

Recording and Research Newsletter

New Edition 4

February 2012



This spectacular photograph of a short-eared owl trying to keep possession of its vole from a sparrowhawk was taken at Wicken Fen in December 2011 by Richard J. Nicoll, who has kindly allowed us to use it in our newsletter.

At least 10 short-eared owls were wintering at Wicken Fen in December.

Introduction

Happy New Year and welcome to the fourth issue of the Wicken Fen Recording and Research Newsletter.

The aim of this Newsletter is keep you informed of what is going on at Wicken. We hope you find the contents interesting and that you might be encouraged to get involved.

Wicken Fen Nature Reserve is owned by the National Trust and is managed by a professional team guided by a Local Committee. The 'Research and Recording Group' at Wicken helps to organise and co-ordinate various scientific activities on the property. Everyone who is interested in research and recording at Wicken is welcome to attend the Group's three meetings each year. Contact Peter Bircham, the Chair.

This Newsletter is produced by the Wicken Research and Recording Group

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We hope that this Newsletter will find its way to everyone who has an interest in Wicken Fen. Please do tell Stuart Warrington, if you know of people who you think would like to receive it (postal or email address). Also if you don't want to receive this Newsletter again, just tell Stuart.

In this issue ... Birds (nests and ringing), new species, interesting records, water and the ancient fen, fen vegetation surveys, past times, new publications.

Wicken Fen species data on the NBN

In early 2011, we updated our Wicken Fen dataset species on the NBN Gateway. There are **67,219** records of more than **8,645** taxa (species and subspecies), spread across 311 sites (normally 100x100m grid squares) within The National Trust's land holding at Wicken. All of these records can be viewed and downloaded via the NBN by anyone with internet access. The NBN is a great facility and it has been growing fast over the past few years and now has more than 68 million species records. The NBN Gateway can be found at www.searchnbn.net

You can find the Wicken dataset by working through the Browse by Sites link (go to National Trust sites) on the NBN Gateway home page or by following the link from the Wicken Fen home page – www.wicken.org.uk

If anyone would like a list of the Wicken records for a taxon group, such as Moths, Beetles, Vascular Plants etc. supplied as an Excel file, this is easily done. Just contact Stuart Warrington by email and ask for what you want.

How many species at Wicken Fen?

We have added another **40** species to the Wicken list in the last two years, thanks to our expert visitors, quite an achievement given the thousands we already know about. Thus the 'all species' total has been revised upwards again, to a remarkable **8,459** species (excluding subspecies). Invertebrates make up 74.4% of the species and nearly all of these new species were invertebrates.

Some of the new species for the Wicken lists are: Rotifera

Rosalind Pontin came back to the Fen in 2010, after many years away, and sampled a few water bodies for her specialist group, rotifers, and turned up three new species; *Filinia terminalis, Colurella adriatica* and *Lepadella acuminata*.

Hymenoptera (bees, ants, wasps)

The nationally scarce brown tree ant, *Lasius brunneus*, was swept off fen vegetation on 03/07/2010 by Peter Kirby. This species has been thought to be associated with old trees within ancient woodland and wood pastures, but at Wicken was taken beside the Adventurers' Fen Brickpit Ponds (TL552698). The small sphecid wasp *Ectemnius dives* was new to Wicken, when taken in a sweep net by Peter Kirby in Verrall's Fen: Cmpt 5 (TL553701) on 03/07/2010. (see photo p3).

Hemiptera (true bugs)

The nationally scarce cicadellid *Cicadula flori* is new to Wicken but has proved to be widespread and has been found in 7 locations across Wicken in 2009 and 2010 by Peter Kirby. Also nationally scarce is the cicadellid *Cosmotettix caudatus* found in 2009 and 2010 at one site by Peter, Adventurers' Fen: Cmpt 46 (TL559699). Peter also added these species to the Wicken list in 2009 or 2010; *Eupteryx thoulessi, Jassargus distinguendus, Psammotettix nodosus* (all Cicadellidae), *Chloriona dorsata* (Nb), *Muellerianella fairmairei, Trigonocranus emmeae* (Nb) (all Delphacidae), *Himacerus major* (Nabidae) and *Salda littoralis* (Saldidae). The flatbug *Aneurus laevis* was found by Andy Foster on an old decaying alder buckthorn in St Edmund's Fen: Cmpt 31 (TL563702) on 01/11/2010.

Coleoptera (beetles)

Rhagonycha lignosa (Cantharidae). Beaten from *Populus tremula* by Trevor James, Sedge Fen: Cmpt 11 20/05/2010.

Microlestes minutulus (Carabidae). Swept from vegetation by dyke. Sedge Fen: Cmpt 11 20/05/2010 by Pete Brown and Trevor James.

Latridius anthracinus (Latridiidae). Found in vegetation litter on the Sedge Fen 11/07/2011 by Tony Allen.

Moths, 3 new species.

Blotched Emerald (*Comibaena bajularia*) was taken at a MV Light run from 10pm to 2am on the Sedge Fen on 8 July 2010, by Brian Elliott.

Satin Wave (*Idaea subsericeata*) was taken at a MV light on the Sedge Fen on 9 July 2010 by J. Whitehouse and J. Taylor.

Orange Underwing (*Archiearis parthenias*). At least 5 individuals flying in bright sunshine at 4pm on 21/03/2010 were observed Louise Bacon and Vince Lea, along Spinney Bank, Sedge Fen (TL553708).

Cornflower (*Centaurea cyanus*): A few plants were found on the banks of Wicken Lode near Norman's bridge in September 2011. They were possibly planted by owners of the boats moored there, or were some seeds scattered?

Other notable records:

Spiders

Tetragnatha striata (nationally scarce) and *Walckenaeria alticeps* were both found in Adventurers' Fen: Compartment 41 (TL553695) on 11/07/2010 by Stuart Warrington, and kindly identified by expert Doug Marriott.

Microlinyphia impigra was recorded in Adventurers' Fen: Compartment 46 (TL559699) on 03/07/2010 by Peter Kirby. For all three species, they were the first site records since 1975 and the first not on the ancient fen.

Even better was Peter's record of *Pirata latitans*, taken in a suction sample from ditch-side vegetation in Adventurers' Fen: Cmpt 61 (TL556694) on 29/06/2010, the first record since 1928.

Mollusca

Peter Kirby found the very rare (RDB3) Desmoulin's Whorl Snail *Vertigo moulinsiana* at two locations in Adventurers' Fen in 2009 and 2010. It is good to know that this species is not restricted to the ancient Fen.

Hymenoptera (bees, ants, wasps)

The spider-hunting wasp *Anoplius nigerrimus* and the sphecid wasp *Gorytes quadrifasciatuswas* were taken by Peter Kirby in Adventurers' Fen: Cmpt 62 (TL557692) on 29/06/2010; both were the first Wicken records for 100 years.

Hemiptera (true bugs) and Coleoptera (beetles)

Peter Kirby's record of *Recila coronifera* (Cicadellidae) was the first for 110 years when he swept it from the Sedge Fen: Cmpt 17 (TL556701) on 03/07/2010. Also on the same date on Verrall's Fen: Cmpt 5 *Podops inuncta* (Pentatomidae) was the first Wicken record for 103 years of this small shieldbug. The nationally scarce, wetland ground beetle *Pterostichus anthracinus* was found by S. Warrington under logs in the education area of St Edmunds Fen (09/09/2011), which surprisingly was the first record for over 50 years.

Moths

Red-tipped Clearwing (*Synanthedon formicaeformis*) was re-discovered at Wicken Fen by Allan Jenkins, when he lured two adults to a pheromone lure at 4pm on 22 July 2011, in Wicken Fen: Education Area, Cmpt 30 (TL564703). This was the first record since **1878** for Wicken Fen! This discovery shows the value in trying different methods for recording species, and different locations.

In the last newsletter, we said that we had not been having as many visits from Lepidopterists as in the past. But in 2010 and 2011 we had several excursions onto the Fen and two onto the restoration land. We are especially keen to know if any of the classic fen and wetland species are moving into the Vision area, such as onto Bakers and Burwell Fens.

Some interesting records include the first Lackey for 7 years, Small Elephant Hawk-moth (4 years), Muslin Footman (4 years), leaf miner *Stigmella catharticella* (13 years), *Ectoedemia turbidella* (30 years), tortrix *Choristoneura diversana* (30 years). A Hummingbird Hawk-moth on 27/06/2011 seems to be the first one recorded at Wicken for a century! Norman Sills found a couple of Marsh Carpet larvae on *Thalictrum flavum* (Common Meadow-rue) on the Sedge Fen, but none on Adventurers' Fen where the grazing stock had eaten all the *Thalictrum* flowerheads.

Mammals

Until recently badgers were a noted absentee from Wicken Fen land. However, two setts have been discovered on land under restoration, at Burwell Fen (the far west end) and at Oily Hall (in a ditch bank by a tiny woodland).

In June 2011, a summer roost of over 100 Soprano Pipistrelle Bats (*Pipistrellus pygmaeus*) was found in the south wall of the café at Wicken by Ralph Sargeant. The bats were entering though a knot hole less than 3cm wide. This was largest bat roost we have ever recorded at Wicken. There can be a lot of bat activity in the summer, notably by Soprano Pips, Common Pips and Daubenton's bats over Wicken Lode, but we rarely find out where the roosts are located.

Roe deer are being seen regularly in Burwell Fen with family groups of 4 and 5 common, and occasionally over 10 being spotted. They do prefer Burwell Fen, but may also be seen on Adventurers' Fen and occasionally on Tubney Fen too. This species was extremely uncommon in the Wicken area before 1995 and our first sighting was only in 1980.



The small sphecid wasp Ectemnius dives



Orange Underwing Moth Archiearis parthenias

Birds

Wicken Fen is fortunate to have a very active group who carry out bird surveys, nest surveys and ringing, and their splendid work is supplemented by the many bird watchers who tell us what they have spotted and where. Ralph Sargeant does a stirling job carrying out the monthly WeBS counts through the winter months.

Here we have the Wicken Fen Group Ringing and Nest Records reports for 2010 and 2011.

For more details of the Wicken Fen Group and their activities, please contact Dr Chris Thorne, St Catharine's College, Cambridge University CB2 1RL. Tel: 01954 210566. Email: <u>cjrt@cam.ac.uk</u> They welcome new members.

Wicken Fen Bird Ringing Group, report of 2011 activities Chris Thorne

The Group has been in continuous operation for 44 years, having been founded in 1968. Since that year over 99,500 birds have been ringed at Wicken Fen; 506 of these have subsequently been reported away from the Fen (70 of them abroad).

Membership is higher than ever (with 46 ringing members and 23 friends) and the good support has enabled ringing sessions to be held on 210 days (4964 member-days). Ringing sessions were held in every month, with the majority of sessions, 95, being carried out on St. Edmund's Fen (Compartments 30-35). 85 sessions were at the Reedbed (Compartments 51-53), 44 were at North Field/Gallops (Compartments 20-23) and 32 at the ride between Sedge Fen and Gardiners Droves (in Compartment 15 - this was one of the sites used in the 1960/70s by the Group, but subsequently abandoned). In addition there were 17 sessions in the Priory Farm/Burwell Fen/ Guinea Hall areas (Compartments 104, 112, 201-205), 6 on Tubney Fen (Compartment 309) and even one to the distant Oily Hall. Several other areas of the Fen were also visited to ring nestling birds.

The 2011 ringing total was 5,606 birds, of 57 different species, the Group's highest ever annual total and the first of over 5000 birds. In addition to the 5606 "new" birds in 2011, 834 of the "retraps" (birds already bearing rings) had been originally ringed at the Fen in years earlier than 2011; a further 24 were "controls" (birds originally ringed away from the Fen, but captured at Wicken). Several species topped the 100 mark, the highest scores being Reed Warbler with 862 ringed, Blackcap 650, Swallow 512, Blue Tit 383, Sedge Warbler 279, Reed Bunting 268, Great Tit 251, Chiffchaff 240, Goldfinch 193, Wren 191, Robin and Blackbird both 171, Whitethroat 145, Chaffinch 142, Redwing 103 and Long-tailed Tit 101; the next most numerous were Sand Martin 91, Fieldfare 90, Dunnock 80, Bullfinch 77, Pied Wagtail 65, House Sparrow 58, Goldcrest 56, Song Thrush 55 and Willow Warbler 54. The Reed Warbler, Blackcap, Chiffchaff, Whitethroat, Sand Martin and Fieldfare totals, as well as that for Bearded Tit (19) are all-time Wicken records. As usual, nut and seed bait was available at our ringing sites in the winter, and this helped to boost the numbers of finches, buntings and tits caught.

Of the 85 Group Tit nestboxes (at three sites, 63 at St. Edmund's, 10 at Gallops and 12 at the Reedbed), 39 were used. This total of boxes fledged 13 broods of Blue Tits (123 birds ringed) and 10 of Great Tits (73 birds ringed) successfully. Barn Owls, Jackdaws and Stock Doves were also ringed in the boxes designed for those species. 160 nestling birds of a further 10 species were ringed, the largest total (the 103 Reed Warblers) being the birds under study by Prof. Nick Davies and Dr. Rose Thorogood. A "nesters report" is published separately.

During 2011 we received news of the origins of some ringed birds recently trapped at Wicken Fen – Chiffchaff from Spain, Blackbird from the Netherlands, Swallows from Perth, Lincolnshire and Suffolk, Stonechat from Cumbria, Sand Martin from Yorkshire, Lesser Redpolls from West Lothian and Doncaster, Sedge Warbler from Sussex, Reed Warblers from Sussex and Hertfordshire, Redwing from Norfolk, Blackcaps from Norfolk and Suffolk, Blue Tit from Essex, Greenfinch from Norfolk and Reed Bunting from Suffolk. Several Wicken-ringed birds travelled far - a Fieldfare to Norway, a Song Thrush to Portugal and both Sedge and Reed Warbler to France. Within Britain, Lesser Redpolls went to Yorkshire and Suffolk, Reed Warblers to Sussex and Suffolk, Sedge Warblers to Gwent and Suffolk, Great Tits to Norfolk and Suffolk, and Swallow, Blue Tit and Reed Bunting to Suffolk.

Longevity records broken in 2011 were a Chaffinch at 8 years 5 months, a Song Thrush at 7 years 5 months, a Great spotted Woodpecker at 6 years 0 months, Tree Creeper at 5 years 1 month and a Whitethroat at 4 years 11 months. Other elderly birds were a Great Tit at 8 years 4 months, a Blue Tit and a Bullfinch both at 6 years 5

months, a Reed Warbler at 6 years 0 months, a Blackbird at 5 years 9 months, a Robin at 5 years 5 months, a Long-tailed Tit at 5 years 4 months and a Garden Warbler at 5 years 0 months.

In summer 2011 we continued (for the 42nd successive year) our 'Standard Sites Sessions'. These special ringing visits involve placing nets in exactly the same sites, for exactly the same time, at the same dates every year, and enable us to monitor the breeding population of birds at the Fen. In addition, in 2011, we successfully embarked on a second, parallel, type of monitoring, that of the BTO's 'Constant Effort Sites' project; this requires 12 visits at 10 day intervals in the 4 summer months, while the 'Standard Sites Sessions' demand only 4, at monthly intervals. The CES work requires more effort from the ringers and we are encouraged by the work that our increased membership put in to achieve this success.

The Group is grateful to the National Trust for granting permission for ringing on the reserve, and for assisting financially with expenses. In turn, the Group in 2011 assisted the National Trust staff by helping to run some of the 'bird walks' and put one a few ringing displays for visitors to the Fen.

The Secretary has maintained his production of regular Bulletins (6 in year 2011), keeping Members and Friends informed, not only of ringing activities, but also of general bird observations at Wicken Fen. He also produced monthly summaries of the Group's activities, which are displayed in the Thorpe Building and included in the National Trust Wicken Fen website (http://www.wicken.org.uk). Anyone interested in joining the Group is welcome to contact him, Dr. Chris Thorne, at St. Catharine's College, Cambridge, CB2 1RL (phone 01954 210566, email cjrt@cam.ac.uk).

Wicken Fen Nest Recording Group Report, August 2011

Jo Jones

The group consolidated the work of the last three years, actively seeking nests at Wicken Fen and recording their progress. All data recorded is sent to the British Trust for Ornithology (BTO) who use the information to analyse, for example, causes of changes in abundance of bird populations and potential effects of climate change. This information complements the information gathered by the Wicken Fen Ringing Group.

At the beginning of the breeding season two introductory sessions on nest recording were advertised, largely through the ringing group and a third, all morning session, was held in mid-May for National Trust staff and volunteers. Carl Barimore, Nest Records Officer at the BTO, was key to increasing the group's skills and found the majority of the nests recorded this year on the Fen. We owe him particular thanks as he did this despite living in Cambridge and having to get the train to Ely and cycling to Wicken from there. Group members ensured that all nests were monitored through to their finish, whether they successfully fledged chicks or not, and ensured that all pulli were ringed wherever possible, in order to maximise the information gathered from each nest found.

42 active nests (ie that reached at least egg stage) were found of open nesting species (outside nest boxes) of 18 species. Alan Wadsworth's assiduous work after ringing sessions resulted in the location of two Cuckoo chicks in Reed Warbler's nests. We were also pleased to find Reed Bunting, Linnet and Blackcap nests. The presence of a Goldfinch nest in an Oak tree in the car park showed that it was not necessary to go far into the Fen to locate a nest. The activity of Swallows and Wrens in the Roger Clarke Hide showed that you do not always need great skills to find nests. These latter nests gave great pleasure to visitors and it was a particular delight to be able to talk with people in the Hide about nest recording during monitoring and ringing visits. The near missing of recording the Mute Swan nest near the Visitor Centre showed how easy it is to miss the obvious. After a reasonable start locating nests, group members struggled to find nests in May, perhaps because the abundance of good habitat means their nests could be almost anywhere. However, the emerging small scrub at the end of Monk's Lode, on Baker's Fen, brought a late flush of Linnet, Whitethroat and the Reed Bunting nests in early June that were comparatively easy to find and illustrated how changing habitat offers new opportunities to nesting birds.

42 nests were monitored of 5 species that use nest boxes located round the Fen. We remain surprised that Stock Doves will usurp Barn Owls from their nests, even taking over sitting on their eggs. Success rates of Great Tit and Blue Tit nesting attempts were similar to last year and 73 Great Tit and 122 Blue Tit pulli were ringed. The prize has to go to the Blue Tit pair which successfully reared 13 chicks, all of which

fledged. Regular ringing during the winter will enable us to analyse the survival rate of these Tit chicks reared on the Fen. We usually find that very few make it through into the following breeding season.

Finding nests takes considerable investment of time and we are looking for ways of attracting new people with time available to commit to doing this rewarding work. The work is valuable to contribute to national information on trends in breeding productivity of different species. Locally, we are glad to have been able to provide information to staff that will assist them to do some of the necessary management of parts of the Fen with least potential disruption to breeding birds.

I would be glad to hear from anyone interested in taking part in the Group's work next year. Jo Jones, Nest Recording Officer, Wicken Fen Ringing Group, August 2011. jojones14@btinternet.com

2011		Average number	Average number	Average visits		Outcom	e %
Species	Nests	of eggs	of pulli	per nest	Success	Failure U	Inknown
BARN OWL	1	4.0	2.0	3.0	100%	0%	0%
BLACKBIRD	5	3.6	1.8	3.8	60%	40%	0%
BLACKCAP	6	4.3	2.7	4.3	50%	33%	17%
BLUETIT	20	8.6	6.9	6.0	65%	30%	5%
CHAFFINCH	4	3.0	0.3	3.0	0%	100%	0%
CUCKOO	2	1.0	1.0	7.0	50%	50%	0%
DUNNOCK	2	4.5	3.5	5.5	50%	50%	0%
GOLDFINCH	2	4.5	4.0	6.0	100%	0%	0%
GREAT TIT	21	8.1	4.3	5.6	52%	48%	0%
LAPWING	1	4.0	0.0	3.0	0%	100%	0%
LINNET	2	5.0	3.5	5.0	50%	50%	0%
LONG-TAILED TIT	1	5.0	0.0	3.0	0%	100%	0%
MAGPIE	1	3.0	3.0	3.0	100%	0%	0%
MUTE SWAN	1	7.0	1.0	4.0	100%	0%	0%
REED BUNTING	1	5.0	5.0	5.0	100%	0%	0%
REED WARBLER	3	4.0	2.7	6.3	67%	33%	0%
ROBIN	2	4.0	3.5	5.0	0%	100%	0%
SONG THRUSH	1	5.0	0.0	2.0	0%	100%	0%
SPARROW	1	3.0	3.0	2.0	100%	0%	0%
SWALLOW	8	4.3	2.6	4.8	63%	38%	0%
WHITETHROAT	2	4.5	2.0	4.5	100%	0%	0%
WREN	4	3.8	2.0	3.0	25%	75%	0%
Total	91			5.0	55%	43%	2%

Wicken Fen nests 2011 - surveyed nests up to end of August.

Wicken Fen Bird Ringing Group, Report of 2010 activities Chris Thorne

Since the Group was established in 1968, over 94,000 birds have been ringed at Wicken Fen; 481 of these have subsequently been reported away from the Fen (66 of them abroad).

The Group, at 31 December 2010, numbered 41 members and 22 registered "friends". This healthy membership meant that coverage at the Fen was maintained at the high level seen during the last 5 years. Ringing operations were conducted on 205 different days, involving 4174 member- (man- & woman-) hours. Ringing sessions were held in every month, with the majority of sessions, 110, being carried out on St.

Edmund's Fen (Compartments 30-35). 75 sessions were at the Reedbed (Compartments 51-53) and 42 were at North Field/Gallops/Milner-Whites (Compartments 15, 19, 20-23); in addition there were 12 sessions in the Priory Farm/Burwell Fen/ Guinea Hall areas (Compartments 104, 108, 200-220). Several other areas of the Fen were also visited to ring nestling birds.

The 2010 ringing total was 4743 birds, of 59 different species, the Group's second-highest ever score. In addition to the 4743 "new" birds in 2010, 886 of the "retraps" (birds already bearing rings) had been originally ringed at the Fen in years earlier than 2010; a further 19 were "controls" (birds originally ringed away from the Fen, but captured at Wicken). Several species topped the 100 mark, the highest scores being Reed Warbler with 675 ringed, Blue Tit 494, Swallow 399, Great Tit 297, Blackcap 292, Reed Bunting 228, Sedge Warbler 220, Chaffinch 209, Goldfinch 194, Chiffchaff 173, Robin and Blackbird both 136, Wren and Redwing both 117 and Greenfinch 111; the next most numerous were Long-tailed Tit 97, Whitethroat 92, House Sparrow 88, Meadow Pipit 87, Bullfinch 71, Dunnock 70, Willow Warbler 62 and Song Thrush 57. The several records broken for annual totals were those for Blue Tit, Whitethroat, Meadow Pipit, Fieldfare (36), Jay (12) and Barn Owl (12). As usual, nut and seed bait was available at our ringing sites in the winter, and this helped to boost the numbers of finches, buntings and tits caught.

Several less usual species were ringed during 2010: Great spotted Woodpecker 15, Tree Creeper 15, Bearded Tit 14, Grasshopper Warbler 12, Sparrowhawk 7, Kestrel 6, Kingfisher 6, Stock Dove 5, Green Woodpecker 5, Cuckoo 3, Coal Tit 3, Siskin 3, Jackdaw 2, Mealy Redpoll 2, Yellowhammer 2, Hobby 1, Water Rail 1, Moorhen 1, Woodcock 1, Turtle Dove 1, Redstart 1, Wheatear 1, Nuthatch 1 and Linnet 1. Two new birds (the Wheatear and Nuthatch) were added to the Group's ringing total which now stands at 103 species.

The Group's nest-boxes were reasonably successful in 2010: 105 of the year's Blue Tits and 76 of the year's Great Tits were ringed as nestlings in the boxes. A further 230 nestling birds of 14 species were also ringed in the year, 155 of them Reed Warblers and 11 Barn Owls.

The Group received notification of 15 Wicken-ringed birds being recovered away from the Fen during 2010. The furthest distance moved was by Sedge Warbler L093480 that reached Abbottsbury in Dorset. Other emigrants were two Reed Warblers to Sussex and one to Berkshire, a Chiffchaff to Norfolk, a Lesser Redpoll to Suffolk, a Greenfinch to Hertfordshire and eight other birds to various parts of Cambridgeshire. Rather more exciting distances had been moved by the 13 birds arriving at Wicken from elsewhere: a Chiffchaff from Spain; a Blackbird from the Netherlands; a Sedge Warbler and a Blackcap from Sussex; a Reed Warbler from Kent; a Swallow, a Blackcap and a Reed Warbler from Norfolk; a Reed Warbler from Hertfordshire; a Reed Bunting from Suffolk; a Blue Tit from Bedfordshire and two other birds from elsewhere in Cambridgeshire.

Several elderly birds were retrapped at Wicken during 2010 – a Great Tit at 8 years and 4 months, a Chaffinch at 7 years and 4 months, a Woodpigeon at 4 years 11 months, a Cetti's Warbler at 4 Years 8 months and a Whitethroat at 3 years 9 months all broke longevity records for those species at the Fen. The longest lived of other species were a Long-tailed Tit at 6 years 9 months, a Blue Tit at 6 years 5 months, a Reed Warbler at 6 years 1 month, a Blackbird and a Reed Bunting both at 5 years 11 months, a Song Thrush at 5 years 0 months, a Robin at 4 years 9 months, a Goldfinch at 4 years 4 months, a Bullfinch at 4 years 2 months, a House Sparrow at 3 years 11 months, a Tree Creeper at 3 years 9 months, a Wren at 3 years 6 months, a Garden Warbler at 3 years 1 month, a Sedge Warbler and a Blackcap both at 3 years 0 months and a Chiffchaff at 2 years 10 months.

A number of Ringing Demonstrations for the public were put on during the year and Group members assisted with some National Trust guided walks for visitors.

In summer 2010 we continued (for the 41st successive year) our "standard sites sessions". These special ringing visits involve placing nets in exactly the same sites, for exactly the same time, at exactly the same dates every year, and enable us to monitor the breeding population of birds at the Fen. As well as trapping and ringing birds, Group members during the year also conducted several bird surveys, to establish the overall winter and summer bird populations of the Fen (both on the "classic" Fen and the more recently acquired "Vision lands"). A start was made in analysing some Group records, including Great and Blue Tit survival rates, and the dynamics of the Fen's Cetti's Warbler population. In more detailed breeding studies,

Group members reported to the BTO on the progress of 218 nests of 26 species of bird. Bird breeding overall was reasonably successful at the Fen in 2010, although there was no evidence of Bittern or Stonechat breeding, and the Cuckoo population was down to just one female bird.



Chris Thorne



Barn Owl by Kevin Simmonds

Wicken Fen Nest Recording Group Report, 2010 Jo Jones

Thanks to massive efforts of a wide range of people, 100 nests of 26 species were recorded by the nest recording group this year. In addition, Nick Davies and Rose Thorogood kindly gave us information about 118 Reed Warbler nests they recorded as part of their studies, which gave a total of 218 nest record details submitted to the BTO from the Wicken Fen Group.

Of the 100 nests we found that reached at least egg stage, 48 were open nests, 52 in nest boxes. A further 15 open nests were found that didn't reach egg stage, 4 of which were Wren nests. This is quite a high proportion of the total nests found, and worth noting as each nest found is a result of considerable hard work – or a lovely piece of luck. Highlights in terms of nest finding were 2 Whitethroat nests, 1 Chiffchaff nest, and 3 Bullfinch nests, the latter being renowned for being particularly difficult. Credit for these goes to Carl Barimore. 35 of 58 boxes were occupied at St Edmunds, 3 of 7 at Gallops and 3 of12 at the Reedbed. A summary of results is given at the end.

411 pulli were ringed of 16 species, 155 of which were Reed Warblers. 11 Barn Owls were at the large, fluffy and smelly end; 4 Bullfinch a rare opportunity; a Wren nesting in a box gave an unusual opportunity to ring 5 Wren pulli; and 76 Great Tit pulli and 105 Blue Tit pulli will hopefully have their futures followed as they are retrapped in regular ringing sessions. Neil Larner and Jo Jones gained their pulli endorsements during the season.

The challenge at the beginning of the season was to set up a system that everyone could use, in particular ensuring nests that had been found could be found again (a challenge in itself) and were visited the minimum number of times for maximum results. The system of having a box of equipment, maps and nest cards outside the ringing hut accessible to all nest recorders worked well and allowed people to come to the Fen at a time to suit themselves. We will work this way again next season. We gradually learned where instructions to guide people to nests didn't work... and I will provide some sticks with metre measurements marked on them to increase the accuracy of locations/height data given for nests! Alan Wadsworth and Carl were chiefly responsible for keeping the Google map of nests found up to date and this was invaluable for ensuring nests were monitored appropriately and for giving an overview of where nest were being found. Neil spent much time sorting the database and we have now ironed out most of the difficulties with entering data. I was amused when entering details of a Great Tit nest I entered by mistake 44 instead of 4 for the number of eggs. Up came an error message "44 is more than the 30 eggs maximum expected for this species"!

Finding the nests of open nesting species remains a challenge and takes a considerable amount of time. Again we were dependent on the skills of Phil Harris, Carl, Louise Bacon and Vince Lea to get us started and Carl in particular kept finding nests through the season, the monitoring of which gave other members of the group valuable experience of nest locations and the joy of following a nest through to chicks fledging. Some people came out regularly, others only once, everyone's contribution was greatly valued – and I hope you will want to be involved next year. The BTO are running nest finding courses which are cheap and great fun as well as giving the opportunity to work with experts. Details are on their website. Do go on one if you can.

Next season we will have our 'Introduction to nest finding' session a bit later in the season when more birds have got started with breeding and we will be able to show people active nests. I hope this will encourage more people to stay involved. I will arrange a brief meeting to go through procedures for labelling nests/recording information at the start of the season so anyone who was involved this season will be able to get started recording as soon as the birds start nesting! I would like to broaden the people involved in nest finding to include more non-ringers – so please look out for local birdwatchers at the Fen who might join us and get their details. I would be glad of any other ideas or comments that will help us to build on this season's work next year.

2010		Average number	Average number	Average visits		Outcom	es %
Species	Nests	of eggs	of pulli	per nest	Success	Failure U	Jnknown
BARN OWL	4	4.0	2.8				
BLACK BIRD	8	3.5	2.1	3.8	25%	75%	0%
BLACK CAP	1	2.0	0.0	2.0	0%	100%	0%
BLUE TIT	18	7.3	5.8	7.2	72%	28%	0%
BULLFINCH	3	4.7	2.0	4.7	33%	67%	0%
CHAFFINCH	2	3.5	3.0	5.0	100%	0%	0%
CHIFFCHAFF	1	5.0	5.0	6.0	100%	0%	0%
CUCKOO	3	1.0	1.0	5.3	67%	33%	0%
DUNNOCK	4	3.3	2.0	3.8	0%	100%	0%
GRT CSTD GREBE	1	3.0	0.0	3.0	0%	0%	100%
GREY HERON	2	2.0	0.5	3.0	0%	0%	100%
GREAT TIT	23	6.8	4.1	5.9	52%	43%	4%
JACKDAW	2	3.0	0.5	4.5	50%	50%	0%
KESTREL	1	4.0	3.0	7.0	100%	0%	0%
LONG-T TIT	1	1.0	0.0	2.0	0%	100%	0%
MALLARD	1	11.0	1.0	4.0	0%	100%	0%
MISTLE THRUSH	1	4.0	4.0	5.0	0%	100%	0%
MOORHEN	1	7.0	0.0	3.0	0%	100%	0%
REED WARBLER	119	3.3	2.1	4.8	9%	29%	62%
ROBIN	4	5.0	3.3	5.5	75%	25%	0%
SONG THRUSH	5	4.0	0.6	3.6	20%	80%	0%
STOCK DOVE	3	2.0	1.7	3.0	33%	67%	0%
SWALLOW	5	4.6	2.4	3.8	60%	40%	0%
WHITE THROAT	2	4.0	2.0	4.0	50%	50%	0%
WOODPIGEON	1	2.0	0.0	7.0	0%	100%	0%
WREN	2	6.5	4.5	6.0	100%	0%	0%



Water and the ancient Fen

The wetness of the peat across the ancient fen, the extent of the summer water table drawdown, and the sources of water to replenish the fen have been major topics of interest to The National Trust and the Local Committee for many, many years. Some of the earliest ecological studies in the UK concerned the relationships between water levels and plants at Wicken Fen, such as these classic papers by Godwin.

Godwin, H. & Bharucha, F.R. (1932) Studies in the ecology of Wicken Fen. II. The Fen water table and its control of plant communities. *Journal of Ecology*, **20**: 157-191. Godwin, H. (1932) Water levels in Wicken Sedge Fen. In: *The Natural History of Wicken Fen*, ed. by J.S. Gardiner,

Godwin, H. (1932) Water levels in Wicken Sedge Fen. In: *The Natural History of Wicken Fen*, ed. by J.S. Gardiner, 615-625. Cambridge, Bowes & Bowes.

In recent years, the Committee and Trust have invested a great deal of time and resources into trying to understand this complicated subject and to try to work out what, if anything, we could do to manage water more effectively for the long-term conservation of this special place. New, more detailed monitoring of the water levels across the Fen has been undertaken for several years, with financial help from the Environment Agency and Esmée Fairbairn Foundation. Dr Francine Hughes and Pete Stroh (Anglia Ruskin University) have lead this work and it can provide huge amounts of data, as detailed as hourly water table fluctuations. What is clear is that the water table drawdown can be more than 1 metre at its maximum extent in some years (eg in 2009, see Figure 1), although the dates when the drawdown starts, reaches maximum extent and then recovers are not the same each year. Rainfall is by far the major water input to the Fen, and the water table can be seen to respond quickly after significant rainfall events. Water input from seepage from Wicken Lode and groundwater sources are thought to be very much smaller.

The water table does normally reach the Fen surface at some stage in the autumn or early winter, ready for the drawdown to start again each spring. If we get a very dry winter, then the Fen water table may not be fully re-charged before the spring.

The chemistry of the water in various dipwells across the ancient fen have been investigated in considerable detail by Dr Steve Boreham of Cambridge Univ along with James Selby (NT). There is not space here to do justice to their work, but in summary 14 dipwells arranged in two transects across Wicken Fen were sampled for groundwater on a monthly basis between April 2010 and April 2011. Surface water from Gardener's Drain was also sampled. The water samples were analysed for pH, Electrical Conductivity and major solutes (Ca, Na, Mg, S), nutrients (N, P, K) and trace elements (Al, Fe, Mn) in the laboratory. Dipwells on Verrall's Fen produced relatively acid groundwater, which had elevated aluminium concentrations, and had potassium-rich deep groundwater that apparently became diluted as surface precipitation raised water tables in the winter and spring. The dipwells in the northern part of Sedge Fen had more alkaline pH values, and dipwells in the southern part of Sedge Fen showed increased calcium levels associated with high water tables.

A very interesting discovery was of a dense aquitard layer holding up winter surface water at several sites across the Fen. This has profound implications for the hydrological dynamics. It appears to slow the downward percolation of surface water and separates surface water and deeper groundwater, permitting water with very different chemistries to co-exist across the site.

This study has highlighted the considerable spatial and temporal variability of major solutes, nutrients and trace elements in the groundwater across Wicken Fen, and emphasised the heterogeneous behaviour of these throughout the site. It is clear that there cannot be a single over-arching explanation for the dynamics of groundwater and soil chemistry across the whole fen.



This hydrology and chemistry research has under-pinned a project to allow us to put a little more water onto the Fen each winter. Thanks to the very generous support of the Environment Agency, we have been able to have a windpump installed on the Sedge Fen, adjacent to the junction of Wicken and Monks Lodes. This windpump draws water from Monks Lode (upstream of Norman's bridge and well away from the GOBA moorings and boat traffic), along a ditch across Poors Fen, under Wicken Lode, and lifts it into Thompson's Dyke. From there the water can be moved in ditches across the Sedge Fen.



The new windpump is being used this winter (2011-12) to see how it performs, what its pumping capacity is with respect to wind, and how the water spreads along the internal ditches.

Monitoring of water in dipwells close to Thompsons dyke is being undertaken and vegetation surveys are also planned.

The primary purpose of the windpump is to provide good quality, calcareous water into the Fen through the winter recharge period to provide appropriate water chemistry for fen peat maintenance. This one windpump cannot influence the extent of summer water table drawdown.

Fen vegetation surveys

Owen Mountford, Pete Stroh and James Selby have been surveying the fen vegetation to National Vegetation Classification (NVC) protocols of the entire National Nature Reserve in 2010 and 2011 with at least one survey point per 100m x 100m square of the National Grid right across the National Nature Reserve (NNR). The classic undrained Sedge Fen and Verrall's Fen were surveyed in 2010, whilst in 2011 the areas covered were Poors' Fen, St Edmund's Fen and Adventurers' Fen (the area around the Mere, Brett's and Trevelyan's). Further work is planned in 2012. This huge undertaking will provide a consistent and detailed baseline to describe the NNR vegetation communities and the relative abundance of its constituent species. Comparison with past vegetation surveys will be possible, including one from 2004 by the same team that focussed on the situation in the old fen following completion of the carr scrub clearance campaign of 2000-05. However, the purposes and methods of earlier surveys means that more sophisticated comparison of the 2010-12 surveys with the past may not be possible. A full analysis of the huge data-set is now under way and the current vegetation survey is directly linked with both the studies on water-regime and quality by Steve Boreham (Cambridge) and by Franc Hughes and Pete Stroh (ARU) - reported elsewhere in this newsletter. Some of the early results from the 2010 survey of Sedge and Verrall's Fen are very interesting.

The sample maps below show the distribution of some of the NVC vegetation communities (the larger circles indicate a better "fit" to that community type). The S24 and S25 are tall-herb fens with frequent Common Reed, and Great Fen Sedge (*Cladium*) may also be present. These occur in a dynamic mosaic with extensive areas of transitional botanical communities. They are extensive on the Sedge Fen and there is some evidence that they are re-establishing on Verrall's Fen where carr has been cleared. The M24 fen meadows are an important feature of Wicken and are included in its European SAC designation. The map shows some key areas but this community also occurs in strips along most of the main droves (paths) on Sedge Fen where the orchid abundance can be especially high. Because the systematic survey approach used for the old fen in 2010 did not include many drove-side samples, the intention in 2012 is to make a targeted study of the droves and their margins, together with a study of the reed-beds.

It is also interesting to note just how many locations on the classic fen did not fit well with any NVC type. This may partly be because some of the vegetation is still in the recovery phase following the extensive scrub removal project but in part the reason is likely to be that not all Wicken habitats were included in the original NVC database. This is particularly the case with carr (representing many of the "poor-fit" crosses on the map) where the Wicken examples often have a much richer understorey of wetland species than the types described in the published NVC. It is possible therefore that they represent an important species-rich carr community that deserves special recognition. The survey of 2011 in St Edmund's Fen confirm that this "Wicken carr" is extensive south of Wicken Lode too.

These NVC surveys complement the work on the Wicken Vision and will enable the National Trust to make informed judgements about management, habitat restoration and access over its entire holding, as well as to assess change in the future. We hope that a full programme of NVC surveys will be conducted again in 7-10 years, and thence regularly as a "health check" on this internationally important site and its habitats.







The plants present in the sampled quadrats can also be used to indicate the character of the local environmental conditions, through the average Ellenberg value. The Fen is clearly wet. The lowest values (see map below) of 5 - 6 indicate places where the soil is constantly damp. Values of 7 - 9 indicate sites with wet soil, often water saturated and badly aerated, occasionally flooded but also free from surface water for long periods.

The Report about Ellenberg Values for the UK can be downloaded from this CEH website. <u>http://www.ceh.ac.uk/products/publications/untitled.html</u>



Ellenberg mF: Moisture



Looking south-west down Wicken Lode, with the Sedge Fen (Compartment 19) on the right-hand side and showing the boardwalk made from recycled plastic (June 2011). The Visitor Centre is just out of view on the bottom right-hand corner. In the Maps, Cmpt 19 is under the white V on blue background. The Boat House at the top end of Wicken Lode was re-thatched in 2011.

The vegetation samples in Cmpt 19 did not fit well to NVC but had the character of S24 *Phragmites-Peucedanum palustre* tall herb fen (common reed, milk parsley).

The vegetation was very diverse and variable across this compartment. Species that were found in every quadrats included Blunt-flowered Rush (*Juncus subnodulosus*), Purple Loosestrife (*Lythrum salicaria*), Common Reed (*Phragmites australis*) and Meadow-Rue (*Thalictrum flavum*).

There are several patches of *Cladium mariscus* (Great Fen Sedge) in this part of the Fen, but only one occurred in a quadrat. Purple Moorgrass (*Molinia caerulea*) was found in high abundance in two quadrats but in no others. Early Marsh Orchid (*Dactylorhiza incarnata*) can be found scattered through the area.

Wicken Fen in past times

AJ Mitchell, The Entomologist, volume 27, p28-9 (1894).

"I hear it on good authority that the draining of Wicken Fen is again in contemplation. If such should be the case, I hope the Entomological Society, in conjunction with other societies interested in natural history generally, will be in a position to save this famous locality from sharing the fate of its neighbour (Burwell). The area of the Fen is at present a very limited one and should its most interesting fauna and flora become a thing of the past, I am sure it would be deplored by all those who can appreciate and see beauty in this home of Papilio machaon." [swallowtail butterfly]

Entomologists' Record, August 1904.

Mr G.H. Verrall entertained a house party of 150 members of the British Association on the occasion of the visit to Wicken Fen.

Entomologists' Record, volume 25, p 286 (1913)

"In 1911 G.H. Verrall bequested to the National Trust his property in Wicken Sedge Fen and St. Edmund's Fen amounting to nearly 240 acres. These places are about the last remaining portions of the great un-drained and uncultivated fens of the eastern counties. A considerable sum – amounting to over ± 300 – was payable as estate duty on the gift, but owing to the generosity of an anonymous donor, the Trust was enabled to accept the bequest."

"The Fen cannot, however, be preserved in its natural condition without a considerable annual expenditure – an expenditure in excess of any sum which the Trust is able, having regard to other claims on its funds, to devote to the purpose; and it has been decided that in order to deal with Mr Verrall's bequest as he would have wished, an endeavour should be made to raise an adequate endowment fund. The Trust in no way desirous of restricting access to genuine naturalists, but is anxious, as far as possible, to prevent over-collecting and the exploitation of the Fen for commercial purposes."

Entomologists' Record, volume 26 (1914)

It was announced that the Council of the Entomological Society of London had decided to make an annual grant of two guineas towards the maintenance of Wicken Fen.

Entomologists' Monthly Magazine, volume 53, p13 (1917)

The Council of The National Trust appeals to naturalists interested in the preservation and upkeep of Wicken Fen to assist to defray the expenses of the Watcher who guards the property against abuse and performs the duty of forester generally.

Peter Bircham has been working through the Fen Archives, including the Minute Books of the Local Committee. He notes that the first meeting of the Local Committee of Management for Wicken Fen took place in 1911 with a highly distinguished membership of 'Rothschild, A.H. Evans, F. Darwin (*Charles Darwin's son*), Collin, Dr Drewitt, Dr Gardiner and Dr Moss'. Thus the Wicken Fen Local Committee was one hundred years old in 2011.

In 1913 further eminent people joined the Wicken Committee, such as Dr Stanley Gardiner, F. Balfour-Browne, Prof J.J. Thompson and Dr Searle.

Publications

Terry Rowell compiled an extensive bibliography for Wicken, which has been updated by Laurie Friday, Adrian Colston and Stuart Warrington over recent years. It can be viewed or downloaded from the Wicken website at: http://www.wicken.org.uk/research_bibliography.htm

Further recent publications that include references to Wicken include:

Stroh, P. and Hughes, F.M.R. (2010) Practical approaches to wetland monitoring: Guidelines for landscape-scale, long-term projects. 45pp.

This excellent report, well worth reading by anyone involved in monitoring environmental projects can be downloaded at: <u>http://www.anglia.ac.uk/ruskin/en/home/microsites/aerg/research_projects/evaluating_habitat.html</u>

Hughes, F.M.R., Stroh, P.A., Adams, W.M., Kirby, K.J., Mountford, J.O., & Warrington, S. (**2011**). Monitoring and evaluating large-scale, 'open-ended' habitat creation projects: a journey rather than a destination. *Journal for Nature Conservation*, **19**: 245-253. <u>doi:10.1016/j.jnc.2011.02.003</u>

Abstract: Ecological restoration frequently involves setting fixed species or habitat targets to be achieved by prescribed restoration activities or through natural processes. Where no reference systems exist for defining outcomes or where restoration is planned on a large spatial scale, a more 'open-ended' approach to defining outcomes may be appropriate. Such approaches require changes to the definition of goals and the design of monitoring and evaluation activities. We suggest that in open-ended projects restoration goals should be framed in terms of promoting natural processes, mobile landscape mosaics and improved ecosystem services. Monitoring can then focus on the biophysical processes that underpin the development of habitat mosaics and the provision of ecosystem services, on the way habitat mosaics change through time and on species that can indicate the changing landscape attributes of connectivity and scale. Stakeholder response should be monitored since an open-ended restoration approach is unusual and can encounter institutional and societal constraints. Evaluation should focus on reporting changing restoration impacts and benefits rather than on achieving a pre-defined concept of ecological success.

Stroh, P. A., Hughes, F. M. R., Mountford, J. O., & Sparks, T. H. (**2012**). The influence of time on the soil seed bank and vegetation across a landscape-scale wetland restoration project. *Restoration Ecology* **20**: 103-112 DOI: 10.1111/j.1526-100X.2010.00740.x

Abstract: Wicken Fen National Nature Reserve (NNR) in Cambridgeshire, U.K. is a wetland of international importance isolated in a landscape dominated by arable farming. The prospect of species extinctions within the NNR led to the creation of the Wicken Fen Vision, an ambitious project that will eventually expand the reserve boundary by the purchase and restoration of c.50 km2 of arable land. We sampled three fields from each of three distinct age-categories of restoration land (5, 15, and 60 years post-arable), and three fields within the adjacent, undrained NNR, to determine (1) differences in seed bank composition across age-categories, (2) relationships between restoration age, the seed bank and standing vegetation, and (3) changes in species traits across age-categories. Historic arable management contributed to an apparent "vertical mixing" effect in the seed bank of the youngest two age-categories, with associated and significant differences in species functional traits across the study area. Almost all plants associated with NNR vegetation were absent from restoration area seed banks and standing vegetation. Seed bank species common to all ages-categories exhibited a bias toward moderate to high Ellenberg F (moisture) values, persistent seed banks, and lateral vegetative spread. Relatively short (c. 6 years) periods of drainage and ploughing impact heavily upon seed bank diversity and soils, resulting in a lack of pre-drainage vegetation, even after decades of subsequent restoration adjacent to intact, species-rich habitat. However, the seed banks of highly degraded fields can contribute toward the creation of novel wetland vegetation assemblages over time and under suitable environmental conditions.

Ringwood, Z., Roscoe, A. & Higgott, J. (**2009**) The habitat and conservation requirements of the newly recognised British plume moth *Emmelina argoteles* (Lepidoptera: Pterophoridae). *British Journal of Entomology & Natural History* **22**: 195-204. [this moth was first discovered in the UK at Wicken Fen]

Powell, M. (2010) The lichens of Wicken Fen. Nature in Cambridgeshire 52: 26-34.

Research Projects at Wicken Fen

If you wish to carry out research at Wicken Fen, you will need to have the support of the Wicken Research and Recording Group and you must get a permit.

In the first instance please use the form provided in the research section of the Wicken Fen web at http://www.wicken.org.uk/research.htm

Then email it to: wfresearch@nationaltrust.org.uk

The R&R Group will consider the research proposal and get back to you as soon as we can.

We like to have the site used for research, and have had over 20 students projects (BSc, MSc, PhD) at Wicken in the last 4 years. However, we do need to co-ordinate and manage the research work. We also have ideas for useful projects and can guide you to good sites on the property, provide maps etc.

We have risk assessments available if you wish to work on areas where we have grazing animals.

Recording species at Wicken Fen

Please do come to Wicken Fen to observe and record its flora and fauna. Don't assume that because the site has such a long history of recording that nothing new or unusual can be found. This Newsletter has highlighted a number of species found new to the property or the first record for many decades. Also, the Reserve is getting larger and it is very interesting to find out what species occur on the restoration land, so do look at the new land as well as the classic fen. We can send you a Map of the site too, to help you get around and get to new areas.

Please get a Permit

You will need a permit to use a trap, net or collect specimens, but these are readily obtained, with the understanding that you will send us your records. To get a Recording Permit, email (or write) with your address and what you want to do study (eg 'Moth trapping', 'collect Coleoptera and Hemiptera using a sweep net'), to either: Karen Staines, Administrator, Wicken Fen. Address and telephone number on p1. Email <u>Karen.staines@nationaltrust.org.uk</u> or Email <u>stuart.warrington@nationaltrust.org.uk</u>

Sending in your Records

The key information we need is: Species Name, Location, OS Grid Ref., Date, Recorder.

It is also useful to add **Comments** (exactly where found, the habitat, notes on the behaviour etc.), **Determiner** (if different to the recorder), and Numerical **Abundance** (how many).

The ideal Format for us is an **Excel Spreadsheet**, with each individual record on a separate **line**, with separate **columns** for Species Name, Location, Grid Ref., Date, etc. This can then be emailed to wickenfen@nationaltrust.org.uk Or to stuart.warrington@nationaltrust.org.uk

If you don't have access to email and computers, than a typed or hand-written list is also quite acceptable.

With Moth records, it is very useful if the Bradley Checklist Code number can be included.

Examples of Spreadsheet formats. (species names can be scientific or common names, or have columns for both)

Small Copper	Compartment 22	TL562706	15/07/2011	John Smith	Basking on path	4
Gatekeeper	Sedge Fen Drove	TL556706	15/07/2011	John Smith	15 over 100 metres	15
Speckled Wood	St Edmunds Fen	TL564702	15/07/2011	J.B. Jones	A few noted	
Peacock	Burwell Fen: Cmpt 208	TL563689	15/07/2011	J.B. Jones	5 around thistles	5

1634	Lackey	Sedge Fen Drove	TL556706	10/06/2006	C.C. Brown	5
1640	Drinker	Sedge Fen Drove	TL556706	10/06/2006	C.C. Brown	1
1682	Blood-Vein	Sedge Fen Drove	TL556706	10/06/2006	C.C. Brown	1
1713	Riband Wave	Sedge Fen Drove	TL556706	10/06/2006	C.C. Brown	1
926	Phalonidia manniana	Compartment 22	TL562706	10/06/2006	C.C. Brown	1



View west along Reach Lode, with Burwell Fen on the right (north) side and the end of Tubney Fen on the left.