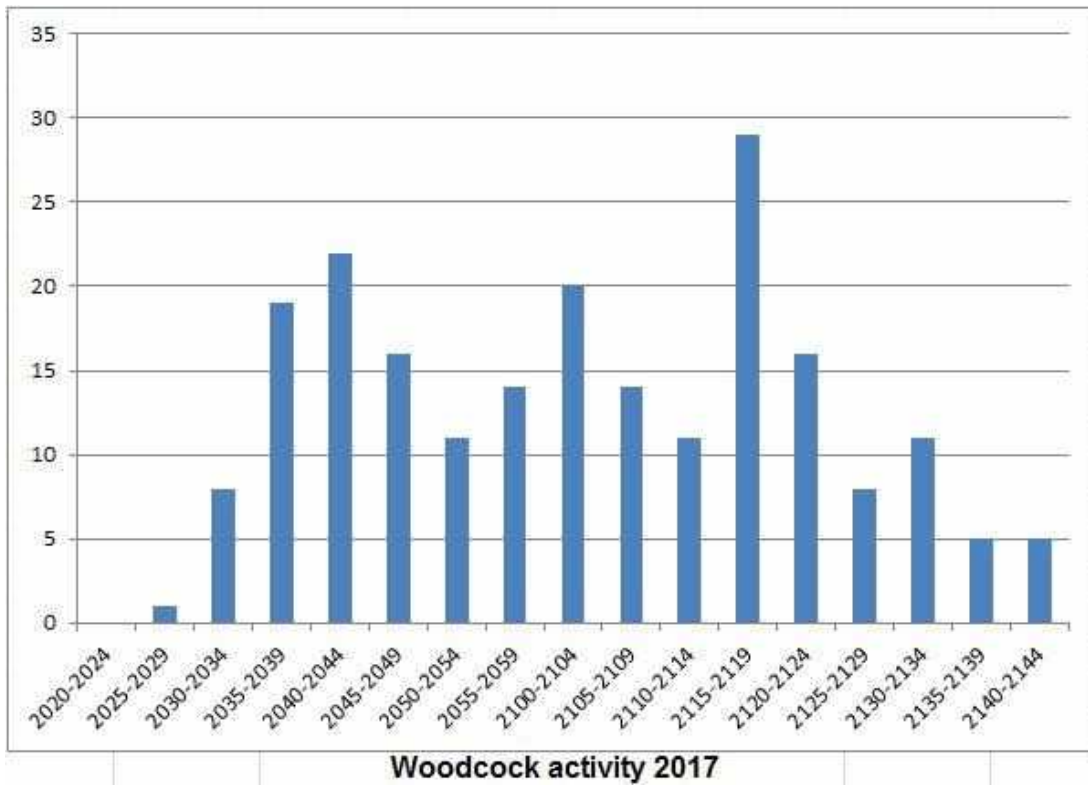
A graph shown on the BTO website shows the relationship between numbers of roding males known to be present and the number of recorded contacts, using data from 43 different woods. The graph is not quite a straight line correlation, but the number of individual males is related to the number of contacts, for example 10 contacts suggests 4 different individual males and 20 contacts 6-7 individual males. The graph gradually flattens out with increasing contacts, so it cannot necessarily be extrapolated that the 30 contacts recorded by Alastair at point 3 represents 10+ individual birds, but it does seem that the number of individual birds recorded at six of the points was probably around 6-7 at least.

Lumping all the woodcock contacts from all the points, there were variations in activity during the evening:

Time period	Woodcock contacts 2018	Woodcock contacts 2017	Woodcock contacts 2016	Woodcock contacts 2015
2000-2004 hrs	0	-	-	-
2005-2009	4	-	-	-
2010-2014	17	-	-	-
2015-2019	13	-	-	-
2020-2024	23	0	6	18
2025-2029	21	1	9	24
2030-2034	13	8	19	16
2035-2039	12	19	17	4
2040-2044	14	22	13	2
2045-2049	6	16	15	6
2050-2054	8	11	4	10
2055-2059	9	14	12	24
2100-2104	5	20	16	22
2105-2109	-	14	18	17
2110-2114	-	11	17	15
2115-2119	-	29	12	21
2120-2124	-	16	12	12
2125-2129	-	8	12	6
2130-2134	-	11	7	8
2135-2139	-	5	4	1
2140-2144	-	5	-	-

The charts below show woodcock activity in terms of recorded contacts through the evening, for 2015-18.





As can be seen from the above chart there was activity around the site for most of the hour of the survey, but with a noticeable peak between 2020 and 2030 hrs.

Other species recorded

Hobby	One seen by Alastair from point 3
Tawny owl	1-2 heard
Marsh Harrier	Seen by several observers, pair over compt 5 seen by Owen
Hen/Montagu's Harrier	A slim pale harrier seen flying south by Owen at point 9
Silver barred moth and	One seen in Poors Fen by Chris and Sam – the first record of the year and the most westerly record on the reserve in the last 20 years

Participants

Ruth Angrave, Emma Quick, Nick Sibbett, Emily Costello, Bruce Martin, Owen Marks, Phil Brown, Alastair Burn, Sam Mortlock, Chris Hainsworth and Mike Taylor

Summary

An interesting, if rather damp evening – the first occasion that anyone can remember the survey being carried out in the rain. Despite the conditions there was still a considerable amount of woodcock activity, though perhaps a little less than in the previous three surveys, in part of course because of the shorter duration of this years survey. The murky conditions meant that activity began and peaked earlier in the evening and the rain may have had an impact on overall activity.

Many thanks to all who participated on the night – your help was much appreciated – and apologies to those who were not able to make it this time.

Mike Taylor

25 May 2018

Chris Hainsworth, assisted by Sam Mortlock, again repeated the BTO national woodcock survey, counting birds at dusk on three occasions in May and June from a point in Poors Fen.

Bird ringing

Michael Holdsworth, Peter Bircham and others continued to ring birds at the Fen through the year; mostly near the feeders in the shed area in winter and spring, moving out into Poors Fen later in the summer to concentrate on warblers (standards sessions).

The table below lists all the birds ringed on the fen up until February 2019:

Totals Summary

Printed on: 07-Feb-19

	Full grown	Pulli	Retraps/ Recoveries	Total
Sparrowhawk	4	0	1	5
Kestrel	1	0	1	2
Water Rail	3	0	0	3
Cuckoo	1	0	0	1
Kingfisher	6	0	0	6
Green Woodpecker	1	0	0	1
Great Spotted Woodpecker	16	0	10	26
Meadow Pipit	2	0	0	2
Grey Wagtail	1	0	0	1
Wren	237	0	55	292
Dunnock	25	0	4	29
Robin	113	0	22	135
Blackbird	34	0	2	36
Song Thrush	8	0	0	8
Redwing	14	0	0	14
Grasshopper Warbler	28	0	2	30
Sedge Warbler	97	0	14	111
Reed Warbler	416	0	48	464
Lesser Whitethroat	3	0	0	3
Whitethroat	3	0	0	3
Garden Warbler	5	0	0	5
Blackcap	217	0	7	224
Chiffchaff	251	0	47	298
Willow Warbler	36	0	0	36
Goldcrest	160	0	20	180
Bearded Tit	2	0	0	2
Long-tailed Tit	177	0	74	251
Marsh Tit	33	0	30	63
Coal Tit	133	0	85	218
Blue Tit	893	0	515	1408
Great Tit	478	0	319	797
Nuthatch	11	0	9	20

Treecreeper	33	0	2	35
Jay	5	0	0	5
Magpie	1	0	0	1
Chaffinch	40	0	3	43
Greenfinch	1	0	0	1
Goldfinch	17	0	0	17
Siskin	16	0	1	17
Lesser Redpoll	6	0	0	6
Bullfinch	4	0	0	4
Reed Bunting	36	0	2	38
Total:	3568	0	1273	4841

Amphibians

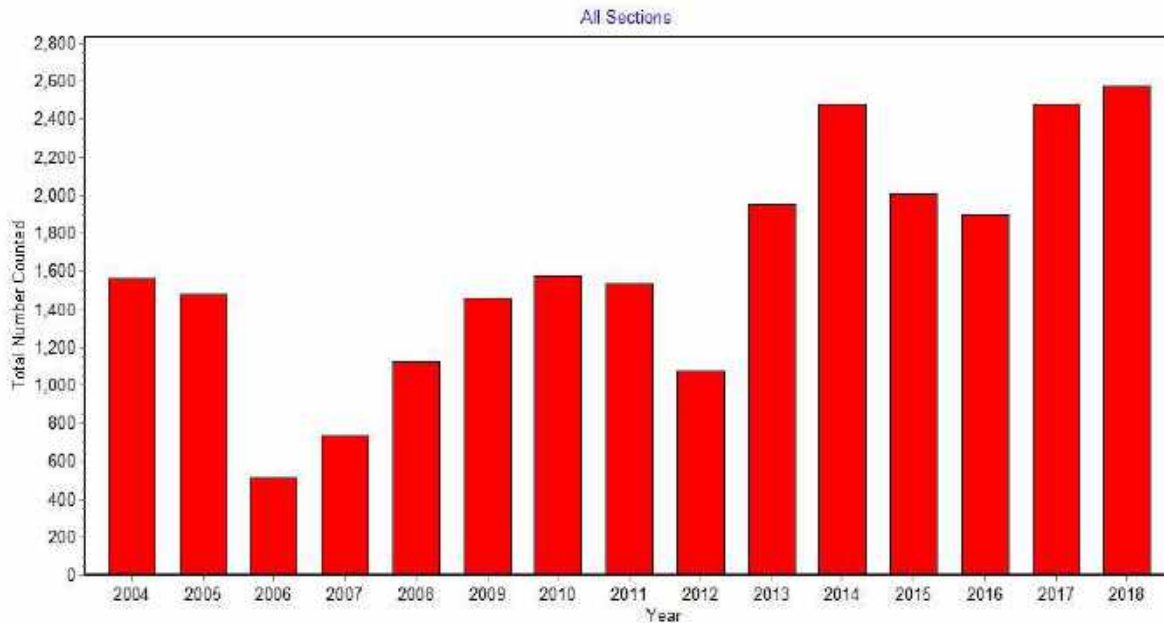
Dr Terry Moore and wife Helen continued to look at amphibians on the Fen in 2018.

Invertebrates

Butterflies

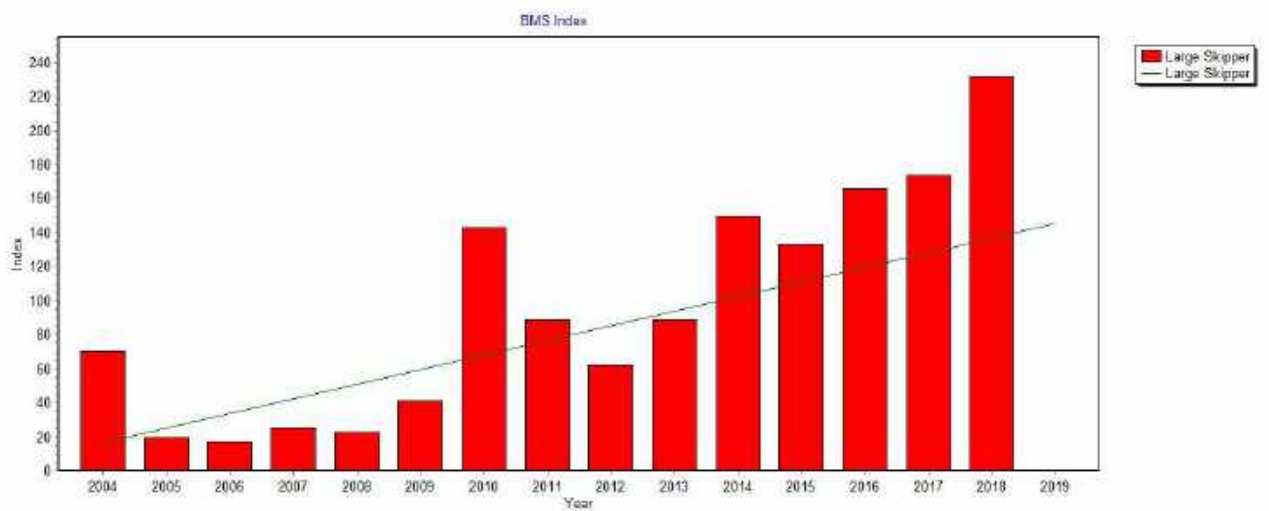
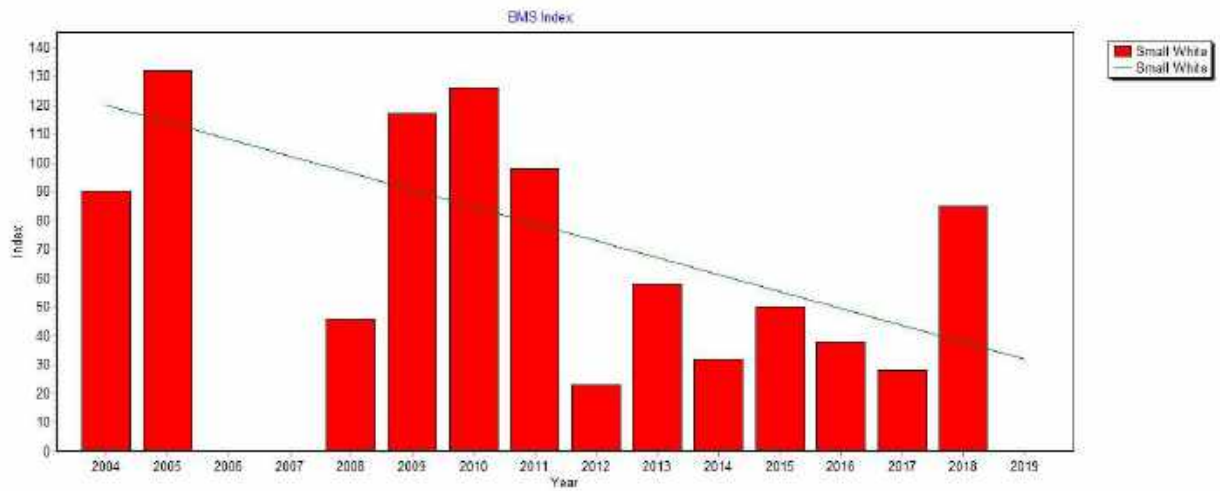
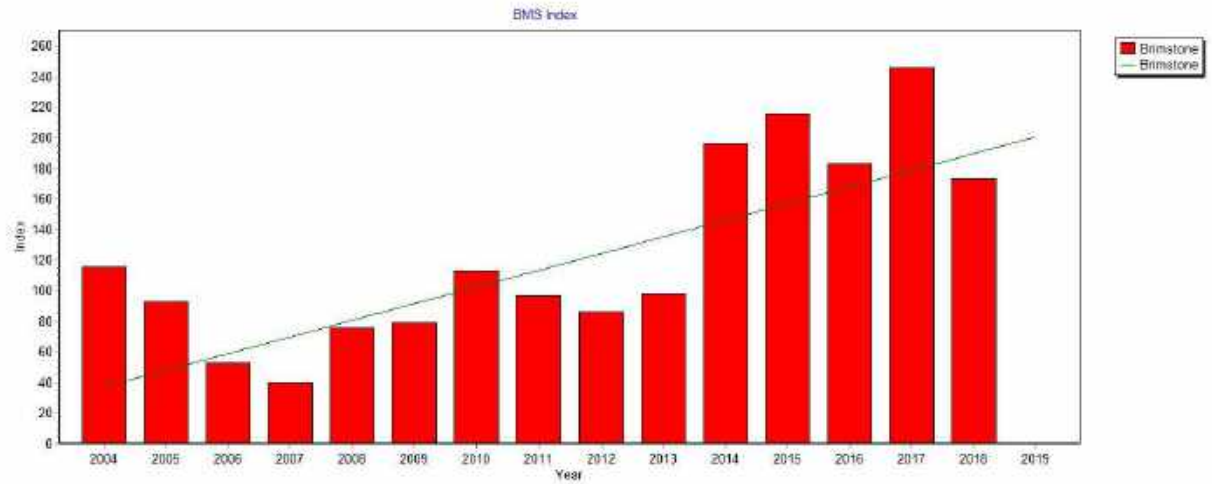
The butterfly transect was carried out weekly between April and September. Data were entered online and onto Transect Walker and sent to the National Butterfly Monitoring Scheme.

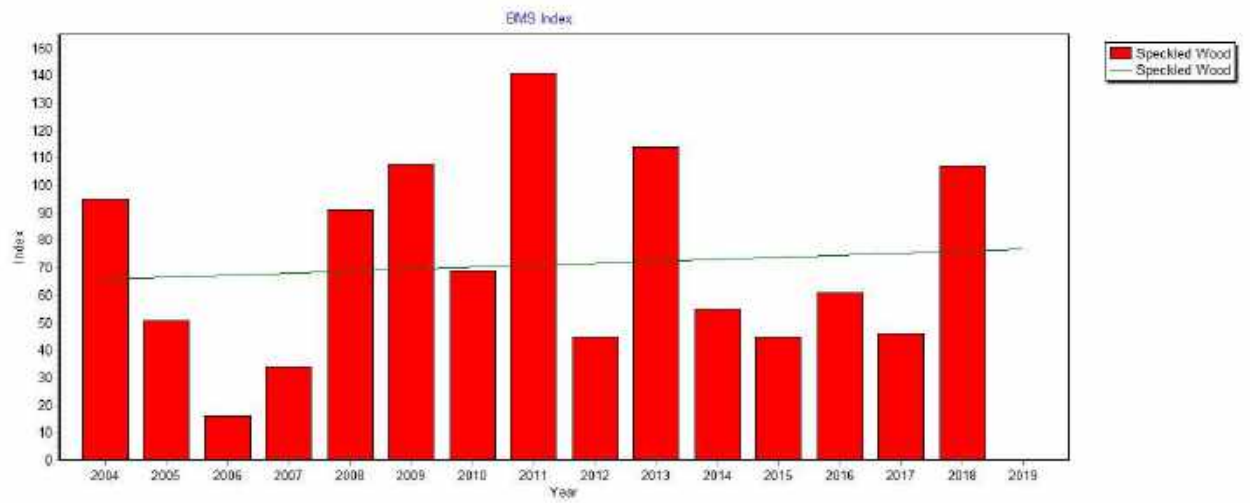
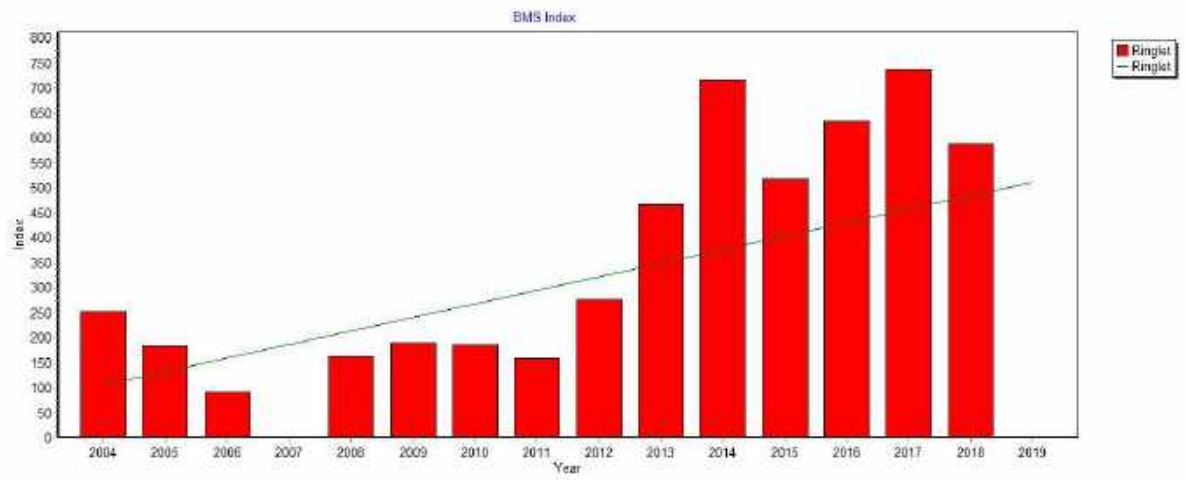
2018 proved to be an excellent year for butterflies on the Fen, as shown on the chart below, the total butterflies recorded being the highest since at least 2004:

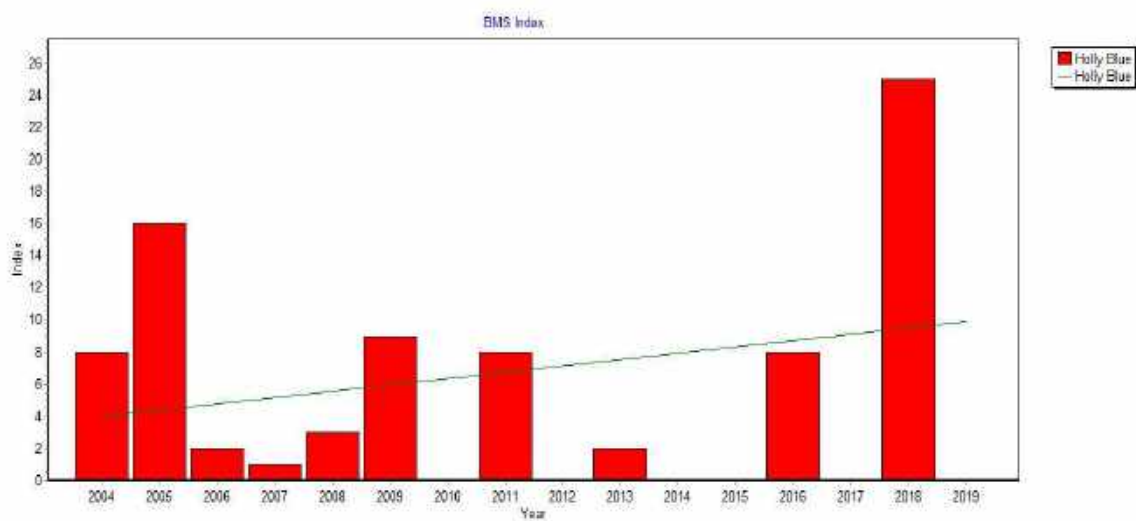
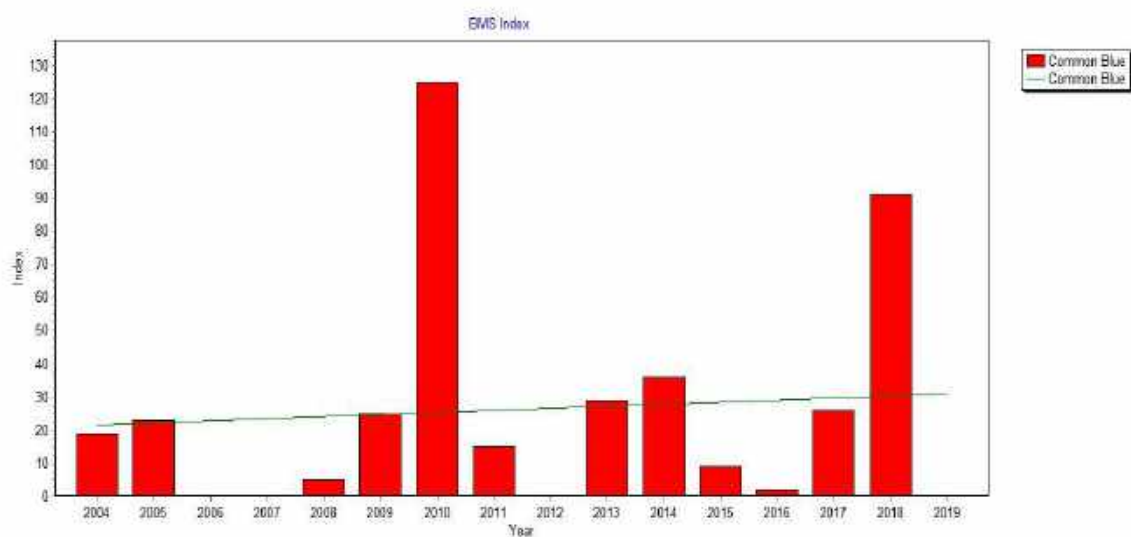
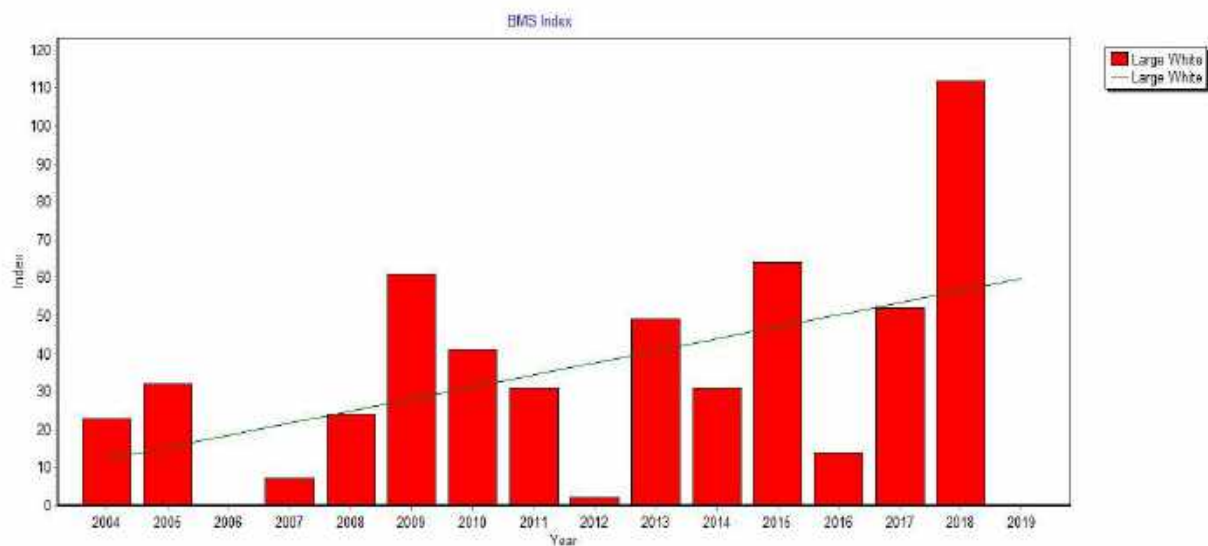


Chippenham Fen Butterfly transect–total butterflies recorded

The charts below show annual indices for some selected species:







Many species did well in the hot dry summer of 2018, but small and large whites, and common and holly blues especially so.

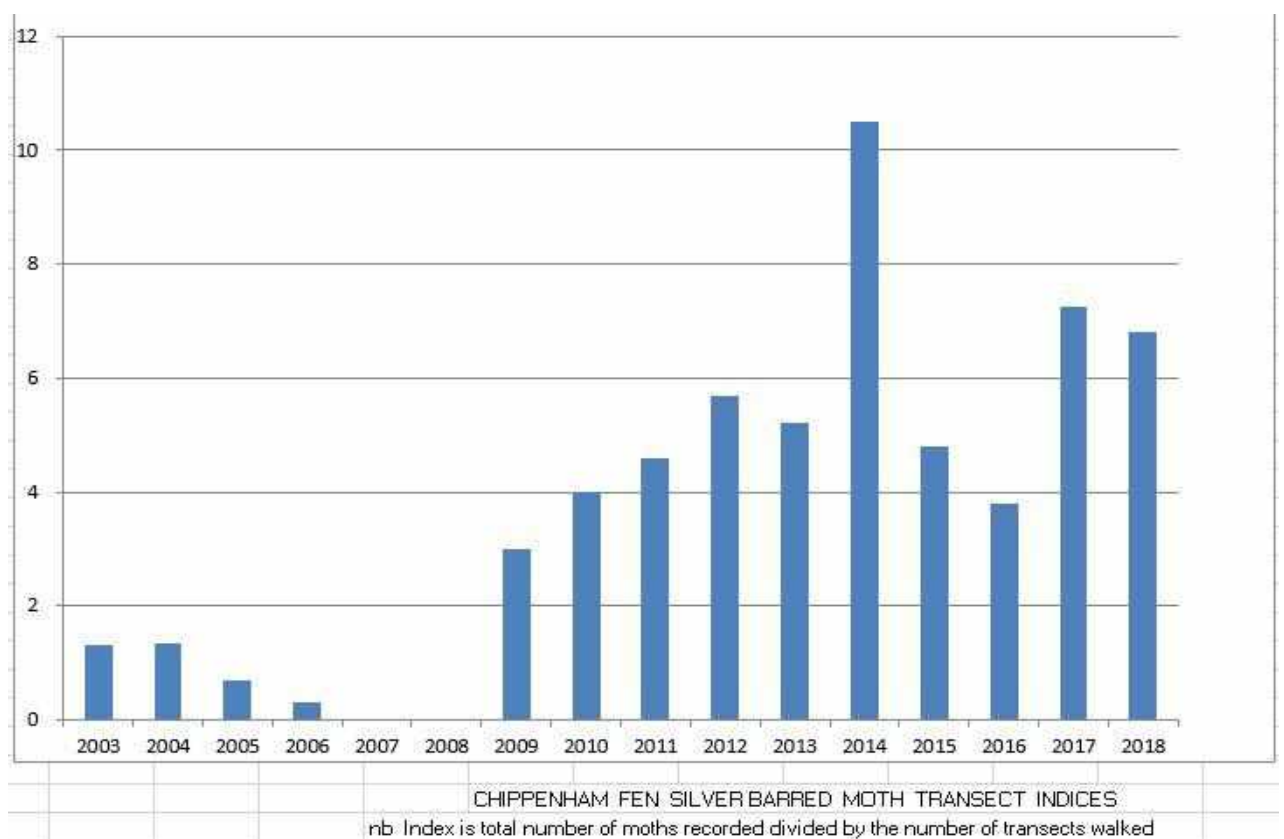
Moths

We did some light trapping using an actinic trap outside the shed on a number of occasions through the summer.

On 27/28 July we had a NE Green Day event including a barbeque, moth trapping and overnight camping for about 10 NE staff. Unfortunately this coincided with a break in the hot dry weather and we had to spend the evening sheltering from rain and thunderstorms.

Silver barred

The first silver barred moth was seen on 24 May, in Poors Fen where it has not been recorded in recent years. Numbers were good early in the flight period, with a record 22 recorded on the transect on 11 June. However, the hot dry conditions seemed to lead to the flight period ending quite early.



Silver barred moth annual indices

The index in the above chart is the total number of moths recorded divided by the number of transects walked during the season.

Plants

Cambridge milk parsley

We undertook the Milk parsley survey on Chippenham Fen between 24-26 July 2018. Below is a short report:

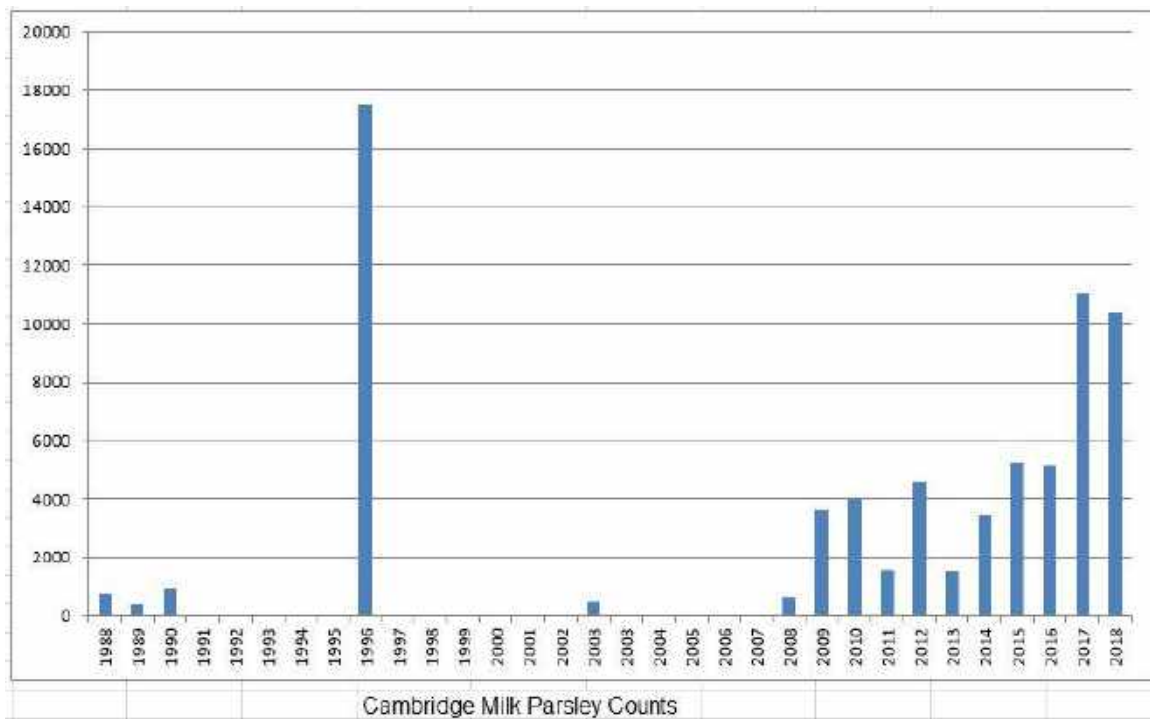
We undertook the Milk parsley survey on Chippenham Fen between 24th July and 26th July 2018. The count was carried out in soaring temperatures (30 degrees plus) in the midst of a drought – only 1.1 mm rain had been recorded on the fen since the beginning of June.

Chris Hainsworth, Michael Taylor and NNR apprentice Tom Booth carried out the counts using the usual method of walking in parallel lines and counting plants in flower. Some plants had multiple flower heads and these were counted as 1 record, as were plants (usually the larger specimens) which had 2 or more stems. Frequency of non- flowering plants was estimated in some areas using DAFOR.

A total of 10352 flowering plants were recorded across the site – this is the third highest count since our records began in 1988, and only slightly down on 2017. Numbers in some of the outlying areas (compartments 1&2, compartments 8&11) were down on recent years, with the bulk of the population (84%) being in compartment 10, where the species continues to thrive. Grazing by cattle in compartment 1 (other than compartment 1 west) and by buffalo in the black bog rush area of compartment 11 significantly reduced numbers of flowering plants in these areas.

Mike Taylor

27/7/2018



M13 monitoring

Sue Shaw and Ros Tratt did not monitor quadrats in M13 areas this year.

Botanical recording

Alan Leslie, the botanical recorder for Cambridgeshire, visited the fen on 21 June with a number of other orchid specialists.

Orchids

NNR volunteers Terry and Helen Moore spent some time surveying orchids. 2018 was generally a little down for some of the scarcer orchids: No bee orchids were recorded: 157 fragrant orchids on Baxter East and in compartments 1 and 2, 15 marsh helleborine were found in compartment 2 and Baxter East, and 100+ twayblade were recorded, with 100 on 40 acre ride together with 16 adderstongue. There were 20+ adderstongue on Baxter East. Many of the fragrant orchids in compartment 1 were eaten off – possibly by deer. No *ochroleuca* Early Marsh orchids were found this year – the last flower was seen in 2004.

Bogbean

The first flower was noted on 1 May. It proved to be a bumper year for the species, with a record 934 flower spikes counted at the main site and 34 on Ian McLeans plot in compartment 5.

Ash die-back

Signs of ash-dieback continued to be obvious around the reserve.

Teacomposition H2O Project

The one year tea bags were retrieved on 6 July and sent off for analysis. The very dry conditions aided the retrieval considerably.

CEH/NE long term monitoring network (LTMN)

Contractors John and Tim Handley repeated the vegetation recording in the quadrats first set up in 2013, between 18 June and 8 August.

MT carried out the breeding bird survey (BBS), using the BTO breeding bird methodology, and the required two visits were made on 26 April and 28 May. Below are summarised the totals for the early and late visits over the last six years:

Early Visit	20/04/2013	22/04/2014	23/04/2015	21/04/2016	29/04/2017	26/04/2018
Blackbird	8	9	8	9	11	6
Blackcap	7	5	11	5	9	14
Blue Tit	17	12	19	17	22	18
Bullfinch					2	
Buzzard	2	1	1	2	1	
Canada Goose		12	3	2	4	5
Carrion crow	2	3	6	6	11	7
Chaffinch	4	4	6		1	1
Chiffchaff	12	12	16	15	19	8
Coal Tit	3	1	3	5	2	3
Cuckoo			1		1	
Goldcrest	1	1	1	1		1
Grasshopper Warbler	4	1	4	7	9	5
Great spotted woodpecker	6	3	2		3	5
Great Tit	9	11	16	4	13	16
Green Woodpecker	6	4	8	4	4	2
Grey Heron	1					1
Greylag	2	4	7		8	2
Jackdaw	11	2	16	7	15	11
Jay			3	1	1	3
Lapwing			1			1
Lesser Redpoll				3		
Lesser Whitethroat						1
Linnel					4	4
Long tailed Tit			4	6	8	6
Magpie	1		1		5	3
Mallard	2	1	2	4	6	1
Marsh Harrier			1	2	2	2
Marsh Tit		1	1	1		
Mistle Thrush	1	1				
Moorhen	2	2	2		1	2
Nuthatch	5	1	1	2	1	1
Pheasant	3	7	11	8	10	10
Reed Bunting	8	10	7	10	5	4
Reed Warbler		3	4	1	7	8
Robin	12	16	15	14	12	5
Rook	7		1		1	2
Sedge Warbler	8	14	11	11	18	7
Shelduck						3
Skylark	2	1	2	2	3	2
Snipe	1					
Song Thrush	1	2	5	3	2	6
Sparrowhawk						2
Stock Dove	3	2	2	3	2	2
Treecreeper	6	2	3	2	2	2
Water Rail	2		2		1	1
Willow Warbler		1			1	1
Woodpigeon	32	19	33	30	26	54
Wren	34	39	51	41	42	52
Yellowhammer		1				
Birds	225	208	289	228	295	290
Species	34	34	39	31	39	42

Late
Visit

	05/05/2013	30/05/2014	21/05/2015	27/05/2016	31/05/2017	28/05/2018
Blackbird	10	12	14	16	7	14
Blackcap	4	6	3	6	6	13
Blue Tit	8	21	15	13	12	13
Bullfinch				2	2	
Buzzard			1	1	3	
Canada Goose			3	2		2
Carion crow		7	4	5	7	6
Chaffinch	8	5	3	2	4	2
Chiffchaff	8	10	16	14	9	9
Coal Tit	1	1	1	2	2	2
Cuckoo	3	2	1	1	2	2
Duncock			1			
Goldcrest		3			3	
Goldfinch					2	1
Grasshopper Warbler	3	4	2	2	4	1
Great spotted woodpecker	2	3	3	1	2	5
Great Tit	2	7	13	6	7	8
Green Woodpecker	3	9	1	1	1	2
Grey Heron					1	
Greylag	2		3	2	2	1
Hobby					1	
Jackdaw	17	18	14	19	7	11

Jay	2			1	1	1
Lapwing		3				
Lesser Whitethroat			1	1		
Linnet				2		
Long tailed Tit	8	2	20		5	10
Magpie	1	2	2	1	4	
Mallard	2	1	4	2	3	3
Marsh Harrier	1		1	1	4	3
Marsh Tit			1			
Mistle Thrush						
Moorhen		1	2		1	1
Nuthatch	1		1	3		
Pheasant	5	6	5	7	12	8
Reed Bunting	7	7	15	8	9	6
Reed Warbler	19	20	15	16	22	22
Robin	7	15	8	11	14	14
Rook	8					
Sedge Warbler	4	8	7	4	6	5
Skylark	2	3	2	3	3	2
Snipe						
Song Thrush	5	2	3	5	5	2
Spotted Flycatcher					1	
Stock Dove	3	1	2	4	5	3
Treecreeper		3	1	3	2	5
Water Rail	1	2				2
Whitethroat			1		1	1
Willow Warbler	2					
Woodpigeon	31	25	23	38	28	35
Wren	26	36	39	44	34	45
Yellowhammer						

birds	206	246	251	249	244	280
Species	32	31	37	35	39	34

Species surveillance (Biodiversity 2020 s.41 species)

Grey carpet moth

There were no records this year.

Ochroleuca

Despite searches in the last known location in compartment 2, no flowering plants were found. The species has not been seen in flower here since 2004.

Rossers sac spider

No monitoring was carried out this year.

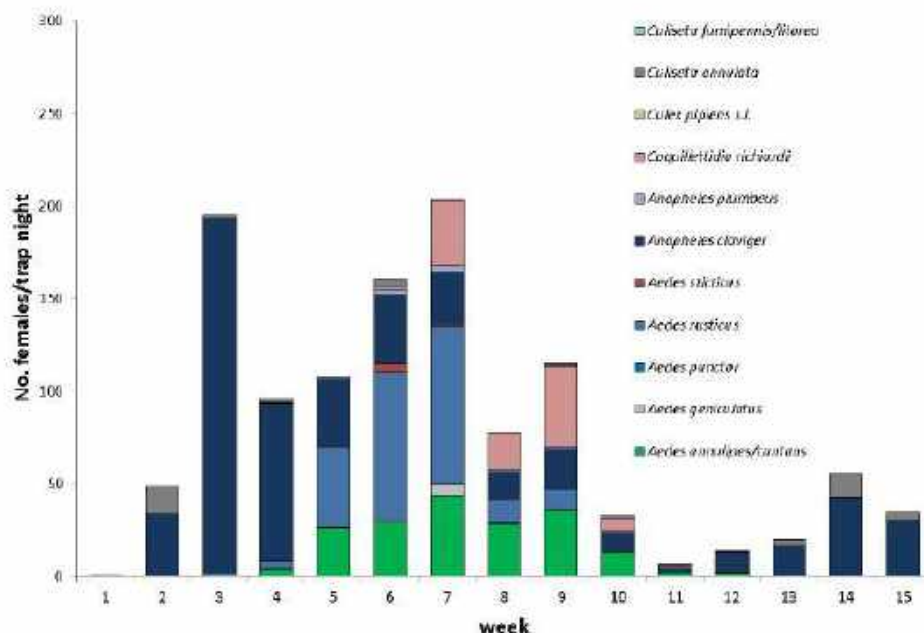
Public Health England Mosquito monitoring project

We again participated in the Public Health England project to monitor mosquitos at various sites around the country, which has been running since 2010. The single trap behind the workbase was run continuously every other week between April and October and the catches sent away for identification.

A report on the species caught at Chippenham in 2018 was supplied by Dr Ben Cull:

Nationwide mosquito survey 2018

Chippenham Fen, Cambridgeshire [Natural England]



Mosquito species	Total caught
<i>Anopheles claviger</i>	2044
<i>Aedes rusticus</i>	944
<i>Aedes annulipes/cantans</i>	736
<i>Coquillettidia richiardii</i>	439
<i>Culiseta annulata</i>	183
<i>Anopheles plumbeus</i>	42
<i>Aedes geniculatus</i>	42
<i>Aedes sticticus</i>	29
<i>Culex pipiens</i> s.l.	5
<i>Aedes punctor</i>	2
<i>Culiseta fumipennis/litorea</i>	1
Total	4467

Miscellaneous species records

Butterflies and Moths

Very cold conditions in late February and early March 2018 meant that hibernating species did not appear until 14 March, when brimstone and comma were seen. A notable addition to the butterfly fauna of the fen was silver washed fritillary – one was seen in 40 acre wood on 15 July, then it or another was seen around the workbase for a few days subsequently.

The first butterfly of 2019 was brimstone on 25 February.

Odonata

Mild conditions in early winter produced a very late record of common darter on 9 December.

Other invertebrates

Wasp spider sightings continued to increase, with two in the rain gauge enclosure and 20+ noted in the west of compartment 1 in July.

Ivan Perry and Mark Welch separately visited the fen on a number of occasions to record flies – Mark operated a malaise trap in October.

Amphibians and Reptiles

A casual survey on 15 March produced 50 clumps of frogspawn in the ditch opposite the workbase, 80+ in the pond in compartment 10, 5 in Baxter East ditch and 20+ in East Meadow pond, together with 80+ toads.

Unusually warm weather in February produced a large grass snake basking in Poors Fen on 14 February.

Mammals

Water voles were captured on a camera trap underneath the bridge to nowhere, on a raft baited with tomato.

Visitors/Meetings/Events

CH/MT led evening walk for 25 members of Cambridge Bird Club on 8 June.

Nick Sibbett led 8 members of Woodland Ways on visit on 17 June.

CH/MT led orchid walk for 8 NNR volunteers on 24 June.

Terry and Helen Moore visited with Tim Pankhurst on 26 June

Alan Leslie and Cambridge Botany Group visited on 13 July.

NE Bury Friends group met at the Fen on 17 July.

NE Brecks Team held meeting at Fen on 1 August.

Teenagers Ellie and James did a weeks work experience in July.

Mark Welch visited the fen with Nick Owens (a bee specialist) on 20 March.

Pete Stroh made a brief visit on 29 March.

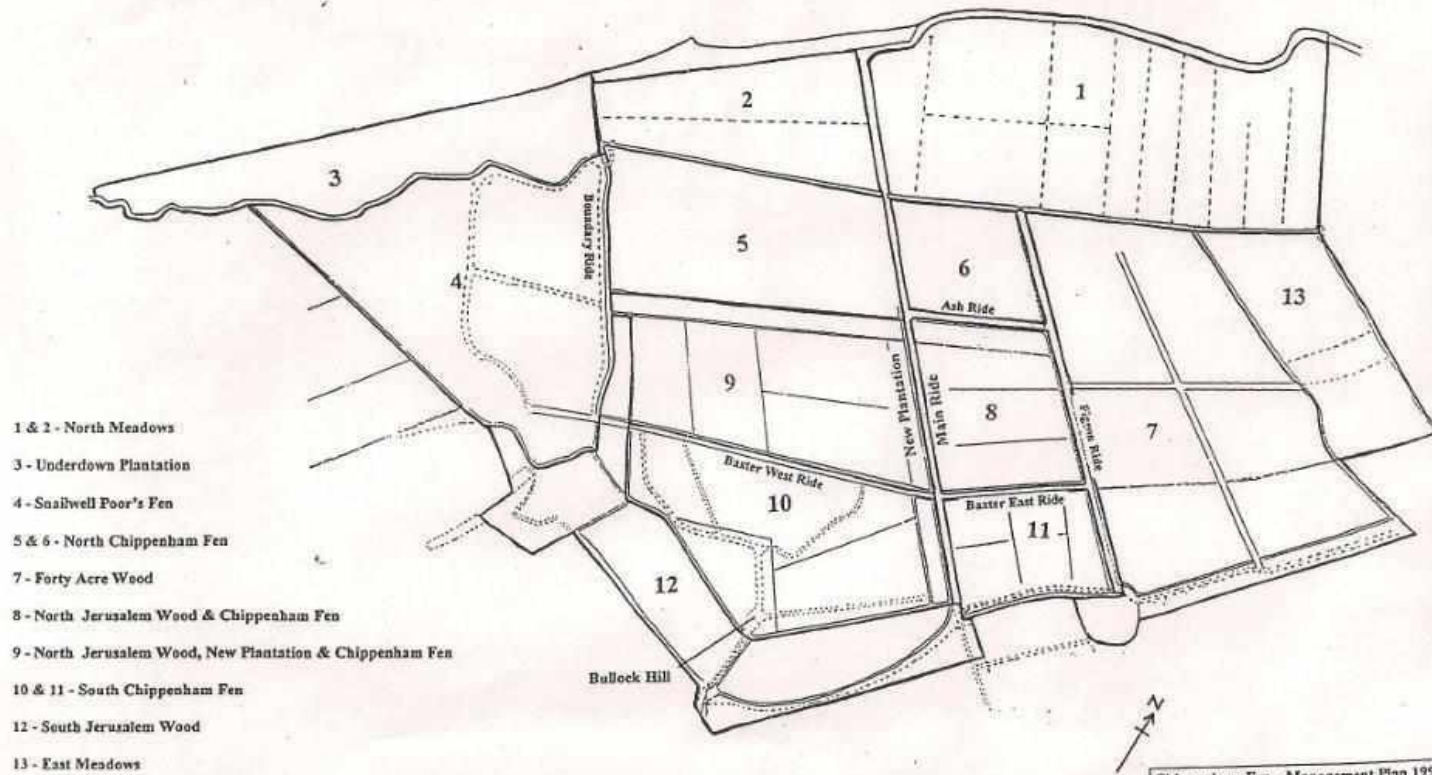
A new NNR printer was at last delivered on 27 March – unfortunately it was not the model we had asked for and was far too large for our office, so had to be taken away again.

NNR Apprentice

Tom Booth started his 15 month apprenticeship with us on 2 July. Tom participated in all aspects of work on the Breckland NNRs and spent two days per week working on the Suffolk Coast NNRs. So far he has been trained in First Aid, 4x4 driving, chainsaw and tractor driving, with more training planned. Tom's assistance with the full range of NNR tasks has been invaluable. As part of the apprenticeship Tom is studying for an NVQ with Easton and Otley College.

Michael Taylor
Reserve Manager
May 2019

MAP 1 COMPARTMENTS

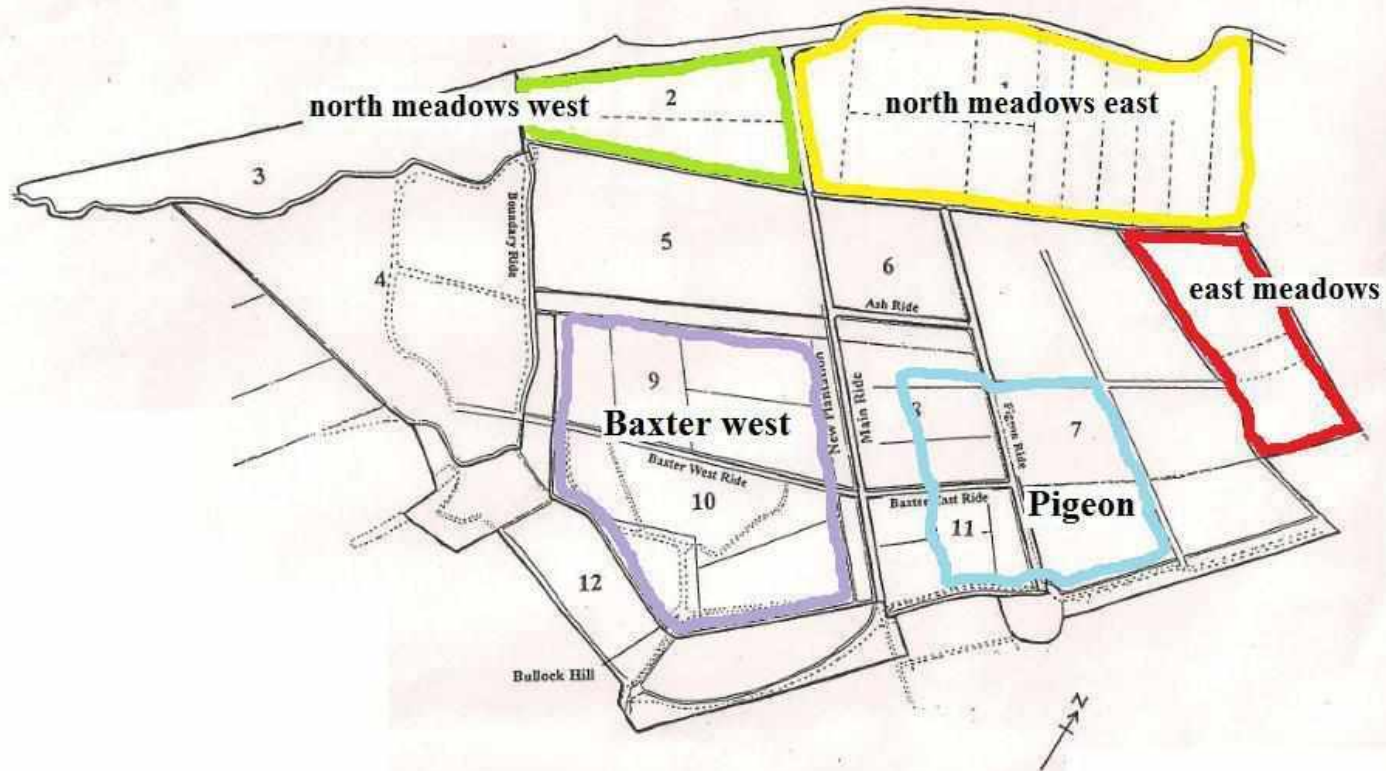


Chippenham Fen - Management Plan 1996

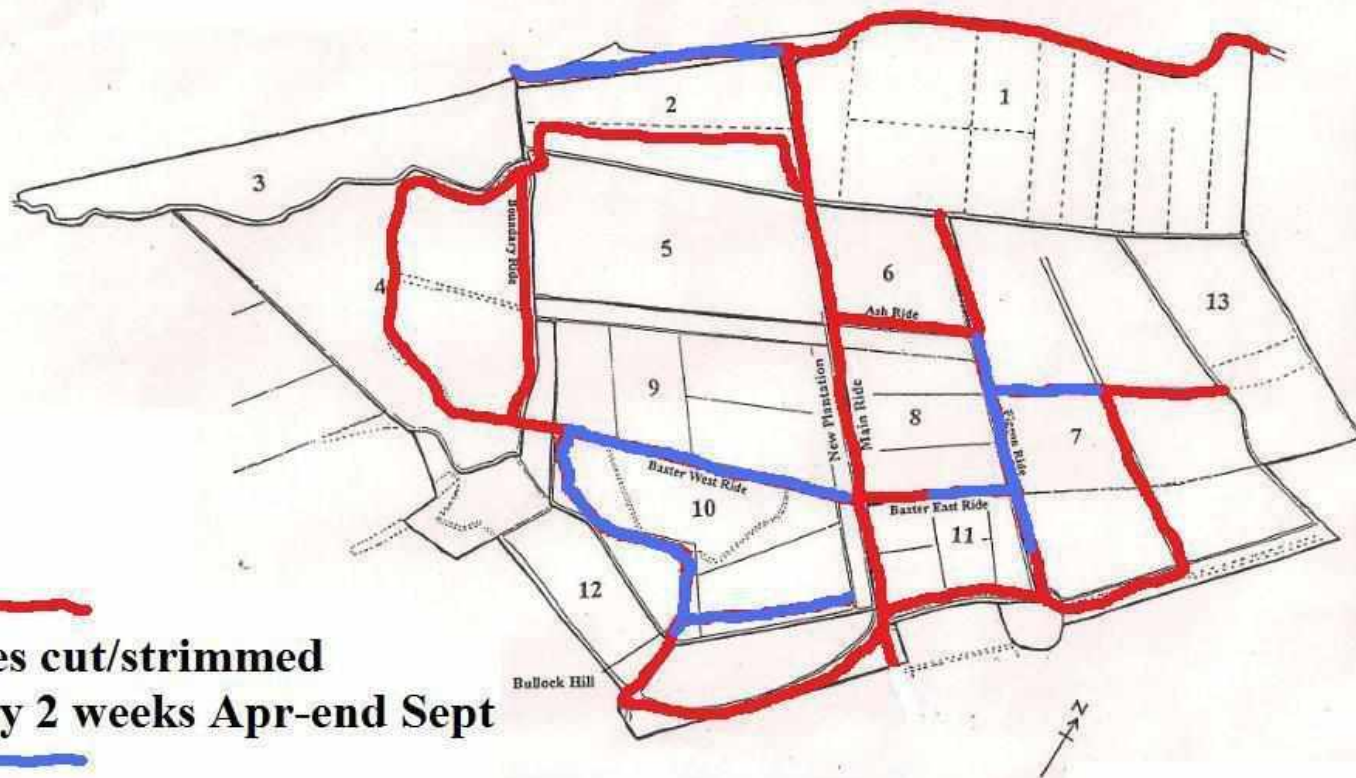
Figure 3 - Compartment Map

East Midlands Environmental Consultants
110 Smeinton Dale, Nottingham, NG3 7DN

MAP 2 GRAZING AREAS

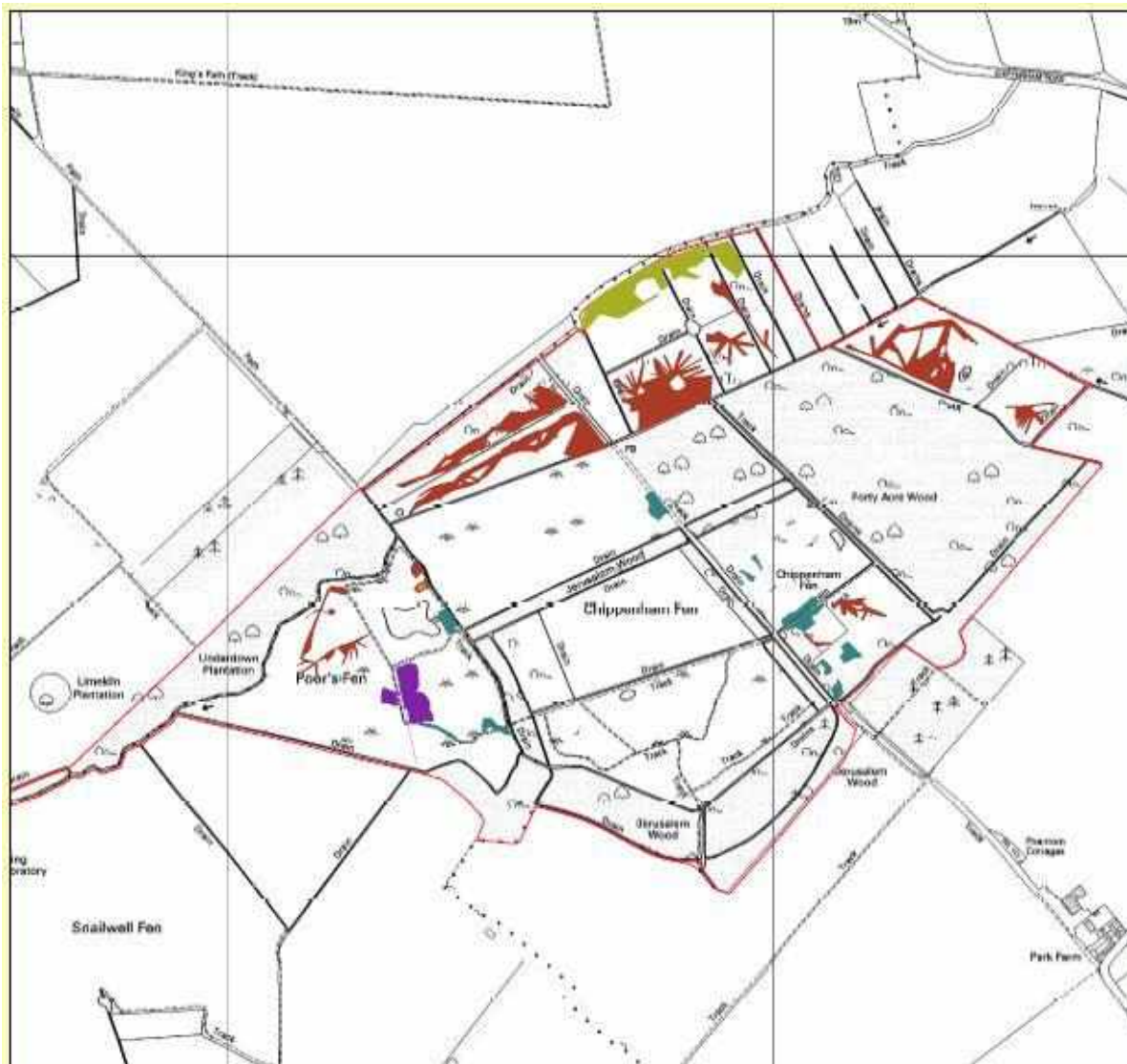


MAP 3 RIDE CUTTING



**Rides cut/strimmed
every 2 weeks Apr-end Sept**

**Rides cut/strimmed less frequently; a few
times during season as necessary**



Chippenham Fen NNR 2018-19

Chippenham 2018

MANAGEMENT

- Hand cut and collect (0.77ha)
- Ragwort mown (Rytec 1.2ha)
- Saw sedge cut by contractor (0.51ha)
- Rytec cut & collected (5.56ha)



Scale (at A4): 1:10,000

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2011. Ordnance Survey 100022021
Map produced on 01/01/2011 by

GIS and Analysis Services Team,
Natural England
Map Reference

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total	Index	Week Index
Mean Temp	12.00		24.00	16.00	16.00	28.00	17.00	22.00	23.00	23.00	22.00	26.00	27.00	28.00	25.00	25.00	31.00	31.00	31.00	20.00	24.00	19.00	23.00	19.00	26.00	22.00			
Mean Sun	60.00		100.00	80.00	100.00	100.00	70.00	100.00	90.00	100.00	100.00	100.00	100.00	100.00	80.00	50.00	90.00	100.00	100.00	60.00	75.00	85.00	95.00	100.00	100.00	100.00			
Small/Essex Skipper													26	28	28	5	3		1								91	91	91
Large Skipper										1	11	36	60	56	46	14	8										232	232	232
Clouded Yellow																											0	0	0
Brimstone		2	19	7	20	14	7	6	8	6	1		12	16	21	13	4	8	3					3	2	1	171	173	173
Large White									1				1	24	10	12	5	3	7	4	16	17	5	6	1		112	112	112
Small White									1				5	9	1	41	3	7	1	8	5	3		1			85	85	85
Green-veined White				7	20	10	5	2	2			3	30	49	99	82	76	22	19	12	3	6	1	6	4		458	458	458
Orange-tip			1	8	3	3			1																		16	16	16
Green Hairstreak						1																					1	1	1
White-letter Hairstreak																											0	0	0
Small Copper																			1								1	1	1
Brown Argus																2	8	10	4		3	1					28	28	28
Common Blue															2	12	14	28	15	14	6						91	91	91
Holly Blue		1	3		1	2									1	3		2	3	1	4	2		2			24	25	25
Red Admiral										1	1					5	2	2	2		1						14	14	14
Painted Lady																					1						1	1	1
Small Tortoiseshell			2						1				1														4	4	4
Peacock	3	11	26	9	6	1	5	1							20	4	3	2	1								81	92	92
Comma			2	1									1	4			1					1		1			11	11	11
Speckled Wood						1	1	1	3	5	4	4	3			1	4	2	6	14	14	11	6	11	12	4	107	107	107
Marbled White																											0	0	0
Gatekeeper															9	16	16	16	2								59	59	59
Meadow Brown										1	4	24	74	62	60	39	67	15	20	16	9	4	2	3			400	400	400
Ringlet												3	102	195	146	77	58	4	2		2						589	589	589
Small Heath																											0	0	0
Silver-washed Fritillary																1											1	1	1
Total	3	14	53	32	50	32	18	10	17	14	21	70	315	443	443	327	272	121	87	69	63	46	14	33	19	5	2577	2591	2591

CHIPPENHAM FEN BUTTERFLY TRANSECT 2018