# Chippenham Fen NNR

## Reserve Report

## April 2017 - March 2018

**Michael Taylor**
**Reserve Manager**

# Reserve Management

## Staff

Management work was carried out by Reserve Manager Mike Taylor, Senior Reserve Manager Chris Hainsworth 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 | 30 May – 5 June; 24 August – 2 October; 6 November – 20 November (59 days) |
| Baxter west | 1 April – 19 April; 5 June – 29 June (c9 and part c10 only); 20 November-31 March (174 days). |
| East meadows | 19 April – 30 May; 29 June – 24 August; 2 October – 6 November (132 days). |
| North meadows east | Not grazed by buffalo this year |
| 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 | | |

The 2017-18 winter seemed a long one; predominantly wet and unsettled, with milder spells interspersed with short cold snaps. The worst of the weather came in late February/ early March when the ‘Beast from the East’ brought nine days of snow, below freezing temperatures and brutal easterly

winds from Siberia. A thaw was followed on 17/18 March by more snow and bitter easterly winds in the shape of the 'Mini-Beast from the East'. One or two of the buffalo showed signs of losing condition around Christmas so we began feeding on 5 January, with 2 bales of barley straw and a bag of carrots each day. We increased this to 4 bales per day for a time when there was snow on the ground, then reduced to 3 bales up to 10 April, dropping to 2 until 16 April. Straw was augmented by at times with 4 of our graziers large round hay bales that had been on the buffer strip since last summer. Growth was very slow in spring 2018 – 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.
The table below summarises the quantities of feed (straw and carrots) 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)** |
|---|---|---|---|
| 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 |

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 late September and October; the fence around Pigeon grazing compartment was strimmed once, over several days in July. 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 trimmed from the Baxter west fence on 11 October. A storm in early January brought down a large dead ash, crushing the gate at the west end of Baxter west – a repeat of what happened a few years ago. The tree was cleared and the gate made temporarily stock-proof on 5 January. More strong winds brought down several trees on 18 January, including two large ivy-covered ash near the buffalo feeding area at Bullock Hill which became hung-up. It was decided to leave these until conditions were drier and we were able to get the tractor there, so the danger area was fenced off to exclude the buffalo, and outside the fence marked with hazard tape.

The worst buffalo-poached areas in Baxter west, notably the feeding area at Bullock Hill, were rotovated on 21 April and subsequently flattened using the balloon tyres of the Massey tractor.

Rotted fence posts were replaced as necessary through the year. In particular 30+ posts and a damaged corner post were replaced along the north boundary of compartment 2 in April; a strainer and rails were replaced at the east end of Baxter west on 26 May and several posts replaced in East meadow.

In order that the buffalo could graze compartment 9 and part of compartment 10 in June without harming the Cambridge Milk parsley a temporary electric fence was erected on 26 May to exclude the buffalo from the main milk parsley area in compartment 10.

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 5 January-April when we were feeding the animals.

**Cattle**

Grazier Will Taylor was short of suitable grazing early in the season so, reluctantly, we allowed him to put 8 cows and 8 calves onto compartment 1 (excluding the western triangle) on 15 April. By 31 May the number of cattle had increased to about 25. They remained here until 18 July, when they were moved down the footpath to the buffer land just outside the fen. The early intensive grazing meant that the sward was generally better grazed than for some years. However, on the down-side, the cows had eaten off all the orchids and other flowering plants completely. Also, some of the calves got through a hole in the fence into the triangular section in July, just when fragrant orchids were flowering, and systematically chewed off every single flower.
On 14 September all the cows were moved from the buffer land back up the footpath and into compartment 2, where they stayed until 19 October when they were moved across the footpath into the triangular section of compartment 1 only for a week. On 26 October they were allowed out onto the whole of compartment 1 and stayed there until Will started to take animals off at the start of December. The last 12 animals were finally taken off site on 14 December.

## Rides/ Ride-Cutting

All main rides were cut regularly from 4 May, using the Gator and flail mower, and the BCS at times. Frequent heavy downpours through the summer meant that it was sometimes too wet to cut the rides to schedule.

The last ride cuts of the year were carried out on 13 October. In total about 5 man-days were spent ride cutting.

Any windblown trees/branches were promptly cleared from rides. In particular a large pine bough was cleared from the top footpath on 26 January. Three large wet holes in the footpath were filled in; two in April and one near dipwell 5 on 30 October.

The ditch bank between the workbase and Baxter ride was strimmed on 19 September, then raked by volunteers on 24 September, when overhanging branches along this section were also cut back. Overhanging branches along the ride between the workbase and Pigeon ride were cut back by volunteers on 4 October.
Encroaching willow on the track through Poors Fen was cut back on 14 March.

## Topping/Cut and gather

Some areas of rush in compartments 2 and 13 were topped on 4 April, using the Wessex flail mower.
3 man-days were spent cutting selected areas in compartments 9, 10 and 11 using the tractor and Ryetec cut and collect machine in September and mid- October.
The traditional areas, like Ian McLeans plot and the Bogbean were cut by BCS and brushcutter over 3 man-days in late-August and early September. These were raked off during two Cambridge Conservation Volunteer tasks, on 27 August and 10 September.
Three areas in compartments 9 and 10 were cut with the BCS in October and November – two of these were raked and piled by volunteers, the other raked and material burnt on a weekend NNR work party on 19 November.
The Ryetec was loaned to Woodwalton NNR base between 11 July and 5 September and again between 24 October and 21 November, and to the NE Suffolk coast reserves between 30 November and 1 February.
Jim Rileys shooting area adjacent to the reserve was topped three times between May and November.

## Sedge Cutting

Marcus Setchell carried out the sedge cutting this year, in compartments 6, 8 and 11, starting on 1 September and taking about 16 man-days. In all about 1800 bundles were cut and carted off , and most of the waste material tidied up.

## Woodland/Scrub

A 50m stretch of ride in 40 acre wood was strimmed and coppiced on 6/7 November, with the material being cleared and burnt by NNR volunteers and volunteers from Idexx in Newmarket on 8 November.

## Water

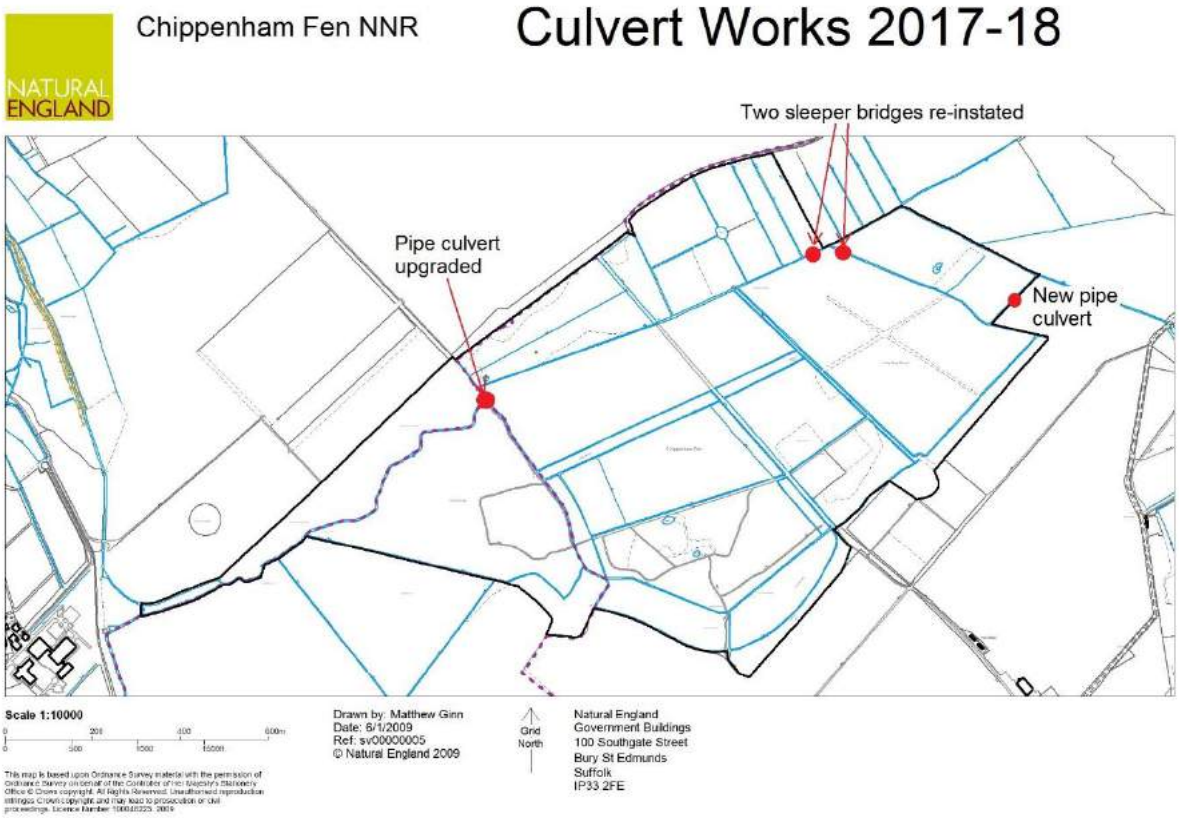
Tracks to our dipwells, and the EA dipwells on the north meadows and in compartment 8 were periodically strimmed/mown for ease of access.
All dam collars were removed on 31 August in an effort to dry the fen for late summer management work – periodic downpours had kept the fen fairly wet through the summer.

On 30 May CH, Kate Fagan and 4 others had training in water quality testing. Subsequently water samples from various ditches around the reserve were taken and analysed on a monthly basis by Lucy Hatcher, Patrick Woods and others from NE Conservation Services Team.
On 14 February CH and MT met Kate Fagan (NE responsible officer for Chippenham), Geoff Mason and Sue Shaw and Phil Eades of Sheffield University to discuss possible ‘re-wilding’ of the hydrology of the fen – an idea proposed by NE fen specialist Ian Diack. Sue and Phil had been contracted to carry out preliminary investigations into the hydrology of the fen, and they continued with this work on 15/16 February and returned again on 13/14 March.

## 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.

**Bridge/Culvert Project**
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.




Prior to work commencing NE staff cut back trees around the old sleeper bridges and at the existing pipe culvert in Poors Fen in early October.
GM Utilities Ltd were awarded the contract for the works and were on site for the week of 13-17 November, during which time the new culvert in East meadow was completed and the culvert in Poors Fen partially completed. The intention was to return later to complete the culverts and install the bridges. However, it became far too wet to continue the work during the winter, so the work 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.
NE staff and volunteers erected a field gate and repaired the fence in East Meadow at the site of the new culvert on 21/22 November.

## Ragwort Control

The higher, drier parts of compartment 1 were particularly badly affected by ragwort this year. Staff and volunteers spent some hours hand-pulling in July, but only managed to clear just over half the affected area before the ragwort started to seed.

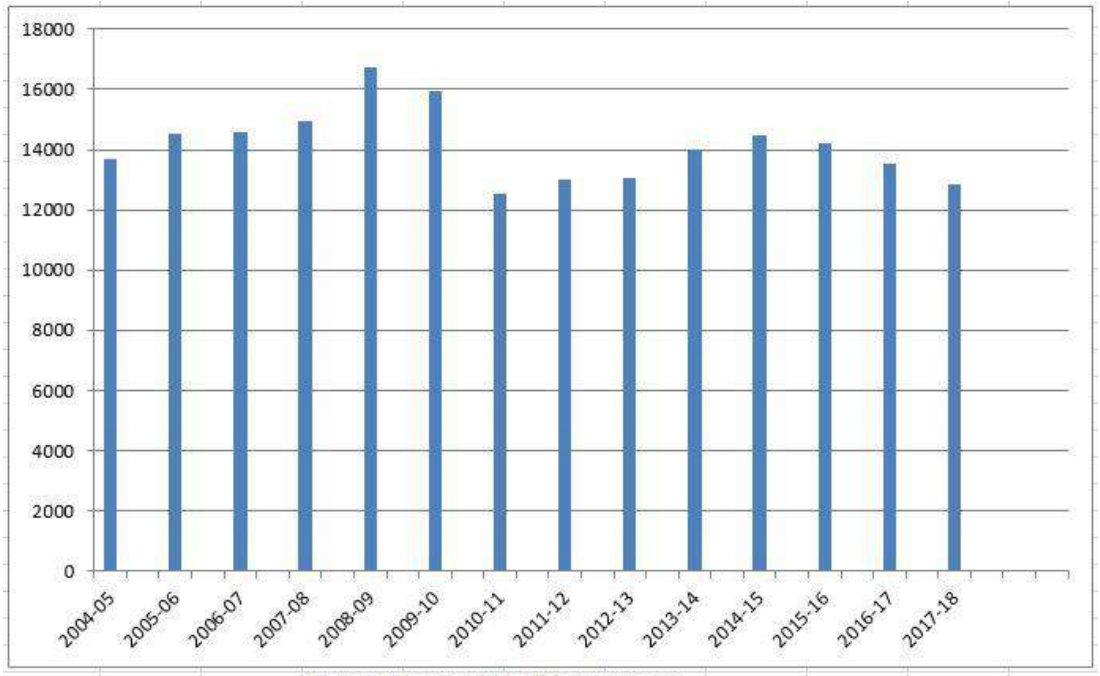
## Deer/Pest control

Jim Riley and other licensed stalkers shot the following on the reserve between April 2017 and March 2018, on 128 visits:
17 Muntjac bucks, 9 Muntjac does, 6 Roe bucks and 9 Roe does.

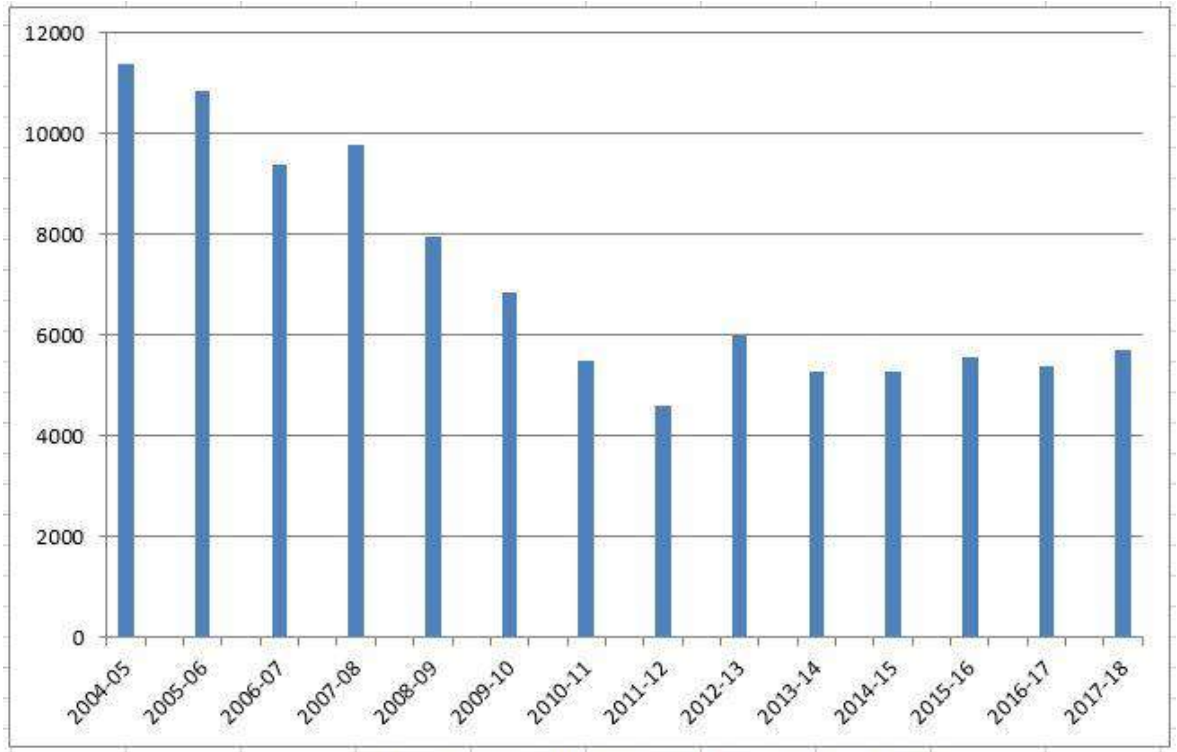
## NNR Workbase

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 repaired/serviced by M-Fire on 21 August. NE staff tested the fire alarms on a monthly basis.
The building alarm was checked by Aztec on 2 June.
John White (NE) assisted by a Woodbastwick volunteer carried out PA testing and HAV testing of all our equipment on 17/18 July.
CAMTRAK carried out our LOLER testing on 30 May and 30 November.
The septic tank was emptied twice this financial year, once on 4 July and again on 14 March with 5000 gallons of cess being removed each time.
The two tractors, Gator, Wessex flail mower, Votex flail, rotovator, Ryetec and BCS were serviced by Stephen Eyles in late April, then again in mid-February. Stephen also carried out repairs to the BCS in early July, when the brake on one side seized.
Two bird feeders in front of the workbase, and later two more near the buffalo pen, were kept filled throughout the year, two with peanuts and two with sunflower hearts.
Browns of Burwell delivered 500 litres of diesel to our tank on 21 March.
In September our lease at Brettenham expired and we had to empty our shed there, so brought our plough, 3 bracken bruisers, NNR signs and another diesel tank back to Chippenham for storage.

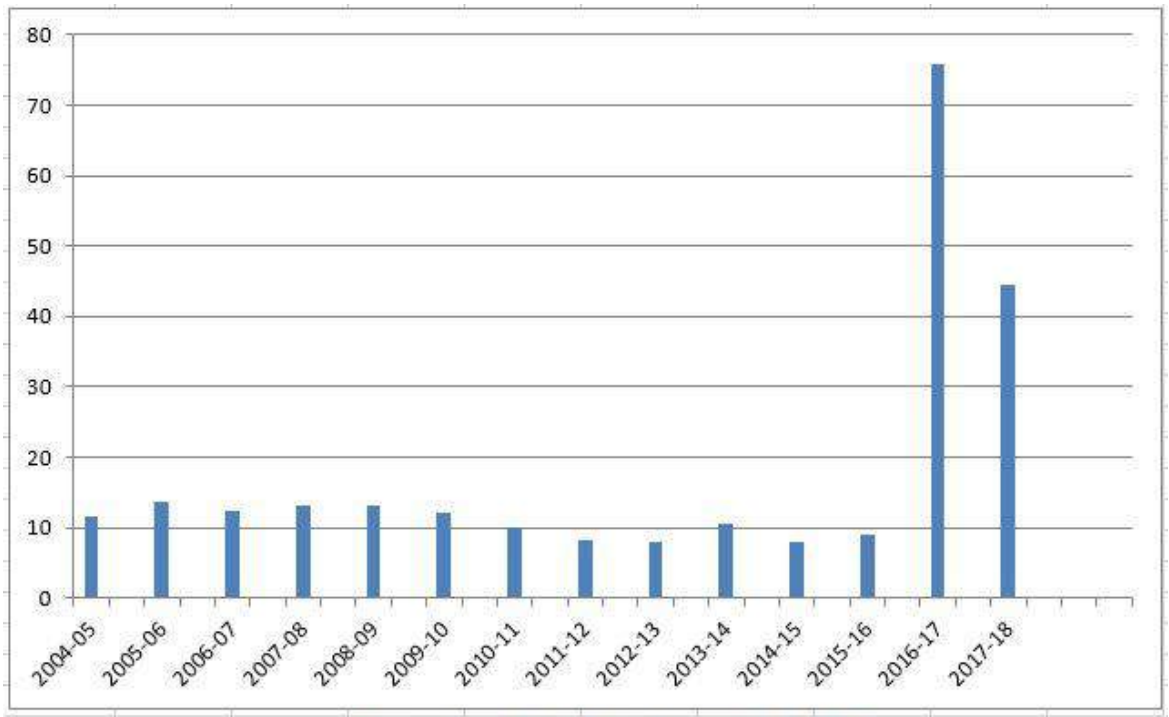
For a number of years we have recorded environmental data for the work base each month, together with vehicle mileage data. Charts showing the annual totals of mileage, electricity consumption, water consumption, cess, rubbish and recycling produced are below:



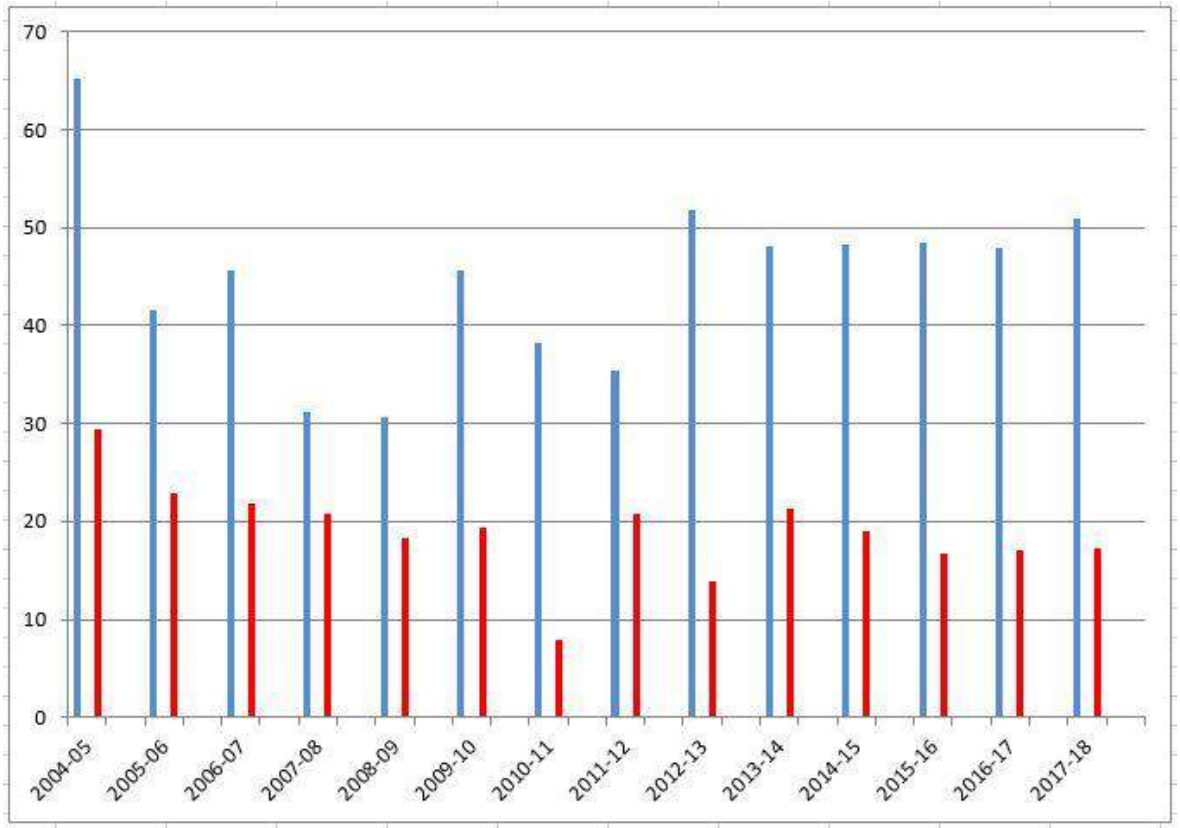

Chippenham annual vehicle mileage



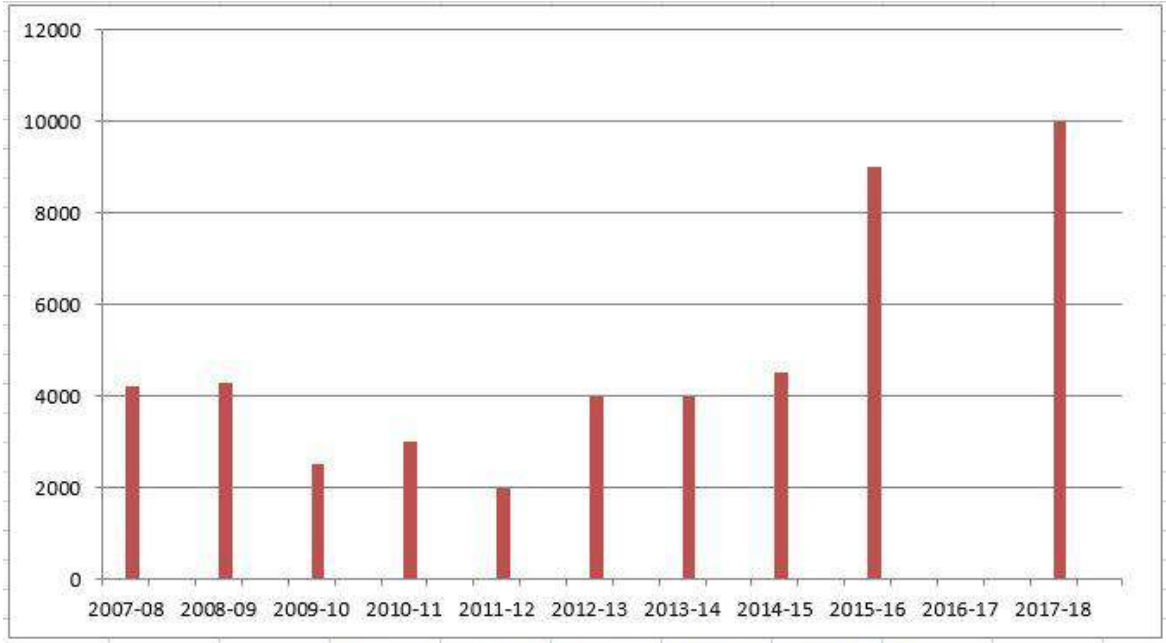

Chippenham annual electricity consumption (kWhr)




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 (though not as much used as last year) 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 checks were carried out on 22 December. Tree safety checks were carried out on 9 January
The Norfolk and Suffolk Team H&S Committee met at Chippenham on 27 April.
Chippenham hosted a H&S workshop for about 20 NNR staff on 10 August.
A new member of the NE H&S team came to Chippenham for an orientation visit on 10 October.
All the NNR risk assessments were reviewed during the year.

## 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 120 man-days were worked by volunteers, and this can be broken down into 61 days of practical management , 25 days of livestock checking and 34 days of survey work and 4 days of training.

With thanks to:

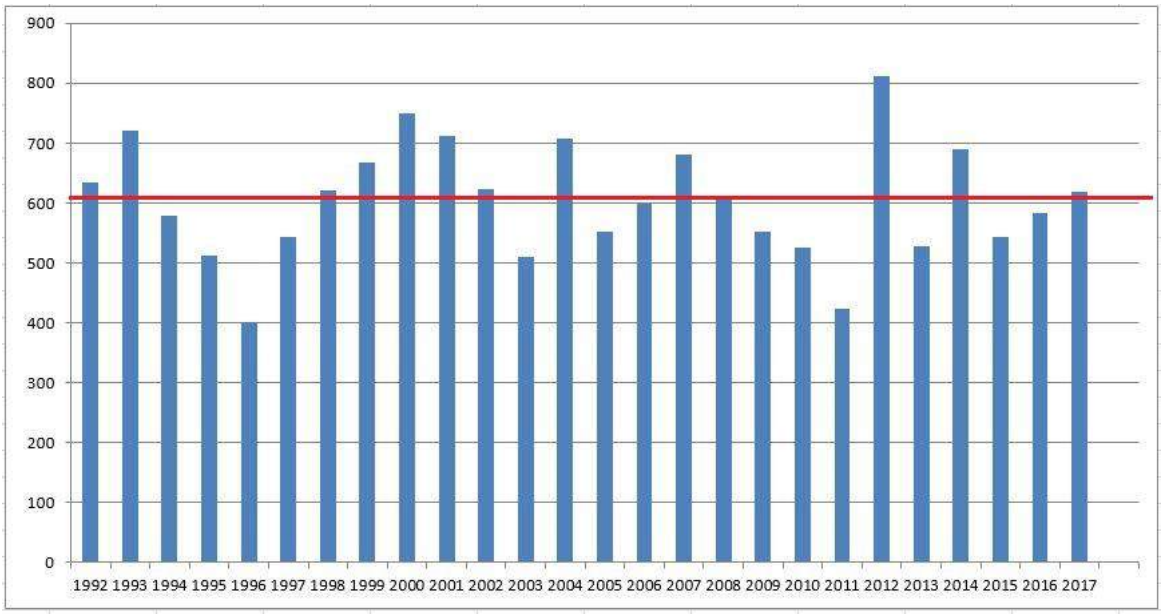
| | |
|---|---|
| Bruce Martin, Phil Brown, Owen and Monica Marks<br>Terry and Glen Riley, Nick Sibbett, Ruth Angrave, Alastair Burn, Christoph Zockler, Sam Mortlock | Dusk survey (3 days) |
| Cambridge Conservation Volunteers | Spent two days assisting with practical management works (17 days) |
| Terry and Helen Moore | Amphibian and orchid surveys (2+ Days) |
| Annie Osborn, Phil Brown, Dale Hing, Pamela Abbott<br>Phil Vigrass, Monica O'Donnell<br>Alex Nichols, Ruth Angrave<br>Bill Mansfield, James Hurst | Weekend buffalo checks (25) |
| Phil Brown, Phil Vigrass, Colin Bailey, James Hurst, Josh from On Track, Sam Mortlock and the Weekend volunteers | Practical management and dipwells (62) |
| Alan Leslie | Plant recording |
| Mike Holdsworth, Peter Bircham et al | Bird ringing (21 days) |

## Survey and Monitoring

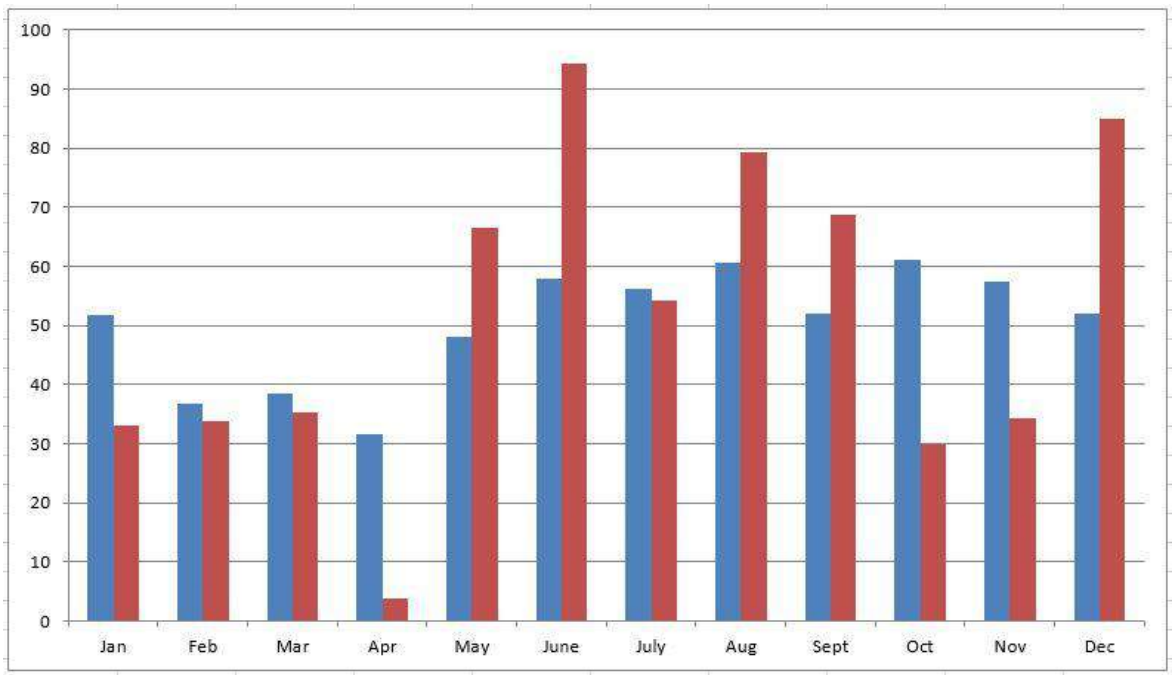
### Water levels/Rainfall

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

Rainfall in 2017 was a little above the long term average (red line in the chart below) overall, but many months deviated significantly from average, either higher or lower. The first four months were below average rainfall, then May – September were unusually wet. October and November were very dry and then December was significantly wetter than average.




CHIPPENHAM ANNUAL RAINFALL 1992-2017 red line = long term mean




**CHIPPENHAM FEN MONTHLY MEAN RAINFALL 1992-2017**

Blue bar 1992-2017 mean rainfall, red bar 2017 monthly rainfall

## Birds

## Woodcock survey

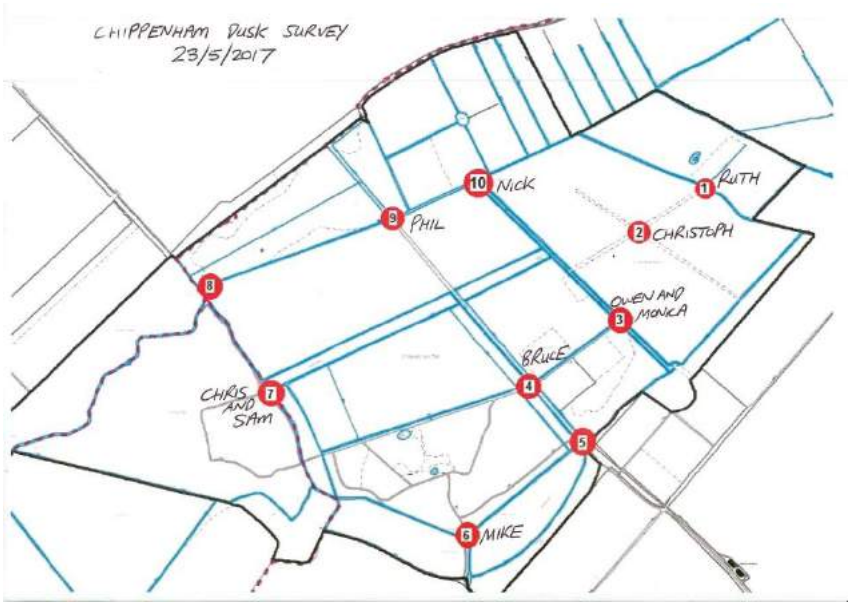
The annual dusk survey was carried out on 23 May. Below is a short report of the evening:

**Chippenham Fen Dusk Woodcock Survey 23 May 2017**

For once the weather was kind, and the evening was sunny, warm and still – perfect conditions for the survey.

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 2140hrs, plus recording every woodcock sighting on BTO

woodcock survey forms. Between us we covered 8 of the 10 regular points around the fen:

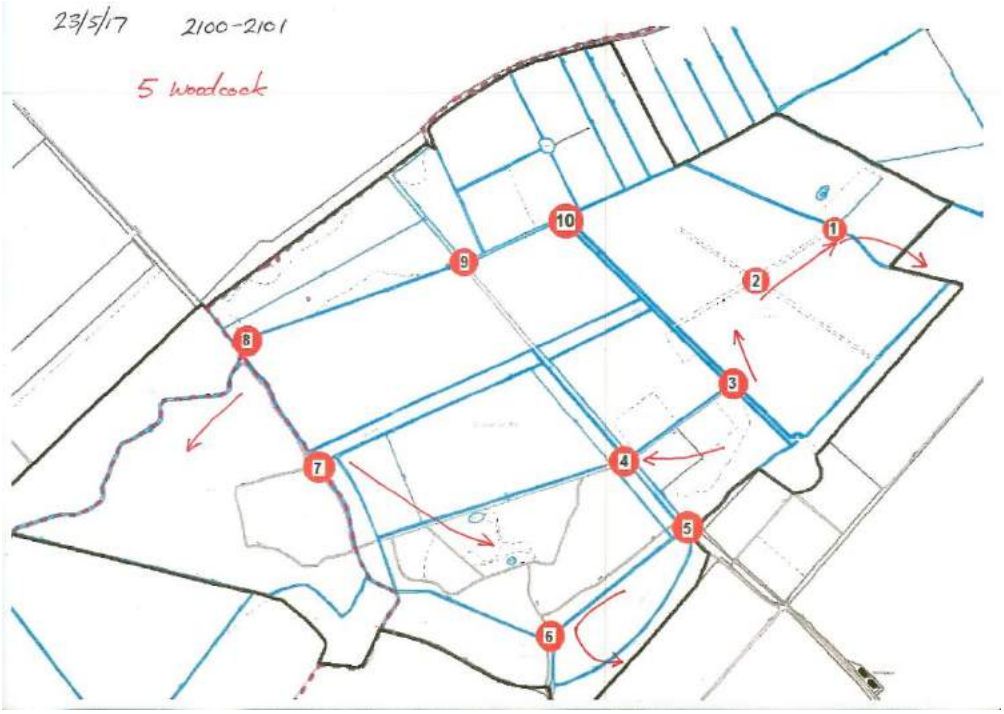



**Mapping**

We were in position by 2000hrs, but roding activity did not really start until 2030hrs. 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 |
|---|---|---|
| 2030-31 hrs | 1 | 1 |
| 2040-41 hrs | 5 | 5 |
| 2050-51 hrs | 2 | 2 |
| 2100-01 hrs | 7 | 5 |
| 2110-11 hrs | 1 | 1 |
| 2120-21 hrs | 8 | 5 |
| 2130-31 hrs | 5 | 4 |
| 2140-41 hrs | 3 | 2 |

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 5 – the same as last year. However, it is possible that up to 8 different birds were roding during the 2120-21 period, although this is unlikely as when all observers maps are combined it is clear that some of the birds were recorded from more than one point. This can be seen clearly for example on the combined map for 2100-01 hrs, where the same bird travelled between points 3, 2 and 1 and was seen by each of the three observers:




**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 2020 hrs and when most people had finished recording, at 2141hrs. There were several recorded contacts before 2020 and after 2141 hrs, but as in previous years these have not been included in the analysis.

| Point | Observer 2017 | Single bird contacts | Two birds together contacts | Three birds together contacts | Total Recorded Contacts 2017 | Total recorded contacts 2016 | Total recorded contacts 2015 |
|---|---|---|---|---|---|---|---|
| 1 | Ruth | 14 | | | 14 | 5 | 28 |
| 2 | Christoph | 23 | 3 | | 29 | 16 | 16 |
| 3 | Owen and Monica | 20 | 4 | 1 | 29 | 45 | 56 |
| 4 | Bruce | 7 | 2** | | 11 | 7 | 19 |
| 5 | | | | | | | |
| 6 | Mike | 23 | 5 | 1 | 34 | 4* | 23 |
| 7 | Chris & Sam | 22 | 3 | | 28 | 35 | 25 |
| 8 | | | | | | | |
| 9 | Phil | 25 | 4 | | 33 | 31 | 13 |
| 10 | Nick | 25 | 1 | | 27 | 16 | |

*recording finished prematurely at 2050hrs, so not included in calculation of mean contacts below

** Bruce saw two birds at 2037 and two at 2038 and was definite that these were 4 different birds

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 |

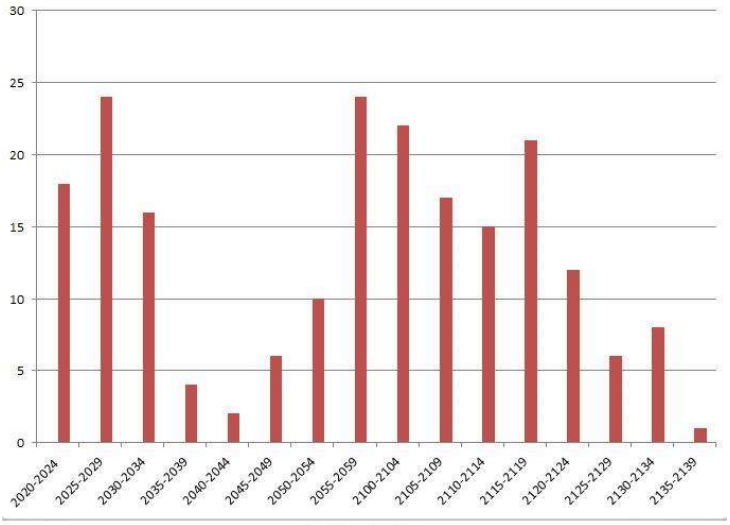
So the amount of activity in 2017 overall was very similar to 2015, with 2016 lower, possibly due to the rather cool conditions.

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 34 contacts recorded by Mike at point 6 represents 10+ individual birds, but it does seem that the number of individual birds recorded at six of the points was probably more than 7.

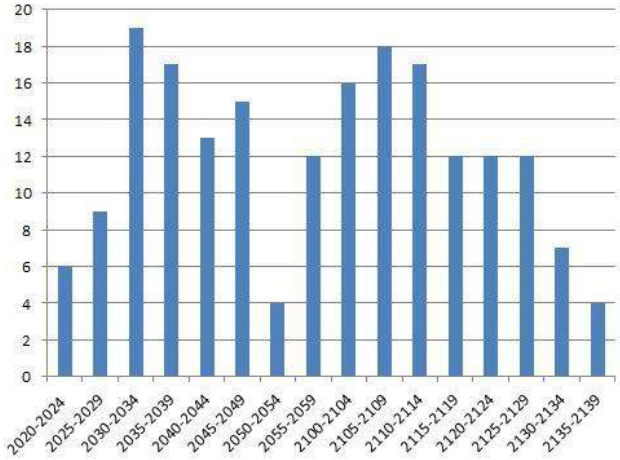
Lumping all the woodcock contacts from all the points, there were variations in activity during the evening:

| Time period | Woodcock contacts 2017 | Woodcock contacts 2016 | Woodcock contacts 2015 |
|---|---|---|---|
| 2020-2024 hrs | 0 | 6 | 18 |
| 2025-2029 | 1 | 9 | 24 |
| 2030-2034 | 8 | 19 | 16 |
| 2035-2039 | 19 | 17 | 4 |
| 2040-2044 | 22 | 13 | 2 |
| 2045-2049 | 16 | 15 | 6 |
| 2050-2054 | 11 | 4 | 10 |
| 2055-2059 | 14 | 12 | 24 |
| 2100-2104 | 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 | - | - |

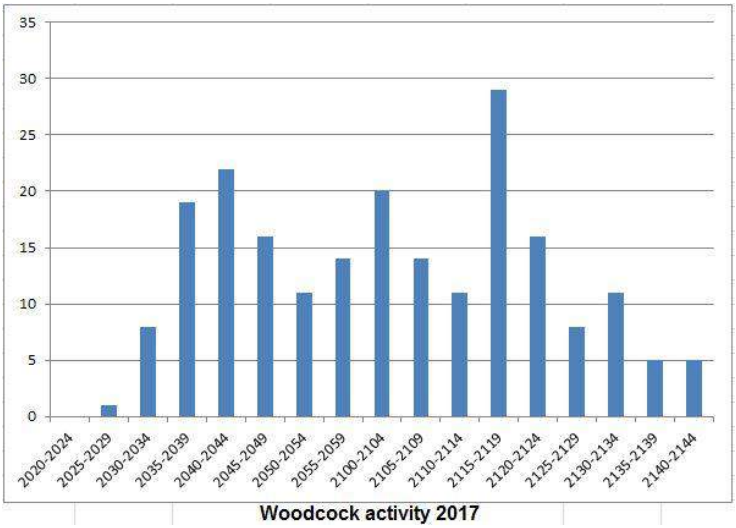
The charts below show woodcock activity in terms of recorded contacts through the evening, for 2015-17.




**Activity 2015**




**Activity 2016**




**Woodcock activity 2017**

As can be seen from the above chart there was activity around the site for the whole evening, but with a noticeable peak between 2115 and 2119 hrs.

**Other species recorded**

| | |
|---|---|
| Buzzard | 1 over middle of fen |
| Hobby | 2-3 seen, in Poors Fen, Forty acre and elsewhere |
| Marsh Harrier | At least one seen |
| Barn owl | one recorded in East Meadows |
| Water rail | one heard in Forty acre wood |
| Snipe | one heard over Forty Acre wood |
| Quail | one calling over North Meadows |
| Raven | one probable flying south |
| Grasshopper warbler | At least 7 recorded |

**Summary**

Overall a successful evening, with a good amount of woodcock activity and several other interesting species noted. As ever, coming to a definitive figure for the total number of woodcock on the fen is problematic, if not impossible. Out 'traditional' mapping method suggests a minimum of 5 different roding birds, whereas using the BTO method the contacts recorded at several points suggest 7+ birds – maybe even 10+ at some. Whatever the maximum number, it is reassuring that there is no indication of any decline, and Chippenham remains a real stronghold for the species.

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 2017

Chris Hainsworth, assisted by Sam Mortlock, 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).

Here is Michaels report of the 2017 standards sessions:

## Chippenham West 'Standards' 2017

2017 was the fourth year we have run this CES-lite programme at the Fen. Hopefully sufficient birds can be caught to provide a measure of indexation, both of adult abundance and year-on-year survival; and at least an early-season hint of local breeding season fledging productivity. The Standards area is on Snailwell Poors Fen, around Malcolm's Pond, the eastern part of Compartment 4.
Sessions ran on 25 May, 13 June and 5 July. 171m of net was erected the day before and furled. Nets were open for six hours from sunrise, providing 18 hours of ringing in total. No sound-lures were used. The first and second sessions aim to focus on the number of breeding pairs, and the second and third to measure productivity, hopefully before juvenile dispersal starts to confuse the picture. Due to holidays in 2017, the third session ran earlier than in the previous years, and this may have had an effect on the number of young birds caught.
The ringers were Michael Holdsworth and Peter Bircham.

**Results**

The weather was fine for each of the three sessions. We caught 109 different individual birds (68 adults, and 41 juveniles) in 119 captures. This was 38% fewer birds than our previous three-year average of 176; and from just fourteen species, the same as in 2016, also a lower number than in 2014 and 2015. Song Thrush was a new species for the Standards this year.
Total numbers are always going to be influenced by whether or not we have a random encounter with a tit/Chiffchaff flock. This year we didn't, but that was perhaps offset by an early-season flock of 21 Long-tailed Tits, all unringed.
The usual continuing absent passerines – Dunnock, Chaffinch, Goldfinch, Greenfinch – almost certainly do not breed anywhere nearby.
Overall the numbers of each species encountered are too low to enable any meaningful year-on-year comparison. The chart below, however, shows the four-year tallies for two residents, Wren and Robin; the two subSaharan *Acrocephalus* warblers, Reed and Sedge; and the two short-range, 'Mediterranean' migrants Blackcap and Chiffchaff (the latter always subject to the tit-flock effect, see above).
In the table below, the arrows indicate the 2017 variation from the mean of the three years 2014–16. A single arrow indicates >20%; two arrows >50%; [and three arrows >100%].

| | Adults | | | | | Juveniles | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2014 | 2015 | 2016 | 2017 | | 2014 | 2015 | 2016 | 2017 | | |
| Wren | 15 | 9 | 13 | 3 | ↓↓ | 14 | 16 | 9 | 1 | | ↓↓ |
| Robin | 2 | 3 | 3 | 1 | ↓↓ | 5 | 3 | 8 | | | |
| Sedge Warbler | 9 | 6 | 4 | 7 | → | 5 | 2 | 3 | | 4 | ↓ |
| Reed Warbler | 33 | 13 | 25 | 16 | ↓ | 16 | 18 | 4 | | 6 | ↑↑ |
| Blackcap | 4 | 4 | 5 | 8 | ↑↑ | 7 | 7 | 3 | | 6 | ↓↓ |
| Chiffchaff | 15 | 14 | 14 | 15 | → | 12 | 22 | 16 | | 2 | ↓↓ |
| | | | | | | | | | | 4 | ↓↓ |

Wrens –usually very much a feature of these sessions – seem to have had a poor year; and Robins hardly fared any better. Reed and Sedge Warblers showed greater variation; the lower juvenile total for Reed Warbler might have been improved by having had the July session later in the month. Apparent productivity for all species was poor, with the possible exception of Sedge Warbler.

It has been a quiet year for ring-recoveries. Wintering finches were represented by a Siskin from January 2016, recaught – presumably at its breeding site – in Aberdeenshire in April 2017. Another Siskin, ringed at Brandon in October 2015, had been on the Fen in January 2016. In the other direction, a Chippenham Redpoll from January 2016 was controlled at Brandon in March 2017. An August juvenile Reed Warbler this year was at Liltington, Sussex later in the same month, no doubt *en route* south

Michael Holdsworth

30 August 2017

## Amphibians

Dr Terry Moore and wife Helen continued to look at amphibians on the Fen in 2017. Here is Terrys report:

Helen and I visited the East Meadows Pond on the 29th March 2016 and the weather remained fine and dry unlike the rain that was falling for most of our journey to Chippenham Fen. As you could expect with the rainfall in recent weeks the pond was fairly high and obviously had overspilled lately so it was with some surprise that the pH was measured as 8.8! The pH meter had been calibrated less than a week before. Possibly this was due to an apparent slip of the edge on the northern side exposing a large area of white, presumably chalk under water.

The air temperature at the end of a long evening was still 11.4 $^{o}$C and the water temperature was a 16.4$^{o}$C which probably accounted for our success. All together we located 14 female smooth newts, 3 male and 5 which hid too fast to recognise the sex. Interestingly 1 of the males, a fairly large one had small residual gills i.e. in neotony, which indicates either a lack of iodine in the water or a mutant but it looked as if they were reabsorbing from their size.Elsewhere we found lots of toad and frog spawn with a lot of tiny tadpoles hanging onto the spawn. Some of the spawn was so close it was almost mixed. We spotted one adult toad but no frogs, plus one dead toad or frog lying on its back in deeper water.

There were lots of water stick insects, lesser diving beetles or something very similar, water boatmen and caddis fly larva having 2 types refuges plus one dytiscus beetle.

The water flora included the normal i.e. water mint, hard rush (I think), chara of some sort and the filamentous grass-like water plant which I originally thought was slender naiad (Najas marina) but you found out that it was I think, small pondweed (potamogeton berchtoldii).

On the 12 May we set out to look in the pond in North Meadows East (Pond D on our map attached), it was breezy and late on there was some rain, both of which disturb the water surface. When we arrived the air temperature was 14.2C but the water was 14.9C and had a pH of 8.1. The water levels of it and the connecting ditches were very low and they were all full of vegetation ie lots of chara, reed (Norfolk probably), common crowfoot, hornwort, marginal yellow flag and some potamageton.

The pond was almost black with tiny toad tadpoles which clearly had not hatched very long. The tadpoles were mainly in the vegetation. We heard a water rail in the reeds that are in the water on the south side but could not see it despite having patience. Other than that there was a small frog in one of the connecting ditches, the odd underwater, small beetle and a few whirlygigs. A soprano pipistrelle was the only bat we detected. We moved on to the ditches d-c and d-e. These did not seem to be so low but they were really clogged with vegetation, obviously good conditions for waterweeds.

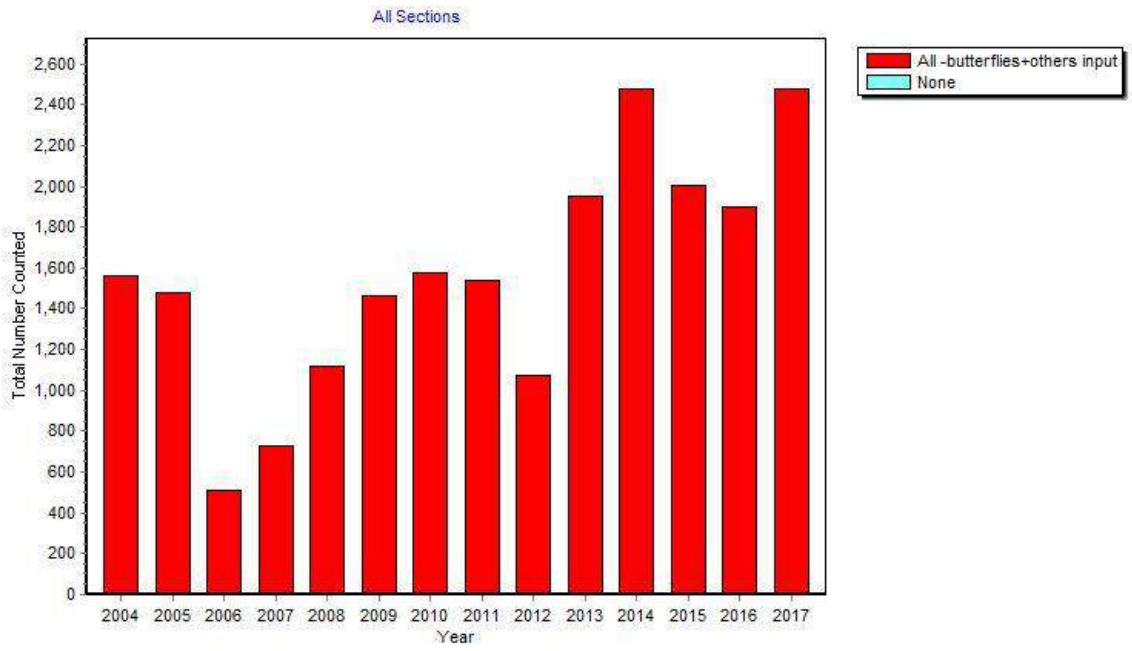
d-c on the east side of pigeon ride had lots of water parsnip with just about zero other animal life except in a clear pool about 20 m north of the deer platform was a motionless approximately 30 cm long pike which moved only slowly the whole time we looked at it. How did it get there and what was it eating are the questions which spring to mind? On the other side of the ride, the southern section had chara and elodia plus a few toad tadpoles, large dragonfly larvae and caddis fly larvae on the elodea. Ditch d-e also was packed with vegetation mainly chara and elodia again  but only a few caddis fly larvae on the elodea to represent the animal kingdom.

Overall toads seem to be the prominent amphibians again but very interesting ponds.

## Invertebrates

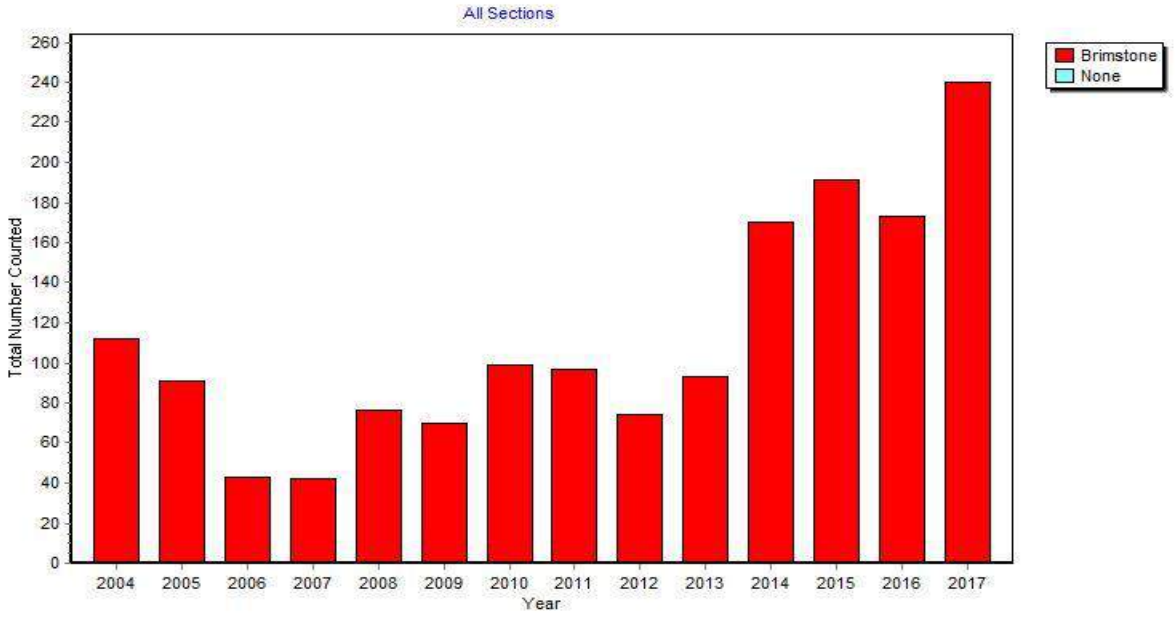
## Butterflies

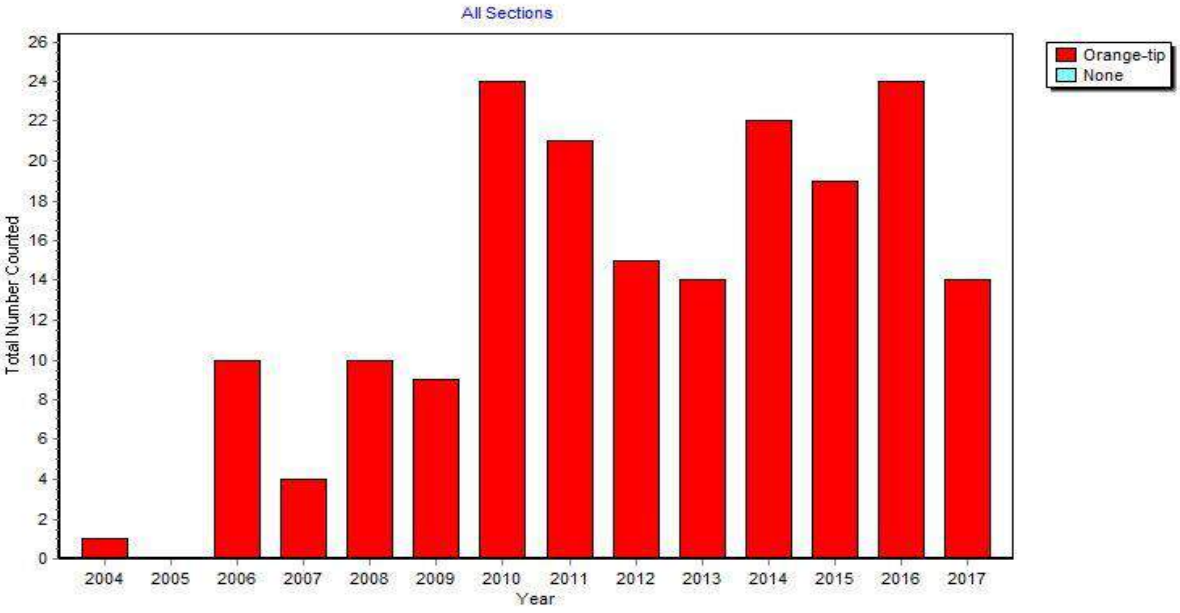
The butterfly transect was carried out weekly between April and September. Data were entered online and onto Transect Walker and sent to the National Butterfly Monitoring Scheme. 458 butterflies were recorded on the transect on 26 June, including nearly 300 ringlets.
2017 proved to be an excellent year for butterflies on the Fen, as shown on the chart below:

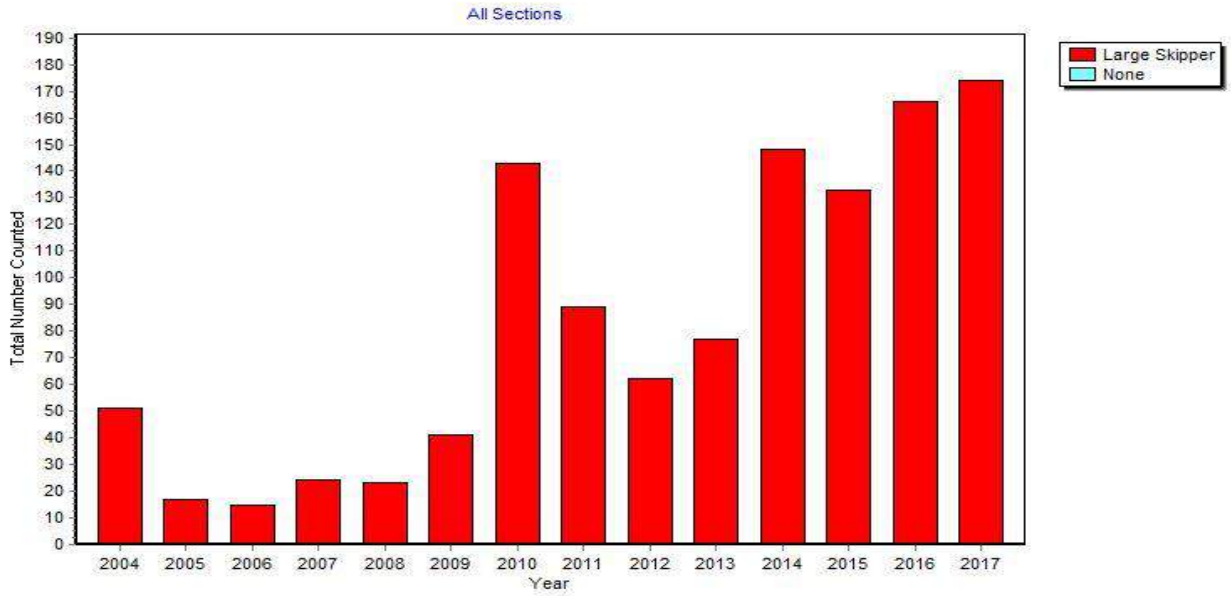


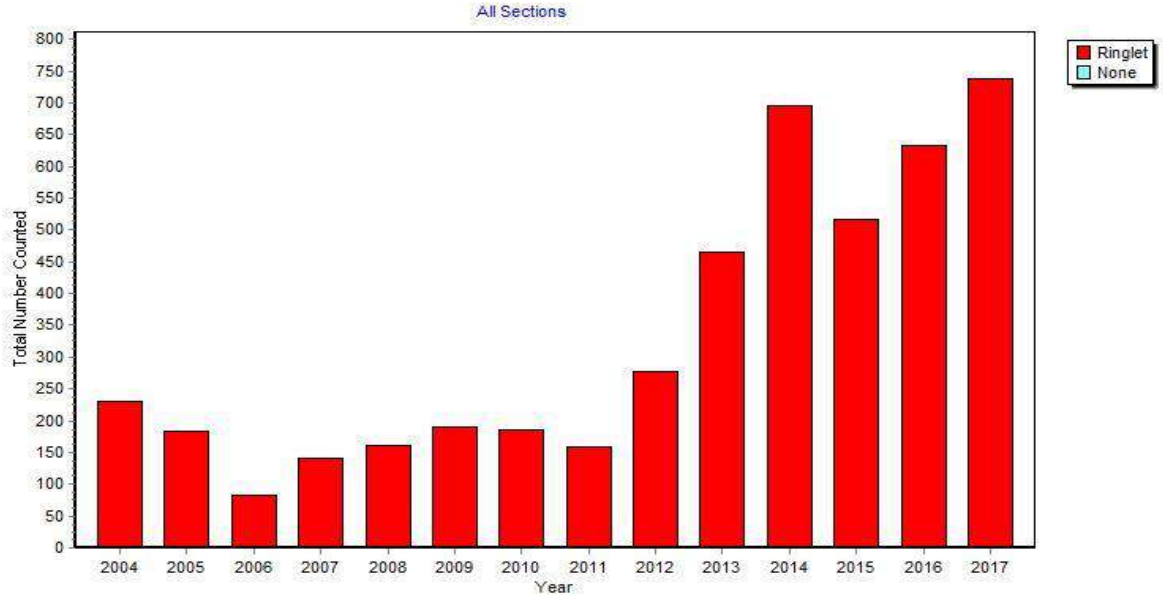

**Chippenham Fen Butterfly transect–total butterflies recorded**

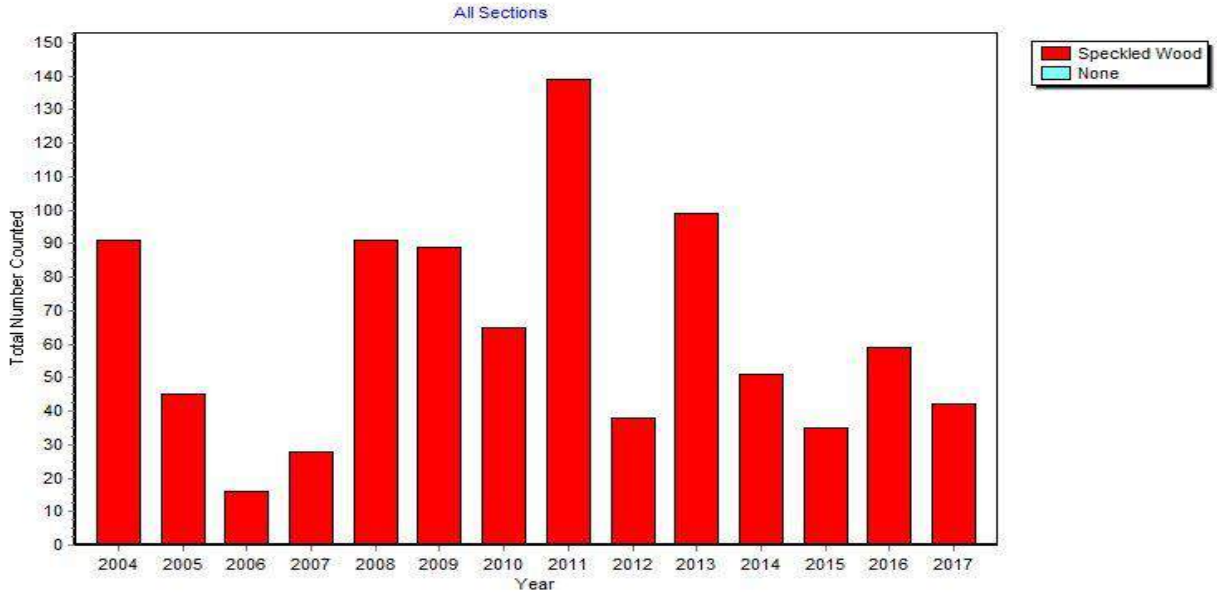
Overall, eight species are showing an upward trend in numbers, and a further eight species appear stable. Only four species exhibit a possible decline; small white, green hairstreak, holly blue and speckled wood.
The charts below show annual indices for some of these species:

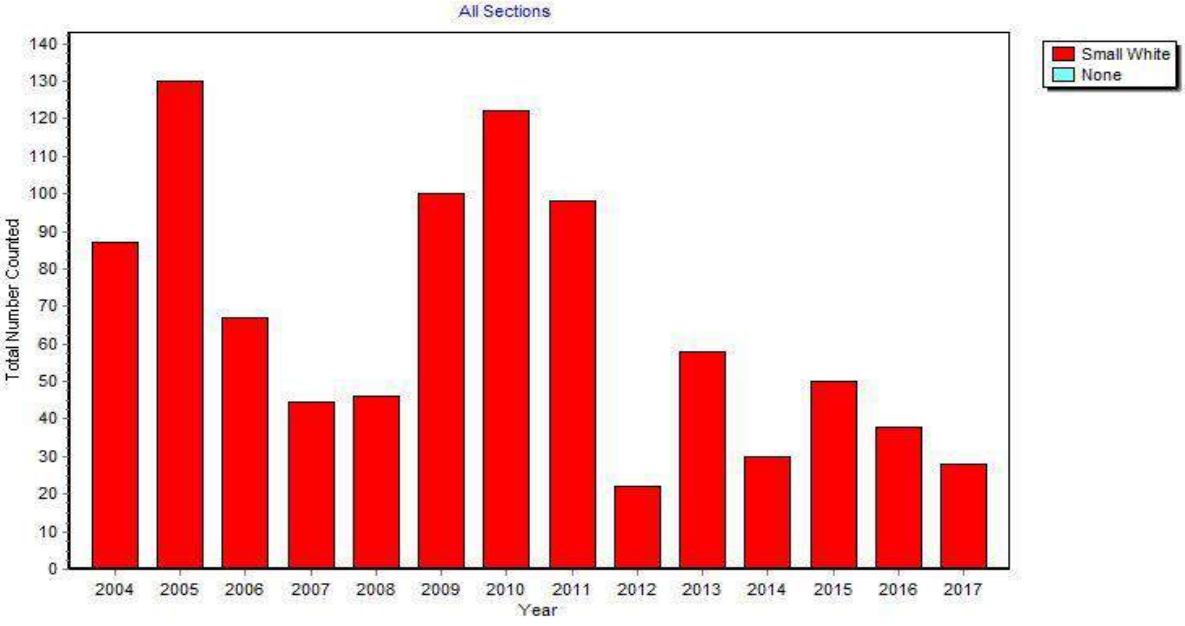



All Sections
Large Skipper
None
Total Number Counted
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year


All Sections
Ringlet
None
Total Number Counted
800
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year


All Sections
Speckled Wood
None
Total Number Counted
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year

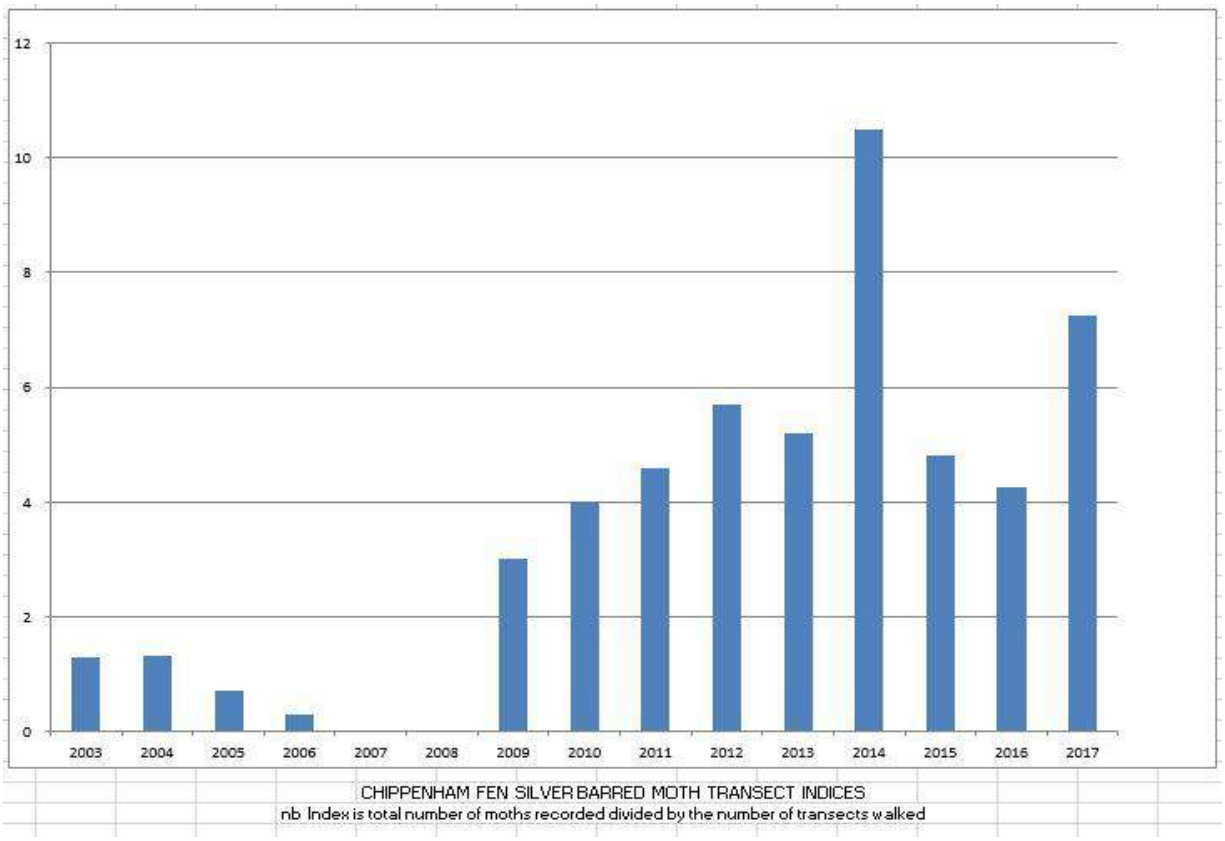

All Sections
Small White
None
Total Number Counted
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Year

## Moths

We did some light trapping using an actinic trap outside the shed on a number of occasions through the summer.
On 7 July we had a NE Green Day event including a barbeque, moth trapping and overnight camping for about 15 NE staff.
On 13 October we had a National Moth Night event with about 11 participants – mostly NNR volunteers and assisted by County moth recorder Bill Mansfield.

## Silver barred

The first silver barred moth was seen on 16 May. Numbers recovered this year, and 2017 was the second best year since we started the transect.




**Silver barred moth annual indices**

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

## Plants

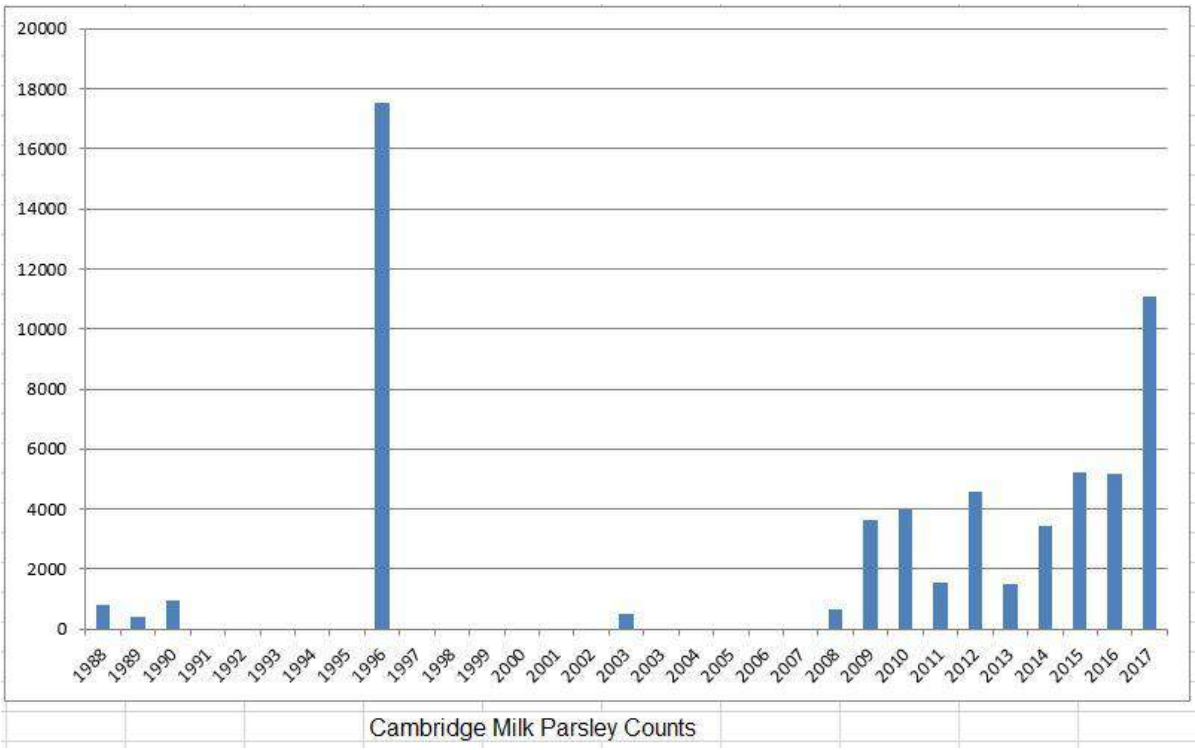
### Cambridge milk parsley

We undertook the Milk parsley survey on Chippenham Fen between 28th July and 7th August 2017.

The recording was done by walking in a line and counting plants in flower. Some plants had 2 or more flower stalks and these were counted as 1 record. Non flowering plants were not counted.

A total of 11051 flowering plants were recorded, the second highest total since our records began.

The chart below shows results from all the counts on file:



## 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, only made a few visits to the Fen through the year, continuing to compile an up to date species list for the reserve.

## Orchids

NNR volunteers Terry and Helen Moore only spent a little time studying orchids on the reserve this year – a full count is planned for 2018.
Marsh Orchids in compartment 1 were almost entirely grazed off by the early cattle grazing this year.
2017 was generally a little down for some of the scarcer orchids: 3 bee orchids were recorded in the annually cut area on Boundary Ride and 4 on the chalk bank in c2; 110 fragrant orchids on Baxter east and in compartments 1 and 2, 13 marsh helleborine were found in compartment 2, and 60 twayblade were recorded, with over 40 in East meadow.
No *ochroleuca* Early Marsh orchids were found this year – the last flower was seen in 2004.

## Bogbean

The first flower was noted very early, on 28 April, along with 262 unopened flower spikes, most of which were showing frost damage. Subsequently the majority of these withered without flowering and on 12 May there were only 5 flowers evident.

## Ash die-back

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

## Teacomposition H2O Project

We participated in a world-wide tea-bag decomposition experiment. The site of burial was pre-determined, south west of LTMN vegetation quadrat Number 8 in compartment 1. Tea-bags are buried in a carefully measured grid, just below the rhizosphere and then some are retrieved and sent away for analysis after 3 months, 6 months, 1 year, 2 years and 3 years. We erected a temporary fence around the plot on 29 June and buried all the tea-bags on 3 July. The 3 month bags were dug up and sent off for drying and analysis on 26 September, and the 6 month bags on 14 December – the latter with some difficulty as the site was under water!

## CEH/NE long term monitoring network (LTMN)

MT carried out the breeding bird survey (BBS), using the BTO breeding bird methodology, and the required two visits were made on 29 April and 31 May. Below are summarised the totals for the early and late visits over the last five years:

| Early Visit | | 20/04/2013 | 22/04/2014 | 23/04/2015 | 21/04/2016 | 29/04/2017 |
|---|---|---|---|---|---|---|
| | Blackbird | 8 | 9 | 8 | 9 | 11 |
| | Blackcap | 7 | 5 | 11 | 5 | 9 |
| | Blue Tit | 17 | 12 | 19 | 17 | 22 |
| | Bullfinch | | | | | 2 |
| | Buzzard | 2 | 1 | 1 | 2 | 1 |
| | Canada Goose | | 12 | 3 | 2 | 4 |
| | Carrion crow | 2 | 3 | 6 | 6 | 11 |
| | Chaffinch | 4 | 4 | 6 | | 1 |
| | Chiffchaff | 12 | 12 | 16 | 15 | 19 |
| | Coal Tit | 3 | 1 | 3 | 5 | 2 |
| | Cuckoo | | | 1 | | 1 |
| | Goldcrest | 1 | 1 | 1 | 1 | |
| | Grasshopper Warbler | 4 | 1 | 4 | 7 | 9 |
| | Great spotted woodpecker | 6 | 3 | 2 | | 3 |
| | Great Tit | 9 | 11 | 16 | 4 | 13 |
| | Green Woodpecker | 6 | 4 | 6 | 4 | 4 |
| | Grey Heron | 1 | | | | |
| | Greylag | 2 | 4 | 7 | | 8 |
| | Jackdaw | 11 | 2 | 16 | 7 | 15 |
| | Jay | | | 3 | 1 | 1 |
| | Lapwing | | | 1 | | |
| | Lesser Redpoll | | | | 3 | |
| | Linnet | | | | | 4 |
| | Long tailed Tit | | | 4 | 6 | 8 |

| | | | | | |
|---|---|---|---|---|---|
| Magpie | 1 | | 1 | | 5 |
| Mallard | 2 | 1 | 2 | 4 | 6 |
| Marsh Harrier | | | 1 | 2 | 2 |
| Marsh Tit | | 1 | 1 | 1 | |
| Mistle Thrush | 1 | 1 | | | |
| Moorhen | 2 | 2 | 2 | | 1 |
| Nuthatch | 5 | 1 | 1 | 2 | 1 |
| Pheasant | 3 | 7 | 11 | 8 | 10 |
| Reed Bunting | 8 | 10 | 7 | 10 | 5 |
| Reed Warbler | | 3 | 4 | 1 | 7 |
| Robin | 12 | 16 | 15 | 14 | 12 |
| Rook | 7 | | 1 | | 1 |
| Sedge Warbler | 8 | 14 | 11 | 11 | 18 |
| Skylark | 2 | 1 | 2 | 2 | 3 |
| Snipe | 1 | | | | |
| Song Thrush | 1 | 2 | 5 | 3 | 2 |
| Stock Dove | 3 | 2 | 2 | 3 | 2 |
| Treecreeper | 6 | 2 | 3 | 2 | 2 |
| Water Rail | 2 | | 2 | | 1 |
| Willow Warbler | | 1 | | | 1 |
| Woodpigeon | 32 | 19 | 33 | 30 | 26 |
| Wren | 34 | 39 | 51 | 41 | 42 |
| Yellowhammer | | 1 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Birds | 225 | 208 | 289 | 228 | 295 |
| | Species | 34 | 34 | 39 | 31 | 39 |
| Late Visit | | **05/06/2013** | **30/05/2014** | **21/05/2015** | **27/05/2016** | **31/05/2017** |
| | Blackbird | 10 | 12 | 14 | 16 | 7 |
| | Blackcap | 4 | 6 | 3 | 6 | 6 |
| | Blue Tit | 8 | 21 | 15 | 13 | 12 |
| | Bullfinch | | | | 2 | 2 |
| | Buzzard | | | 1 | 1 | 3 |
| | Canada Goose | | | 3 | 2 | |
| | Carrion crow | | 7 | 4 | 5 | 7 |
| | Chaffinch | 8 | 5 | 3 | 2 | 4 |
| | Chiffchaff | 8 | 10 | 16 | 14 | 9 |
| | Coal Tit | 1 | 1 | 1 | 2 | 2 |
| | Cuckoo | 3 | 2 | 1 | 1 | 2 |
| | Dunnock | | | 1 | | |
| | Goldcrest | | 3 | | | 3 |
| | Goldfinch | | | | | 2 |
| | Grasshopper Warbler | 3 | 4 | 2 | 2 | 4 |
| | Great spotted woodpecker | 2 | 3 | 3 | 1 | 2 |
| | Great Tit | 2 | 7 | 13 | 6 | 7 |
| | Green Woodpecker | 3 | 9 | 1 | 1 | 1 |
| | Grey Heron | | | | | 1 |
| | Greylag | 2 | | 3 | 2 | 2 |
| | Hobby | | | | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Jackdaw | 17 | 18 | 14 | 19 | 7 |
| Jay | 2 | | | 1 | 1 |
| Lapwing | | 3 | | | |
| Lesser Whitethroat | | | 1 | 1 | |
| Linnet | | | | 2 | |
| Long tailed Tit | 8 | 2 | 20 | | 5 |
| Magpie | 1 | 2 | 2 | 1 | 4 |
| Mallard | 2 | 1 | 4 | 2 | 3 |
| Marsh Harrier | 1 | | 1 | 1 | 4 |
| Marsh Tit | | | 1 | | |
| Mistle Thrush | | | | | |
| Moorhen | | 1 | 2 | | 1 |
| Nuthatch | 1 | | 1 | 3 | |
| Pheasant | 5 | 6 | 5 | 7 | 12 |
| Reed Bunting | 7 | 7 | 15 | 8 | 9 |
| Reed Warbler | 19 | 20 | 15 | 16 | 22 |
| Robin | 7 | 15 | 8 | 11 | 14 |
| Rook | 8 | | | | |
| Sedge Warbler | 4 | 8 | 7 | 4 | 6 |
| Skylark | 2 | 3 | 2 | 3 | 3 |
| Snipe | | | | | |
| Song Thrush | 5 | 2 | 3 | 5 | 5 |
| Spotted Flycatcher | | | | | 1 |
| Stock Dove | 3 | 1 | 2 | 4 | 5 |
| Treecreeper | | 3 | 1 | 3 | 2 |
| Water Rail | 1 | 2 | | | |
| Whitethroat | | | 1 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Willow Warbler | 2 | | | | |
| Woodpigeon | 31 | 25 | 23 | 38 | 28 |
| Wren | 26 | 36 | 39 | 44 | 34 |
| Yellowhammer | | | | | |
| | | | | | |
| birds | 206 | 245 | 251 | 249 | 244 |
| Species | 32 | 31 | 37 | 35 | 39 |

## 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

Work continued developing a protocol for monitoring this species. Some time was spent searching for the spider away from the known 'hotspot' in compartment 8 to further our knowledge of the species distribution on the fen. The search method was to shake vegetation (either cut material from litter piles etc, or uncut overhanging or matted material) over a white plastic tray – we have found this to be the most productive way of finding the spider.

On 9 October CH and MT searched in compartment 8 near dipwells 7 and 12. Much of this area had recently been cut by the sedge cutter and there was a lot of cut vegetation spread across the site – we concentrated on lifting this material and shaking over a white tray. One mature male was found.

On 25 October MT searched in the buffalo grazed part of compartment 8, by shaking overhanging vegetation on large *Molinia* tussocks over a tray. Two mature males were found fairly quickly.

On 26 October MT found 2 mature females in compartment 6, which had also been cut recently by the sedge cutter – one was found under rank matted vegetation at the side of the approach track to dipwell 14, the other under loose cut material in the compartment. Poors Fen was also searched – no mature *rosserae* were found, but several likely looking immatures.

On 10 November CH and MT searched unsuccessfully in compartment 10, but again there were several likely looking immatures.

It certainly appears that the species may be quite widely distributed on the fen and further searching in other compartments and at different times of year would be very worthwhile.

## 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. This year we ran two traps for much of the summer, one behind the workbase and the other near the bogbean glade in Poors Fen. Both traps were temperamental at times, with cold or windy conditions causing them to shut down. The traps were run continuously every other week between April and October and the catches sent away for identification.

Dr Frances Hawke made several visits between May and September to carry out larval sampling in water bodies around the fen to augment the trap results.

A report on the species caught at Chippenham in 2017 was supplied by Dr Ben Cull:

## Chippenham Fen

### Summary of mosquito species recorded and their seasonal activity 2017

TABLE KEY: Green = present; White = absent; Shaded = trap not run. Figure indicates no. females per trap night.

| week | 1<br>3<br>Apr | 2<br>17<br>Apr | 3<br>1<br>May | 4<br>15<br>May | 5<br>29<br>May | 6<br>12<br>Jun | 7<br>26<br>Jun | 8<br>10<br>Jul | 9<br>24<br>Jul | 10<br>7<br>Aug | 11<br>21<br>Aug | 12<br>4<br>Sep | 13<br>18<br>Sep | 14<br>2<br>Oct | 15<br>16<br>Oct |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Aedes cantans/annulipes* | | | | | | 0.8 | 0.3 | 3.3 | 3.3 | 0.3 | 0.3 | 0.4 | | | |
| *Aedes caspius* | | | | | | 0.3 | | 0.3 | 0.3 | | | | | | |
| *Aedes cinereus/geminus* | | | | | | 4.0 | 6.5 | 5.0 | 7.5 | | 45.0 | 19.8 | 5.0 | 1.0 | 0.3 |
| *Aedes geniculatus* | | | | | | 11.6 | 1.3 | 1.9 | 2.9 | | 1.8 | 0.8 | 0.3 | | |
| *Aedes rusticus* | | | | 0.5 | | 1.5 | | 0.5 | | | | | | | |
| *Aedes sticticus* | | | | | | | | | | 0.3 | 2.0 | 0.8 | 0.5 | | |
| *Anopheles claviger* | | | 1.7 | 4.8 | 6.7 | 12.8 | 7.9 | 9.5 | 33.0 | 1.5 | 95.3 | 20.5 | 32.5 | 26.6 | 7.6 |
| *Anopheles plumbeus* | | | | | | 0.8 | 0.3 | 1.5 | | 0.8 | 0.8 | 0.5 | 0.8 | | |
| *Coquillettidia richiardii* | | | | | | | 6.1 | 9.8 | 6.5 | 2.8 | 1.0 | | | | |
| *Culex pipiens* s.l. | | | | | | | | | | | | | | | 0.3 |
| *Culiseta annulata* | | | 2.3 | 0.8 | | 1.0 | 0.8 | 0.9 | 2.5 | 0.5 | 1.1 | 0.9 | 1.8 | 0.8 | 0.5 |
| *Culiseta morsitans* | | | | | | 0.8 | 0.8 | 0.5 | 0.3 | | | | | | |

## Miscellaneous species records

### Butterflies and Moths

The first butterflies of 2017 were small tortoiseshell on 7 March, and brimstone and comma on 9 March. A green hairstreak was seen near the picnic bench outside the shed on 19 April. A clouded yellow was in compartment 10 on 10 August. Green-veined white, red admiral, speckled wood and comma were still on the wing on 12 October, mostly nectaring on ivy flowers. Red admiral and the years only painted lady were seen on 25 October.

The first butterfly of 2018 was very surprising, a red admiral near the main gate on 25 January. Then, cold conditions in late February and early March meant that hibernating species did not appear until 14 March, when brimstone and comma were seen.

A forester moth was recorded on ragwort flowers in compartment 1 on 4 July. There have been very few, if any, records of this species on the fen in recent times.

### Odonata

Lots of large red damselflies were on the wing by 19 April, and the first broad-bodied chaser was seen on 10 May. Late common darter and migrant hawker were still on the wing on 3 November.

### Other invertebrates

Two wasp spiders were noted in the grazed part of compartment 8 on 7 July. Large numbers of hornets were active until the last week of October.

### Amphibians

On 14 March there were 26 clumps of frogspawn on the flooded track through compartment 2. These subsequently hatched and as conditions remained wet through much of April it is hoped that most of the tadpoles survived. A toad was in East meadow on 16 March.

### Bryophytes

*Ephemerum cohaerens*, a species known from only 3 sites in Britain since 2000, was found on buffalo-disturbed peat in compartment 9 on 8 October during a bryophyte group visit.

## Visitors/Meetings/Events

Moth trap and dawn chorus event for 7 NNR volunteers on 14 May.

Liz Bridges and David Overton held team meeting in office on 26 May.

We hosted NE Brecks team meeting on 6 June.

Orchid/butterfly guided walk for 9 NNR volunteers on 25 June.

Chris Evans brought representative from Logic to look at feasibility of using a Soft-track in Poors Fen on 27 June.

Phil Brown led a dawn chorus walk for a number of Dalham villagers on 1 July.

Adrian Gardiner of NE led an internal fen invertebrate course for 7 staff on 7 July.

CH/MT gave guided walk to 20 members of the Lark Valley Association on 10 July

CH accompanied Alan Leslie and the Cambs Flora Group on their visit on 16 September.

Two RPA staff visited on 3 October – checking areas claimed as grazing.

CH spent day with Chris Preston and local bryophyte group on fen on 8 October.

New member of NE H&S team Sarah Worthy came to Chippenham for an orientation visit on 10 October.

MT gave 16 students from Capel Manor College guided walk of fen on 3 November.

CH/MT gave Chippenham owner Rebecca Crawley, Hugo and Will Garnett a guided walk around fen on 8 December.

NE Norfolk and Suffolk team leader Sarah Dawkins visited on 4 January.

Xerox staff visited on 8 January prior to replacement of printer in office.

Emma Quick (NE) started working with us a couple of days per week on 2 February.

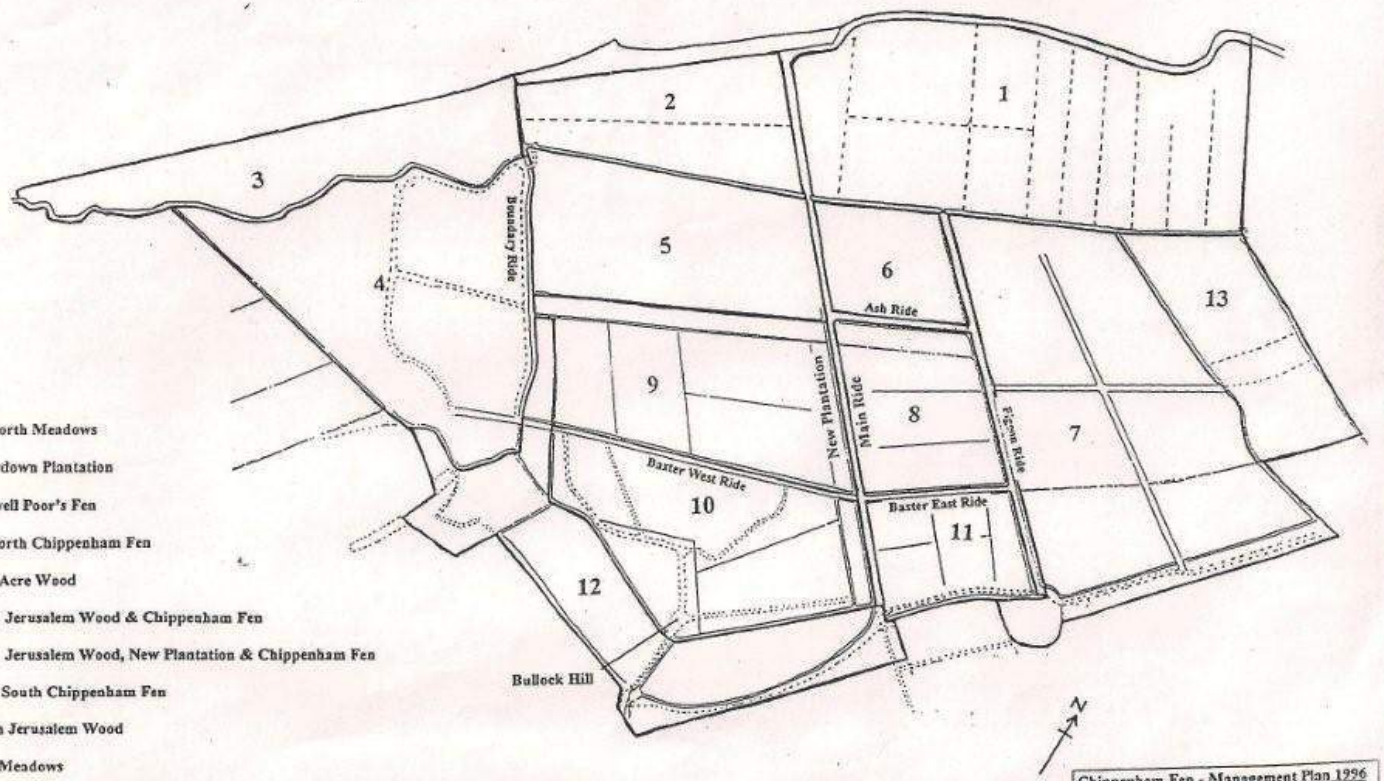
The Beast from the East struck on 26 February, bringing several days of snow and biting winds from Siberia

CH, Adam Burrows and Alistair Helliwell interviewing for new NNR apprenticeships on 7 March.

The Mini-Beast from the East saw the return of very cold and snowy conditions, albeit briefly, on 17/18 March.

**Michael Taylor**
Reserve Manager
April 2018

# MAP 1 COMPARTMENTS




1 & 2 - North Meadows

3 - Underdown Plantation

4 - Snailwell Poor's Fen

5 & 6 - North Chippenham Fen

7 - Forty Acre Wood

8 - North Jerusalem Wood & Chippenham Fen

9 - North Jerusalem Wood, New Plantation & Chippenham Fen

10 & 11 - South Chippenham Fen

12 - South Jerusalem Wood

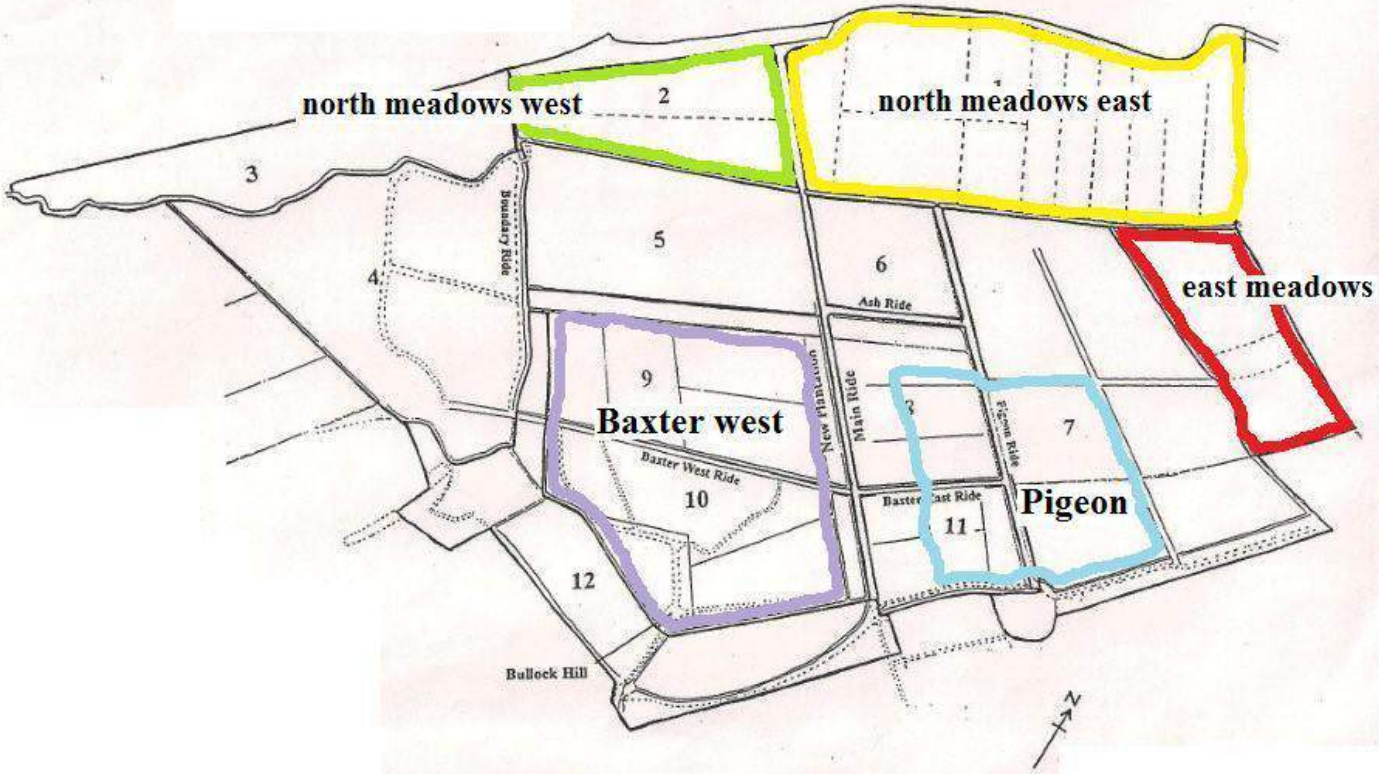
13 - East Meadows

Chippenham Fen - Management Plan 1996

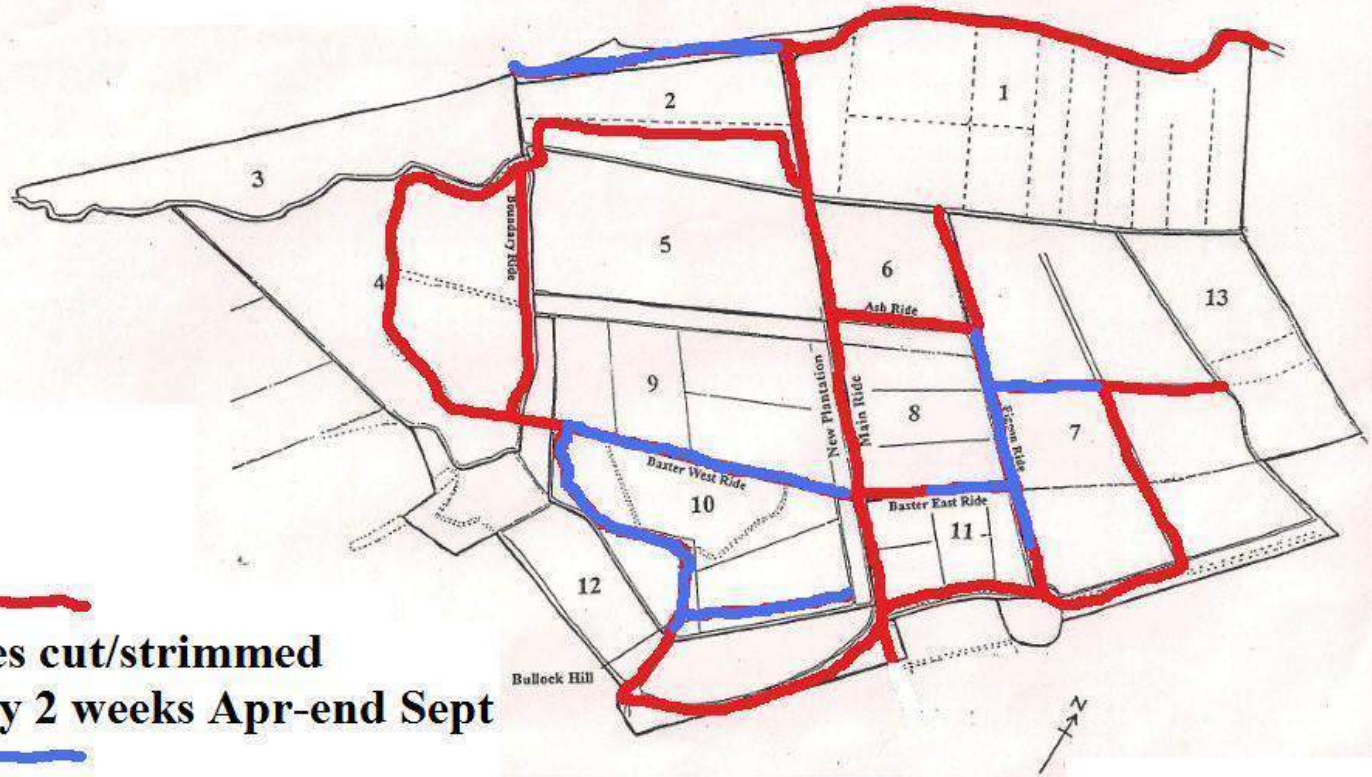
Figure 3 - Compartment Map

East Midlands Environmental Consultants
310 Sneinton Dale, Nottingham, NG3 7DN

# MAP 2 GRAZING AREAS

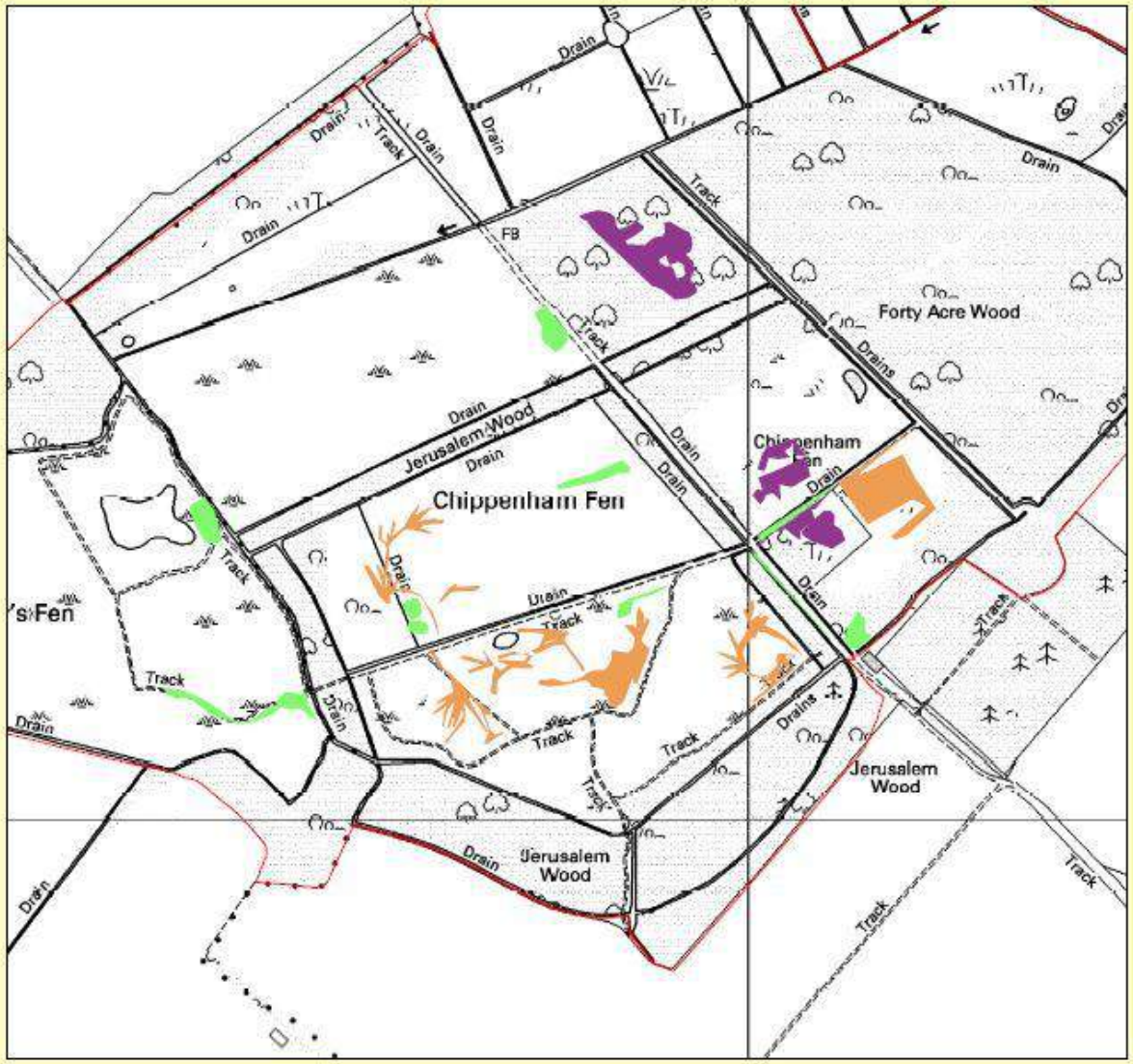


# MAP 3 RIDE CUTTING




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

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




## Chippenham Fen NNR Management Work

### Chippenham 2017-18

**MANAGEMENT**

- Cut & Raked; 0.66ha
- Sedge Cutter; 0.91ha
- Ryetec; 1.42ha

Scale (at A4): 1:6,000



Map produced on DD/MM/2011 by

GI and Analysis Services Team, Natural England
Map Reference:

NATURAL ENGLAND

| 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 | Weak Index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean Temp | 16.00 | 14.00 | 14.00 | | 16.00 | 16.00 | 22.00 | 23.00 | 20.00 | 21.00 | 25.00 | 30.00 | 20.00 | 27.00 | 25.00 | 24.00 | 19.00 | 20.00 | 21.00 | 19.00 | 22.00 | 25.00 | 19.00 | | 16.00 | 21.00 | | | |
| Mean Sun | 100.00 | 60.00 | 100.00 | | 75.00 | 100.00 | 90.00 | 100.00 | 80.00 | 100.00 | 100.00 | 95.00 | 80.00 | 100.00 | 80.00 | 100.00 | 65.00 | 60.00 | 90.00 | 90.00 | 40.00 | 100.00 | 90.00 | | 65.00 | 80.00 | | | |
| Small/Essex Skipper | | | | | | | | | | | 4 | 31 | 34 | 41 | 18 | 16 | 5 | 2 | | | 1 | 1 | | | | | 153 | 153 | 153 |
| Large Skipper | | | | | | | | | | 2 | 11 | 46 | 59 | 38 | 11 | 7 | | | | | | | | | | | 174 | 174 | 174 |
| Clouded Yellow | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | 0 |
| Brimstone | 13 | | 4 | 6 | 2 | 26 | 10 | 3 | 7 | 6 | 2 | 5 | 1 | 12 | 13 | 31 | 6 | 21 | 37 | 29 | 6 | 6 | | | | | 240 | 246 | 246 |
| Large White | | | | | | | 1 | | | | | 2 | 2 | 3 | 8 | 7 | 3 | 1 | 1 | 4 | 8 | 7 | 4 | 1 | | | 51 | 52 | 52 |
| Small White | | | | | | | 1 | | | | | 2 | 2 | | 3 | 4 | 3 | 4 | 2 | 4 | 2 | 1 | | | | | 28 | 28 | 28 |
| Green-veined White | 5 | 5 | 28 | 31 | 7 | 12 | 4 | 1 | | | | 2 | 19 | 6 | 13 | 13 | 9 | 4 | | 1 | 10 | 18 | 15 | 9 | 3 | | 175 | 215 | 215 |
| Orange-tip | 1 | 2 | 6 | 5 | 1 | 3 | 1 | | | | | | | | | | | | | | | | | | | | 14 | 19 | 19 |
| Green Hairstreak | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | 1 | -1 | 2 |
| White-letter Hairstreak | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | 0 |
| Small Copper | | | | | | 2 | 2 | 2 | | | | | | | | 1 | | | | | | | | | | 1 | 8 | 8 | 8 |
| Brown Argus | | | | | | | | | | | | | | | 2 | 7 | 7 | 6 | 6 | 2 | 1 | | | | | | 31 | 31 | 31 |
| Common Blue | | | | | | | | | 2 | 1 | | | | | | | 8 | 3 | 5 | 5 | | | 1 | 1 | | | 25 | 26 | 26 |
| Holly Blue | | | 2 | | 1 | | | | | | | | | | | | | | | 1 | | | | | | | 4 | -1 | 7 |
| Red Admiral | 1 | | | | | | 1 | 1 | | | 2 | | 1 | 1 | 5 | 13 | 15 | 10 | 2 | 2 | | | | | 2 | 2 | 58 | 58 | 58 |
| Painted Lady | | | | | | | | 1 | 1 | | | | | | 1 | | | | | 1 | | | | | | | 4 | 4 | 4 |
| Small Tortoiseshell | 1 | | | | | | | | | 1 | 3 | 1 | 1 | 1 | | | 1 | | | 1 | | | 1 | 1 | | | 11 | 12 | 12 |
| Peacock | 18 | 4 | 8 | 11 | 10 | 5 | 9 | 2 | | | | | | 1 | 5 | 15 | 9 | 15 | 7 | 2 | 1 | | 1 | 1 | | 1 | 113 | 125 | 125 |
| Comma | | | | | | 1 | | | | | | | 2 | 1 | 2 | 2 | 1 | 1 | | | 1 | | 1 | 1 | | | 12 | 13 | 13 |
| Speckled Wood | | | | | 1 | | 1 | | 4 | 5 | 3 | 3 | 1 | 1 | 2 | 3 | 2 | | 3 | 3 | 1 | 2 | 4 | 4 | 2 | 1 | 42 | 46 | 46 |
| Marbled White | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | 0 |
| Gatekeeper | | | | | | | | | | | | | 1 | 4 | 19 | 36 | 11 | 11 | 14 | 5 | 1 | | | | | | 102 | 102 | 102 |
| Meadow Brown | | | | | | | | | | 2 | 15 | 69 | 56 | 58 | 44 | 97 | 54 | 39 | 18 | 24 | 9 | 4 | 3 | 2 | 1 | | 493 | 495 | 495 |
| Ringlet | | | | | | | | | | | 9 | 87 | 279 | 169 | 134 | 50 | 10 | | | | | | | | | | 738 | 738 | 738 |
| Small Heath | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | 0 |
| Total | 39 | 11 | 49 | 53 | 22 | 49 | 30 | 10 | 14 | 17 | 49 | 248 | 458 | 336 | 280 | 302 | 144 | 117 | 95 | 84 | 41 | 39 | 30 | 20 | 8 | 5 | 2477 | 2545 | 2554 |

## Chippenham Fen Butterfly Transect 2017