



THE NATIONAL TRUST

Wicken Fen

Recording and Research Newsletter

New Edition 1

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This Newsletter is produced by the Wicken Research and Recording Group

Wicken Fen National Nature Reserve, Lode Lane, Wicken, Cambs. CB7 5XP (Tel: 01353 720274)

Deadline for contributions to the next issue is 30th October 2006

Please send all contributions to the address above or by e-mail to: stuart.warrington@nationaltrust.org.uk

Introduction

Hello everyone and welcome to a first issue of the Wicken Fen Recording and Research Newsletter.

In the past, the Wicken Committee used to produce a well-received 'Biologists' newsletter and several people felt that it was time we did so again. There has been a lot of activity at Wicken recently and we hope that this and subsequent Newsletters will keep you informed of what is going on and might encourage you to get involved.

Wicken Fen National Nature Reserve is owned by the National Trust and is managed by a professional team guided by a Local Management 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 the Group's meetings.

The Chair of the Research and Recording Group is Owen Mountford, who is also the Botanical Secretary. The Zoological Secretary is Helen Roy. The editor of this Newsletter is Stuart Warrington, who is the Nature Conservation Advisor for the National Trust in the East Region.

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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 the editor 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.

National Trust Staff at Wicken Fen

Jake Williams is now the Property Manager at Wicken Fen. Adrian Colston, who many of you will remember, moved on in 2005 to be the National Trust's Manager of Dartmoor countryside. Martin Lester is the Head Warden with a wardening team of Ralph Sargeant, James Selby and Carol Laidlaw, plus many

volunteers. Carol has special responsibility for the Konik ponies and Highland cattle that are so important in the management of the Fen and especially the new land. Jon Megginson joins the staff in mid-June as the Wicken Vision Project Officer, to lead the planning and co-ordination of the expansion of the nature reserve (more about the Vision in a subsequent Newsletter).

BIRDS

The Great Grey Shrike

The first 'Butcher Bird' for many years has been spending this winter at Wicken. It was first sighted on 7 November 2005 and was last seen on 2 March 2006. It has been moving around the site, but was most often seen on Harrison's Drove, Adventurers' Fen or by Monks Lode. Apart from a single sighting of a GGS on 18/10/1999, this is the first bird to spend the winter on the Fen since Oct 1981-April 1982 (2 birds were seen on 7/2/1982). GGS were more regularly seen at Wicken, almost annually from 1961-82.

The Wicken Fen Ringing Group

The Wicken Fen Ringing Group, established in 1968, has ringed over 70,000 birds of 96 different species at Wicken Fen. In 2003 and 2004 over 2200 birds were ringed but a huge effort in 2005 lifted the total to 2900 from 96 days of ringing. Species with notable increases in ringing totals were Greenfinch (777), Blue Tit (377), Blackcap (134), and Chaffinch (125). The relative proportions of Chiffchaff and Willow Warblers have shifted over the past 7 years, with Chiffchaff becoming 3 to 4 times more frequently caught now compared to 1999-2000 when it was about half of the Willow Warbler numbers.

There are some interesting longevity figures for Wicken birds, for example, a 9 year 7 month Reed Bunting (the British Record is 9y 11m), 8y 1m Bullfinch (British Record 9y 2m), and a 6y 11m Cuckoo (which is the British record). In March 2006, a Long-tailed Tit of 7y 9m was re-captured and in May, a Dunnock of 7y 8m, which are both Wicken records. A Reed Warbler that had been colour-ringed on 17/7/2001, was seen on 20/5/2006. Its rings had retained their colour, despite five winters under African sun; the bird was nesting just 11 meters from where it had nested in 2001!

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

PLANTS

Plant Records in 2005 by Owen Mountford and Chris Preston

Vascular Plant (om@ceh.ac.uk) and Bryophyte (cdpr@ceh.ac.uk) Recorders for Wicken

Vascular Plants

Several species of interest were found outside their previously-known distribution, especially on the newer property. Thus Trifid Bur-marigold (*Bidens tripartita*), Needle Spike-rush (*Eleocharis acicularis*), Round-fruited Rush (*Juncus compressus*) and Golden Dock (*Rumex maritimus*) were found on the shores of the Adventurers' Fen mere or in the drawdown zone of scrapes in Baker's Fen. Students (Andy Morgan) and volunteers (Jennie Blood-Smyth) working on the soils and vegetation of the new property have found evidence both of former cultivation (*Lolium multiflorum* at Baker's Fen Farm) and of the improving quality of restored land (*Triglochin palustre* on Adventurers' Fen).

Four entirely taxa were added to the Fen list. The first is a beautiful hybrid of Marsh and Meadow Thistles (*Cirsium x forsteri*), which although noted previously for the 10km square that includes Wicken Fen, was only confirmed for the reserve when Alan Silverside found it near the windpump. Otherwise common plants of disturbed habitats, Dwarf Mallow (*Malva neglecta*) and Cut-leaved Dead-nettle (*Lamium hybridum*), were noted for the first time on Trust land, near the William Thorpe building and on the mere shore respectively.

The fourth taxon is more worrying. New Zealand Pigmyweed (*Crassula helmsii*) has become a pest in and by ponds and ditches throughout southern England. Andy Morgan found it on Baker's Fen in August 2005, and a later survey by Owen Mountford revealed it to be locally dominant in the southern part of one field there and also to occur rarely on the mere shore. Both areas are often inundated and frequented by waterfowl, and it seems highly likely that this species reached Wicken Fen via ducks or geese, though this is very hard to confirm. A close watch will be kept on this area.

Mosses and liverworts

A group of Cambridgeshire members of the *British Bryological Society* visited Adventurers' and Baker's Fens in October 2005. Amongst the party were Mark Hill, Kevin Walker, Chris Preston and Owen Mountford. Many species were noted for these newer properties for the first time, but had previously been recorded on the Sedge and Verrall's Fens. The most important habitat was the drawdown zone of the scrapes in Baker's Fen and by the mere in Adventurers' Fen, where both *Riccia cavernosa* and *Physcomitrella patens* were seen. The typical habitat of *R. cavernosa* in Cambridgeshire is seasonally wet pools (including those that support Grass Poly); *P. patens* also occurs in such habitats and in washland. Other species seen for the first time on National Trust land at Wicken include: *Barbula unguiculata*, *Bryum gemmiferum*, *Dicranella varia*, *Didymodon fallax*, *Leptobryum pyriforme*, *Microbryum davallianum*, *Pseudocrossidium hornschurchianum* and *Tortula acaulon* (*Phascum cuspidatum*). Mid-summer is not the best time for bryology, but the free-floating liverwort *Ricciocarpos natans* was noted in the "New Reedbed" of Adventurers' Fen during a survey of ditches and pools by James Cadbury and Owen Mountford – its first record at Wicken away from the Sedge Fen.

Other Recent Records of Interest

Jennie Blood-Smyth has been recording the flora on the restoration land at Burwell Fen. Two species new for National Trust land are the Great Lettuce *Lactuca virosa* and the Prickly Lettuce *Lactuca serriola*, the latter was found to be abundant in some fields of Burwell Fen.

The dandelion *Taraxacum haematicum* was found in Little Breed Fen, Compartment 22, in April 2001 by Kevin Walker (confirmed by A.J. Richards), alongside a patch of *Taraxacum palustre* (Fen Dandelion). This is the first recent record and Wicken is the only confirmed Cambs record of this plant typical of old wet grasslands. He also found the commoner *Taraxacum pseudohamatum* in the same field in 2001, and this appears to be a first Wicken record.

Most recent plant records have arisen through special surveys or student projects. However, we are always interested to hear about observations (however brief) made by others visiting the Fen – especially if they refer to uncommon species or any that are not included in the Wicken checklists volume published in 2000. You can access these checklists via the Internet at www.wicken.org.uk/wildlife.htm and follow the links to a) vascular plants & ferns, b) mosses & liverworts or c) stoneworts.

FUNGI

Comments on some recent Fungal Records by Alan Silverside (Fungi Recorder for Wicken) (email: alan.silverside@paisley.ac.uk)

Agarics (Toadstools)

Ramicola laevigata

1st record of this small, brown species, found on fragments of *Carex* and other debris on a dried out hollow by Gardiner's Drove, Sept. 2003. Only 5 previous records in British Mycological Society database.

Inocybe rimosa

Was found under *Salix cinerea* in St. Edmunds Fen in Aug. 2004, first Wicken record since that by Mr Corner in the 1920s.

Psathyrella panaeoloides

Numerous on bare soil amongst old stubble of the overflow car-park in Aug. 2004.
1st Wicken record of this rare, but probably under-recorded species.

The telial stage of the rust fungus *Tranzschelia discolor* was found in Sept. 2003 on its host *Prunus domestica* (Wild Plum) on the edge of the Fen by Lode Lane, a new species for Wicken.

Clavaria incarnata, a scarce Club fungus, was found in Little Breed Fen, north of the Fen Drove, in autumn 2005.

Several species new to the Wicken Fen list have been found on Konik pony dung. For example, *Corpinus patouillardii* (an ink cap) was obtained from dung on the footpath across Baker's Fen in August 2004, which is seemingly rare in Britain, but is very similar to related species. On dung in Verrall's Fen were the micro-fungi *Pilobolus kleinii* and *P.lentiger*. The former is common, but the latter is very rarely reported with only 5 records on the BMS database.

Alan has an excellent website about the fungi of Wicken Fen, including photographs. Take a look.

<http://www-biol.paisley.ac.uk/research/Asilverside/Wickenfungi.html>

WICKEN IN PAST TIMES

The great interest in Wicken Fen shown by the Victorian entomologists is an important reason why Wicken Fen survived the drainage that befell of so much of the great fenlands. The accounts in the literature of the visits to Wicken

by these gentlemen (and it usually was gentlemen, although a few ladies did visit the Fen too) provide a fascinating insight into the Fen at that time and how the local economy was bolstered by their activities.

Extract from the writings of Dr J.H. Sadler, in a *Natural History Diary, Volume 2 (1891)*, in the National Library of Wales and transcribed by Adrian Fowles.

“5 September 1891 - started at 7.30 for an excursion to Wicken Fen, reaching Soham at 9.24 ... our field path brought us to Wicken Village. [On the Fen] ... we sighted a native looking about as if caterpillar hunting, so bore down on him. He opens his collecting box – a ground coffee tin – and we get our first sight of a full-grown specimen of the longed for larva. The swallowtail was soon in our possession as the result of a small commercial transaction in which 3d changed hands. The man, whose name was Fuller, makes a living in the Fen during the summer months, first by bird nesting and then by caterpillar hunting. While we were lunching Fuller came along and when questioned as to his luck told us he had taken several. This proved to be 25 or 30. We bought three additional *Machaon* at 2d each. Fuller told us that he collected some thousands in the course of a summer, his season beginning at the end of June. At this time of year he has more orders than he can fill. He does not notice any increasing scarcity from year to year, never catches the adult butterfly itself except for a special order.”

FEATURE: INSECTS

Moths

We are very pleased that Wicken still attracts many moth recorders, who set up their light traps across the Sedge Fen, and stand by their traps into the early hours. Species for which the Fen is famous such as Silver Barred and Reed Leopard are regularly caught. A great effort is underway to computerise the Fen's moth records and some interesting patterns have emerged. Firstly, the records held by the new Cambridgeshire Biological Records Centre were, in the main, completely different, to those already on computer at the Fen. Clearly different moth recorders sent their records in different directions! Secondly, most visits for moth recording are concentrated in June and July. Indeed, there appears to have been NO visits to the Fen from October through to the end of April for over 8 years! So please do consider coming to the Fen at different times of the year. You might turn up some rarely trapped species.

The Moth records are being compiled by Stuart Warrington into two (huge) spreadsheets, one for the Macro Moths and one for the Micros. Lots of lists stored in box-files at Wicken have been worked through and entered into these spreadsheets. At present, neither spreadsheet is quite ready for circulation and they will need checking, but we hope to have them available for interested people by the autumn.

Macro Moths: 6800 records, largely from 1980 to 2005, with a few paper records still to work through. We have many records for most species, but a few are rather rarely recorded (for example, Oblique Striped, Dotted Border Wave, Tawny Wave, Small Emerald, Common Lutestring, all Clearwings and Six-spot burnet!). The important historical data compiled by David Wilson are yet to be entered.

Micro Moths: 2800 records. Historical data are well represented and further research into the literature should provide greater accuracy on dates. Collated lists in some publications were often based on 19th century records. It is apparent that several species actually had no 20th century records despite appearing on 1926 and 1938 published lists. Some very good post-1990 data were found in the paper files at Wicken, especially for pyralids and tortricids. However, leaf-miners are rather under-recorded since the exceptional work of Maitland Emmet in 1965-1972.

Trichoptera (Caddisflies)

Dr Ian Wallace has greatly helped bring the Wicken checklist for Trichoptera up to date and we now have nearly 280 records of 48 species. This group are very good indicators of the quality of the water and aquatic habitats.

Adults of the small caddisfly *Grammotaulius nitidus* (Limnephilidae) were taken at an UV light trap by Emma Ross (a researcher at the Natural History Museum) on 2/9/2005. This was the first record of this Red Data Book species at Wicken for 69 years, despite several research projects on the aquatic invertebrate fauna of the Fen.

Emma recorded 21 species of adult caddisfly in her three visits in 2004, 05 and 06, including two new species for Wicken *Ecnomus tenellus* and *Limnephilus sparsus*, and also the first recent records for *Molanna angustata*, *Polycentropus flavomaculatus*, *Tinodes waeneri*, *Limnephilus extricatus* and *Limnephilus affinis*, an excellent result.

Request for Caddisflies (Trichoptera) taken at light at Wicken Fen.

Message from Ian Wallace, the National Recorder for Trichoptera. If you do have light-trappers who want to send me caddis they have found then I would be prepared to look at them. Send specimens in a tube or film canister, with location and date, to Ian Wallace, The Conservation Centre, Liverpool Museums, Whitechapel, Liverpool. L1 6HZ.

Hemiptera (bugs)

Nigel Straw, of the Forestry Commission and based at their Alice Holt Research Station, had compiled an impressive, comprehensive card index of the records of this group for the published Checklist. These data are now almost computerised (1300+ records, 338 species). From this list, it is clear that the aphids are still barely recorded. John Badmin responded to a request for further records in the Heteroptera Study Group Newsletter with a number of interesting species he took at Wicken. Most significant were the visits by Bernard Nau in 1999 and 2002, his first since the 1980s. Bernard turned up a number of species new to Wicken, including some in the car-park! Also, Peter Kirby had been commissioned by Sustrans (the cycleway providers) to investigate a route across some of the restoration land at Guinea Hall and alongside the Lode, and he turned up a number of interesting and new species, amongst the common ones. Some notable records are:

Asiraca clavicornis (Delphacidae): On the Sedge Fen 6/10/1991, taken by John Badmin, the first record since before 1950.

Cardiastethus fasciventris (Cimicidae): 18/5/2002 Rose Cottage, on Cypress by Bernard Nau. New species.

Psallus perrisi (Miridae): 18/5/2002 Wicken: Car-park on oak, by Bernard Nau. New species.

Chilacis typhae (Lygaeidae): 18/5/2002 Adventurers' Fen: Compartment 42, from *Typha latifolia* heads, by Bernard Nau. New species.

Cymus clavicolus (Berytinidae): 18/5/2002 Adventurers' Fen: Compartment 48, by Bernard Nau. New species.

Euscelidius variegatus (Cicadellidae): 15/9/2004 Wicken: Guinea Hall: Public Right of Way TL567696. A Nationally Scarce (N) leafhopper found by Peter Kirby in open-structured vegetation. New species.

Megalocoleus molliculus (Miridae): 23/7/2004 Same location as above. On Yarrow by Peter Kirby. New species.

Orius laticollis (Cimicidae): 15/9/2004 St Edmund's Fen: Wicken Lode bank. A Local small predacious bug, taken by Peter Kirby. New species.

Stictopleurus punctatonervosus (Rhopalidae): 18/5/2002 Swept from fallow field by the Wicken car-park, by Bernard Nau. New species. This formerly Extinct in GB species has re-colonised and is spreading. Peter Kirby also took it on 23/7/2004 by the Guinea Hall: Public Right of Way.

Micronecta scholtzi (Corixidae): New species. Several of this tiny 2.2mm 'water boatman' were netted from the edge of the Mere (18/6/2005) and from Wicken Lode by Verrall's Fen (11/8/2005) by Stuart Warrington. Searching the records reveals that the Mere has rarely been investigated for its aquatic fauna. The sparsely vegetated south-west part of Wicken Lode might appear a poor place to sample but *M. scholtzi* favours open water with little vegetation and skims on the surface of silty substrates. So perhaps this species had been over-looked or it might have colonised the Fen in recent years.

Velia caprai (Veliidae): New species. The 'water cricket' is a widespread and common species, but prefers flowing water, which is probably why it had not previously been recorded at Wicken. However, as you go eastwards along Monks Lode away from St. Edmunds Fen, the Lode become narrower and slightly faster flowing. A number of adult water crickets were netted on 16/8/2005 from around marginal reeds in Monks Lode on the eastern boundary of the National Trust's land at Guinea Hall Fen (TL576698) by Stuart Warrington.

Coleoptera: Beetles at Wicken, past and present Tony Drane and Stuart Warrington

The Coleoptera records collated, and personally made, by Tony Drane at Wicken have been entered into a spreadsheet – now available (in full or in part by Family – just ask) from Stuart Warrington. Valuable feedback from National Recorders for some families has allowed us to improve the accuracy of some species records and eliminate other species from the Checklist. For example, the rare, tiny diving beetle *Bidessus unistriatus* (Dytiscidae) and the scarce water beetle *Hydrochara caraboides* (Hydrophilidae) which were both found by F. Balfour-Browne in Cambridgeshire, (but not at Wicken) had found their way onto the Checklist. The next phase is to check the literature, especially the Victoria County History (1938), to add extra information to the records such as improved date or location details.

Some highlights are listed below. These show the importance of the restoration land for diversity and the discovery of several species that had no recent records and might, in error, have been considered extinct at Wicken.

- The Wicken Coleoptera list is now 6980 records of 1463 species from 72 Families.
- 86 species are Red Data Book and almost 250 are Nationally Scarce.

- *Tomoxia bucephala* (Mordellidae): Taken by Tony Drane 8/6/2006 from around dead wood from poplar trees on the north-east edge of Bakers Fen by Monks Lode. This is a nationally scarce (Na) saproxylic species and also counts towards the SQI (see 'Snippets'). New for Wicken and might be a first record for Cambs.
- *Longitarsus dorsalis* (Chrysomelidae): Taken by Tony Drane 8/6/2006 from Guinea Hall. A scarce (Nb) species associated with ragwort on light soils. New species for Wicken.
- *Ceratopion carduorum* (Apionidae): Taken by Peter Kirby from 3 locations on 23/7/04. New species for Wicken.
- *Bruchus rufipes* (Chrysomelidae) and *Bruchela rufipes* (Urodontidae)(RDB3): Both taken by Peter Kirby from the Guinea Hall Footpath on 23/7/04 and both are new species for Wicken.
- *Ceutorhynchus pallidactylus* (Curculionidae); 4 locations by Peter Kirby on 23/7/04. New species.
- *Leiopos nebulosus* (Cerambycidae): First record of this local longhorn beetle on 13/6/2004 by Martin Rejzek.
- *Amara communis*, *Pterostichus versicolor* and *Carabus granulatus* (Carabidae): Taken from piles of cut sedge by Gardiner's Drove, Sedge Fen on 5/10/2005 by Peter Whitton. First recent records (more than 60 years).
- *Anobium punctatum* (Anobiidae) and *Malvapion malvae* (Apionidae): Taken by Peter Kirby from the Guinea Hall Footpath on 23/7/2004. *Psylliodes napi* (Chrysomelidae) and *Dorytomus melanophthalmus* (Curculionidae) by PK by Monks Lode on 15/9/2004. All are first recent records (80+ years).
- *Haliphus laminatus* (Halipidae): Nationally Scarce (Nb) water beetle species, from Wicken Lode by Verrall's Fen by S. Warrington 11/8/2005. First record for 40 years.
- *Helochares lividus* (Hydrophilidae): Three locations in 2004 and 2005, including the Mere and the restoration land at Burwell Fen by S. Warrington for this local but spreading water beetle. New species for the Fen.
- *Berosus affinis* (Hydrophilidae): Only the 2nd record for this notable species, found by Andy Foster in shallow water on a flooded meadow on Baker's Fen: Compartment 101 on 5/5/2006. Also found, same date, same location was *Hypera pollux* (Curculionidae), first record for 80 years and *Coelambus confluens* (Dytiscidae). *C. confluens* is a new species for Wicken. It is often a coloniser of new water bodies so the restoration areas might suit it. The same area also yielded the RDB2 water beetle *Enochrus nigritis* (Hydrophilidae)
- *Hydrochus elongatus* (Hydrochidae): Andy Foster found this RDB3 Rare species on 5/5/2006, in Monk's Lode at St Edmund's Fen and in a ditch on the new land at Burwell Fen (TL554688). The last record for this species at Wicken was for 1970, so this is a welcome discovery, and interesting that it has occurred on the restored land.

Request for Ladybirds (Coccinellidae) taken at light at Wicken Fen.

Message from Helen Roy, coordinator of the UK Ladybird Survey. The UK Ladybird Survey would like to hear about any ladybirds caught in light traps. The orange ladybird (*Halyzia 16-guttata*) and the invasive harlequin ladybird (*Harmonia axyridis*) are both attracted to light sources and frequently appear in moth traps. Please send specimens in a tube or film canister, with location and date, to Peter Brown, UK Ladybird Survey, CEH-Monks Wood, Abbots Ripton, Cambridgeshire PE28 2LS.

Bees

Bees, especially the solitary bees, have been a rather neglected group at Wicken. E.B. Nevinson and C.M. Spooner provided quite good lists from the period 1910 to 1930, and since then only a visit on 25/07/2001 by Mike Edwards and George Else has added more than the occasional record. So a half-day visit by Andy Foster, the Head of the National Trust's biosurvey team, on 5/5/2006 was very welcome (see above too for beetles). The most exciting discovery on this warm spring day (before the May rains came) was a first Wicken record of the rare RDB1 bee *Nomada xanthosticta* on the Flood Bank of Adventurers' Fen (TL559697). This bee is a kleptoparasite on the common spring bee *Andrena praecox*. Andy's record of *A. praecox* was the 1st at Wicken since Spooner's list. Also new for Wicken on the Flood Bank was *Nomada goodeniana*, so clearly this raised bank is a valuable habitat for solitary bees. So too might be the dry ditch banks of the habitat creation land at Burwell, where Andy recorded *Andrena clarkella*, another new species for Wicken.

**We hope that the invertebrate focus in the next edition will be on Spiders, Dragonflies, Crustacea and Molluscs.
If you have information about these groups, please do tell us.**

RESEARCH AT WICKEN

MSc and Under-graduate Projects

Wicken has always been a fertile ground for student projects and we are very pleased that it continues to be so. The link with Anglia Ruskin University (formerly Anglia Polytechnic University) is especially strong and their students have taken on a range of projects, supervised by Dr. Francine Hughes, Dr. Helen Roy, Dr. Mark Kennedy, Dr. Julian

Doberski and Dr. Nancy Harrison. Cranfield University at Silsoe also regularly use the site for projects for their MSc students, usually related to investigations of the soil, water and land-use, supervised by Dr. Mike Hann. Students from Cambridge University and the University of East Anglia have also carried out projects at Wicken in recent years. A summary of key findings will be included in future newsletters.

If you wish to carry out research at Wicken Fen, then in the first instance you must contact the Chair of the Research and Recording Group, Owen Mountford (address details on p1).

The ecohydrology of Wicken Fen and a water level management strategy.

The National Trust commissioned Mike Harding and his team, of the consultancy Ecology, Land and People, to carry out detailed research into the hydrology of the Sedge and Verrall's Fen. The NT and the Management Committee have had concerns for many years about the water quantity and quality at Wicken. The research investigated the topography, vegetation and water quality, and using these results alongside hydrological data, derive a water level management strategy for the hydrological conditions necessary for the long-term future of the Fen.

The topographical survey showed that the Fen compartments are extremely flat and are 1.9 to 2m above ordnance datum, with sometimes a perimeter lip of 15cm where the tracks are. Wicken Lode is 20cm below surface level. The evidence suggests that about 30cm of peat shrinkage has occurred since the 1930s.

The vegetation survey showed a number of NVC communities. Historical research showed that S2 *Cladium mariscus* swamp, and probably also M9 *Carex rostrata-Calligeron* mire, existed at Wicken, but neither are present now which probably reflects decline in water levels.

Monthly water quality and sediment samples were collected and showed that the isolated internal dykes had the lowest nutrient levels. The boundary dykes and Wicken Lode were in good condition and were not degraded by eutrophic water. The highest levels were in the arm of Wicken Lode towards the village, which occasionally receives overflow from the sewage treatment works. There is some evidence that the fen peat has a lower pH than in the past.

Based on dipwells set across the Fen, the water table profile starts to decrease in May-June and drops by 70 to 80cm below surface level by September-October, and by 100 to 120cm in a dry year. The water table recharges by rainfall input through the winter. There is no water input from Wicken Lode. This hydrological regime is in marked contrast to the 1930s, when water table reduction was only 30 to 40cm and the recharge was due to both rainfall and flooding by calcareous waters from Wicken Lode. The Fen might still receive flood waters in late spring and thus the drawdown of the water table might start quite late in the season.

The study shows that the water tables are too low to sustain current fen communities and far too low to allow restoration of past existing communities. These conclusions are very important for the long-term survival of the Fen. The requirements are, a) ensure the peat is saturated with calcareous water of low nutrient status and that the period of saturation is sustained into the spring, b) maximum summer recession should be 30cm below ground level, c) input of water with medium-high nutrients must be prevented.

The proposed solution is to allow high quality water from Monks Lode, or Wicken Lode, to re-charge the water table across Sedge, Verrall's and St. Edmund's Fens through the winter and into the spring. A more extensive system of small internal dykes will be needed to move the water across the Fens. A number of further practical issues were raised in the report.

The Trust and the Management Committee are committed to solving the hydrological problems of Wicken Fen, and have already met with the Environment Agency and English Nature to begin the planning.

Review of Paper

Xiong, S. Johansson, M., Hughes, F.M.R., Hayes, A., Richards, K.S. and Nilsson, C. (2003) Interactive effects of soil moisture, vegetation canopy, plant litter and seeds on diversity in a British wetland plant community. *Journal of Ecology*, **91**: 976-986

This paper reports on a factorial experiment to examine how groundwater availability (low and high sites with intermediate or rare flooding), vegetation canopy, leaf litter and seed availability interacted to determine the species richness of a productive wet grassland community in Wicken Fen National Nature Reserve. Seeds of 18 species were added to half the plot of each of eight combinations of elevation, canopy and litter, and seedling emergence was observed for two growing seasons.

Neither elevation nor vegetation canopy had significant individual effects on total species richness, but their interaction was significant. Litter addition limited seedling emergence at the low elevation but favoured it at the high elevation. The relative importance of vegetation canopy and plant litter in affecting plant community composition varied with the community parameter considered (species richness or number of seedlings), elevation and stage of vegetation development. In general, plant litter was more important in determining species richness, whereas the vegetation canopy was more important in determining seed germination and seedling emergence.

Seed availability was the most important factor in determining overall species richness in the studied community. The influence of the local seed bank was very limited. Seedling emergence and seedling species richness were generally enhanced by lower elevation and seed addition, but depressed by vegetation and litter addition.

The complex relationships observed have considerable implications for ecological modelling and ecosystem restoration. Manipulation of one factor may produce unexpected effects on other factors, which may induce a series of consequences for the whole community. Further knowledge on how natural communities are organised and maintained is needed to guide the management of ecosystems.

NVC Survey of the Old Fen

In 2004, a group of volunteers conducted a vegetation survey of the Sedge and Verrall's Fens. The survey compiled both quadrats and compartment lists, classifying the results according to the types described within the National Vegetation Classification (NVC). The survey had two purposes: a) to describe the herbaceous vegetation of the fen in 2004; and b) to ascertain whether variation in vegetation correlated with variation in management regime. The first aim was readily met, and the distribution and composition of fen-meadow (both rush and *Molinia* dominated) and tall-herb rich-fen at Wicken was assessed, as well as other types of grassland on clay soils abutting the higher ground near Wicken village. The evidence from this survey indicated strongly that the great complexity of regimes advocated in the management plan was not reflected in a comparable complexity of vegetation type. It was proposed that two, flexibly-applied cutting regimes be applied:

- I. Annual late-summer mowing for fen-meadows and mires to be practised in those compartments where these communities are still extensive, and also along the broad drove margins.
- II. The sedge fields and compartments with tall-herb fen could be cut one year in three during the summer.

There was also evidence that both broad vegetation types would tolerate occasional irregularity in cutting frequency, a year might be missed in the cutting regime, provided this did not occur repeatedly. A much fuller description of the approach and the results can be found in Mountford *et al.* 2005 (see publications list below).

PUBLICATIONS

We are very fortunate that Wicken Fen is one of the best researched nature reserves in Britain. There have been many, many papers, research reports and books that have wholly or partly focussed on work carried out at Wicken. Terry Rowell compiled an extensive and impressive bibliography for Wicken, which was updated by Laurie Friday and Adrian Colston. It can be viewed or downloaded from the Wicken website at:
http://www.wicken.org.uk/research_bibliography.htm

We are keen to have this Bibliography kept up-to-date and if you are aware of any publication not on this list, and certainly any post-2000 publications, please do tell us and we shall further update the document. Contact Stuart Warrington if you want a copy of the latest version.

Some additional 'Wicken' papers we are aware of include:

- Brooke, M.D., Davies, N.B. & Noble, D.G. (1998) Rapid decline of host defences in response to reduced cuckoo parasitism: behavioural flexibility of reed warblers in a changing world. *Proceedings of the Royal Society of London B: Biol. Sci.* **265**: 1277-1282
- Crompton, G. (1997) Botanizing in Cambridgeshire in the 1820s. *Nature in Cambridgeshire* **39**: 59-73
- Davies, N.B., Madden, J.R. and Butchart, S.H.M. (2004). Learning fine-tunes a specific response of nestlings to the parental alarm calls of their own species. *Proceedings of the Royal Society of London B: Biol. Sci.* **271**: 2297-2304.
- Disney RHL & Perry I (2000) A new species of *Megaselia* from Cambridgeshire (Diptera: Phoridae) *Dipterist's Digest* **7**: 5-7 [A new to science species *Megaselia winkenensis*, from Wicken Fen]
- Hughes, F. M. R, Colston, A. and Mountford, J.O. (2005). Restoring Riparian Ecosystems: The challenge of accommodating variability and designing restoration trajectories. *Ecology and Society* **10** (1): 12 -
- Mills, S.C. and Reynolds, J.D. (2004). The importance of species interactions in conservation: the endangered European bitterling *Rhodeus sericeus* and its freshwater mussel hosts. *Animal Conservation* **7**: 257-263.
- Mountford, J.O., Colston, A. and Lester, M. (2005). Management for diversity: the sedge and litter vegetation at Wicken Fen NNR in 2004. *Nature in Cambridgeshire*, **47**: 15 – 23
- Nellist, D.R. (2001) Further additions to the Check List for Wicken Fen. *Newsletter of the British Arachnological Society* **91**: 12-13
- Nellist, D.R. (2000) The National Trust's 100th Anniversary field meeting at Wicken Fen 12-13th June, 1999. *Newsletter of the British Arachnological Society* **88**: 4-5
- Painter, D. (1999) Macroinvertebrate distributions and the conservation value of aquatic Coleoptera, Mollusca and Odonata in the ditches of traditionally managed and grazing fen at Wicken Fen, UK
Journal of Applied Ecology **36**: 33-48
- Painter, D. (1998) Effects of ditch management patterns on Odonata at Wicken Fen, Cambridgeshire, UK.
Biological Conservation **84**: 189-195

- Wilson, D. (2004) On the early stages of the Reed Leopard moth *Phragmataecia castaneae* HB. (Lep.: Cossidae). *Entomologist's Record and Journal of Variation*, **116**: 49-53.
- Xiong, S. Johansson, M., Hughes, F.M.R., Hayes, A., Richards, K.S. and Nilsson, C. (2003) Interactive effects of soil moisture, vegetation canopy, plant litter and seeds on diversity in a British wetland plant community. *Journal of Ecology*, **91**: 976-986

Some older papers missed in the Bibliography have also come to light.

- Cockayne, E.A. (1931) Notes on the larva of *Macrogaster (Phragmataecia) arundinis*, Hb. *Proc. Trans. South London Ent. Nat. Hist. Soc.* **1930-31**: 64-66. [larva collected at Wicken Fen]
- Drane, A. B. (1978) *Cossonus linearis* (F.) and *C. parallelepipedus* (Herbst) (Col., Curculionidae) occurring together in a willow at Wicken Fen Nature Reserve, Cambs. *Entomologist's Monthly Magazine*, **114**: 200.
- Nash, A. (1896) *Oberea oculata* in Cambridgeshire. *Entomologist* **29**, 316.
- Rye, B.G. & Skinner, P.F. (1894) Coleoptera in 1894. *Entomologist's Monthly Magazine* **30**: 276-77
[includes records from Wicken]
- Spooner, G.M. (1929) *Lipara similis* Schn. at Wicken Fen. *Entomologist's Monthly Magazine* **LXV**: 42-3.
- Wollaston, T.V. (1843) Notes on captures of coleopterous insects near Cambridge, in December 1842 and January 1843. *Zoologist* **1**: 116. [one of the earliest journal articles that mentions Wicken]

WILDLIFE SNIPPETS

Pond Action Survey of Three Brickpit Ponds at Wicken Fen.

The National Pond Survey, led by Jeremy Biggs at Oxford Brookes University, carried out numerous surveys of ponds in the early 1990s, culminating in a series of valuable reports on the state of Britain's ponds. The survey of the flora and macro-invertebrate fauna included three of the brickpits at Wicken in 1990 and 1991. These data came to light recently when Stuart Warrington was browsing their website. The data were collected semi-quantitatively in timed sweep samples so they are especially valuable and the method could be repeated to look at changes over the past 15 years. The National Pond Monitoring Network's website is at: <http://www.pondnetwork.org.uk>

Saproxylic Beetles at Wicken.

You might think that Wicken Fen is unlikely to be important for saproxylic beetle species, those associated with the habitats of dead and decaying wood. However, collating the more recent beetle records has revealed that the site is at least of regional significance, since it ranks about 40th in the UK for the Saproxylic Quality Index (the SQI is calculated from a list of 598 saproxylic beetle species with more points awarded for rarer species). The 75 scoring species at Wicken produce a SQI of 452. The Wicken score for the Index of Ecological Continuity (IEC) is a more modest 15, and would place the site much lower in the rankings. Adrian Fowles, who maintains the website to compare sites, commented that Wicken has a superb list of saproxylic species that are associated with willows and poplars. To see a Table of UK saproxylic sites ranked by SQI scores go to: <http://thasos.users.btopenworld.com/sqi.htm>

Trees.

The largest *Salix pentandra* in Britain (at that time) was measured at Wicken Fen by John White (of the Forestry Commission) on 21 July 1989. It was 20 metres tall and had a diameter at breast height of 83cm. We don't know exactly which tree was measured.

There are male and female *Salix cinerea* from Wicken Fen in the national lowland willow collection at Westonbirt Arboretum, in the Cotswolds.

English Nature has been assessing the condition of all the **Sites of Special Scientific Interest** in the country since 1999. In July 2003, 55% of the National Trust's English SSSIs were in favourable or recovering condition (EN's 'target' condition). This increased to 74% by March 2006. That equates to an improvement in the condition of over 10,000 hectares of National Trust land. The National figure for all SSSIs is 70% in target condition. The aim is for 95% to be in target condition by 2010.

RECORDING AT WICKEN FEN and SENDING IN YOUR RECORDS

Recording

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.

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 permit, write with your address (& email if you have one) to the National Trust Property Manager, Jake Williams, explaining what you are coming to study (eg 'Moth trapping', 'Coleoptera and Hemiptera using a sweep net'). The permits lasts one year. The address is on the first page.

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

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	15/07/2005	John Smith	Basking on path	4
Gatekeeper	Sedge Fen Drove	TL556706	15/07/2005	John Smith	15 over 100 metres	15
Speckled Wood	St Edmunds Fen	TL564702	15/07/2005	J.B. Jones	A few noted	
Peacock	Burwell Fen: Cmpt 208	TL563689	15/07/2005	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	<i>Phalonia maniana</i>	Sedge Fen Drove	TL556706	10/06/2006	C.C. Brown	1



Agabus undulatus. One of the rare water beetles for which Wicken is a haven (photo by Roger Key)