Westleton Common

Annual Report 2005

Contents

Westleton Parish Council.

The following letter has been received from the Chair of Westleton Parish Council.

Since the acquisition of the Westleton Common in 2003, the Common Steering Committee, now represented by Doug Ireland and a dedicated band of active volunteer members, have demonstrated a deep interest in our forty - nine acres of outstanding natural beauty. The maintenance working parties, meetings, walks and exhibitions held during the last year, have also served to impress and educate the public and all who take part in the work to support our partnership arrangements with Suffolk Wildlife Trust and Suffolk Coastal District Council.

On December 27th, I took part in a very wintry but interesting walk with Doug, members, and friends. Daring to venture south as far as Black Slough, we spotted Goldcrests, Bullfinches, Black Headed Gulls, and many others along the way, returning to "The Cleeves" for a very welcome drop of mulled wine and nibbles hosted by Tony and Ann.

I was pleased to note the good use of the notice boards displaying locations and areas of interest on the common. Strategically placed and installed over the last year , they are now very much a part of the walking route detailing and an invaluable method of information relating to, seasonal changes, species, and what to look out for during the year. Strategically placed seating is also in place, to command an enviable view of the surrounding countryside.

We now have a safe and robust tool storage facility that will blend in even better once the foliage starts to grow. By the way, I believe Alison is interested to hear from anyone with an inventive mind, suggestions to the give the "container" a more naturalistic sounding name, we need to do away with the industrial image of the word "container" portrays. I am sure Alison / Doug would love to facilitate an appropriate naming ceremony of some kind, what an excuse for a drinkie poohs!.

From a Chairman's prospective, I continue to be impressed by the level of enthusiasm shown by Doug, members of the steering committee, active volunteers, and all who take part in the working parties throughout the year. The Parish Council is pleased to have participated in both, the purchase of the container and the accessories you have requested through 2005, and we are looking forward to working with all involved, to actively build on the support you will need from us in the future.

Looking forward to 2006, I see a very busy year ahead and beyond, the Parish Council with the support of the Steering Committee, will be working to uphold our legal responsibilities and partnership arrangements . I believe we have an excellent Steering Committee Representative in Doug, steeped with Health & Safety experience and a long standing interest in Nature's Clock, the local habitat, bio-diversity, and the species who reside on our Common.

Happy New 2006!,

Colin P. Fisher (Chairman to the WPC)

Date: 11/01/2006

Editorial

Welcome to the second annual report detailing the activities on Westleton Common during 2005. We are grateful to Westleton Parish Council who have funded the production of this report, you will see at the beginning a letter from Colin Fisher, the chair of the Parish Council.

In the middle of the year we lost the services of our chairman, Simon Moss, when he and his family moved to Norfolk to embark on a new venture. Simon and his expertise will be sorely missed and we all wish them every success for the future. I had the unenviable job of metaphorically stepping into Simon's shoes as chairman; he is a hard act to follow. I have been greatly helped in this with David Rous agreeing to take on the task of leading the work parties and by Alison Paul who has continued her work as Common recorder. Alison's help also in providing me with material for this report has been invaluable. I am course very grateful to all who have provided either written material or photographs for the report and I do hope that you will find this edition both entertaining and a useful reference source. As Editor my function has solely been to lay out all the material provided into a common format and readable report. I have not edited any contribution save for correcting any typing or grammatical errors that I have noticed. The contributions are largely as they were provided.

It is invidious to single out individuals for their contributions; there is always the risk of offending those who are not mentioned. All are appreciated, but I must thank in particular Michael Kirby for arranging for us to reproduce his paper about Ant-lions that was first published in the Transactions of Suffolk Naturalist Society 41 (2005). This year again, I have had far more photographic material provided than I have been able to use. The selection has been mine and I apologise if I have not used your favourite picture this time round. The report is being produced to a budget, which does restrict the amount of colour material that can be reproduced.

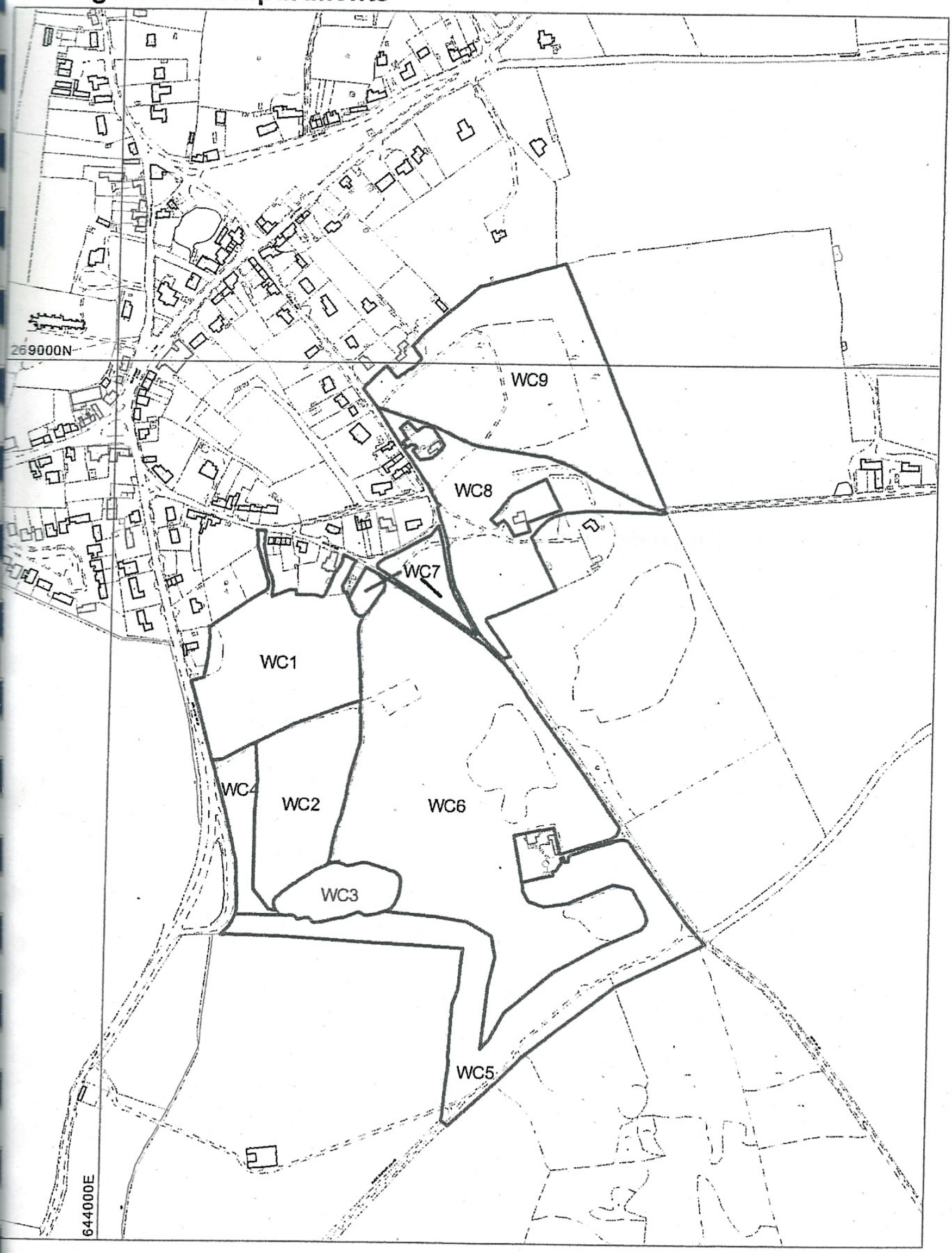
I think that we can all look back with pride on the progress that has been made in 2005. In my editorial for the 2004 report, I stated that it had been a year to take stock. In 2005 we have built on the knowledge base established then and greatly widened our knowledge and understanding of what makes the Common tick. However we must not be complacent because there is still a lot to be learnt. Our knowledge about some orders is either rather sketchy, or in some cases non-existent and we are always on the lookout for people who can help us in their fields of expertise. Information on the more "popular orders" has been expanded both by those who undertake regular surveys, and also by the "casual" records that we receive. I would urge you all, when you are out and about on the Common, to note what you see and feed that information in to Alison Paul our Recorder. Each little piece adds to the jigsaw and no record is too insignificant – we need as many records are possible. Details of what has been recorded can be found in the report itself with detailed lists in the Appendices.

The work achieved by our Saturday morning work parties has been excellent and we should soon see the benefits of our labours. The work parties are good social events, usually blessed with good weather and with the welcome mid morning tea-break provided by the group of ladies to whom we are all most grateful. If you have never experienced a work party, why not give it a try? We have a substantial work programme lined up for 2006 and we look forward to continued support from our regulars and from new faces.

We always try to record the number of man-hours of voluntary work put in during the year. When we came to try and work the figure out for 2005, we realised that we have never factored in the amount of time spent on survey work, particularly the collection of casual records which are often done whilst out on a regular walk with your dog. There is also the time taken by the ladies who prepare the sustenance for each work party, the work done by Alison in collating the records and prepare these for this report and my time editing and producing the report. As a conservative estimate I think that in 2005 a minimum of 1000 man hours has been put into the Common, that nearly 3 hours a day. This is a tremendous achievement and shows your dedication and commitment to this site that we all love and value so much. +If you have any suggestions regarding the Common, particularly if you would like any particular activity held on the Common, please let us know. I look forward to 2006 with optimism.

Doug Ireland
Chair – Westleton Common Group

Westleton Common
Management Compartments



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The Birds of Westleton Common 2005.

Method

The method used was the B.T.O. Census of recording every bird seen during 12 visits between mid-March and mid-June. Symbols were used for each individual species,
i.e. B for Blackbird, ST for Song Thrush, etc. Where a bird was seen in flight, an arrow marking its direction of flight was used. If the bird was carrying nesting material or food or a nest was found, these were marked on the maps.

Timing of Visits

All visits were early morning, mostly between 6.30 am - 8.00 am, on days when the weather was good with generally sunny, still days.

LIST OF VISITS

1	18 March
2	2 April
3	19 April
4	25 April
5	1 May
6	7 May
7	16 May
8	23 May
9	27 May
10	9 June
11	25 June
12	6 July

LIST OF SPECIES MAPS (not included with this report)

1. Greenfinch, Coal tit, Goldcrest
2. Woodlark, Pied Wagtail, Goldfinch
3. Magpie, Jay, Cuckoo
4. Red-legged Partridge, Pheasant, Skylark
5. Bullfinch, Linnet
6. Green Woodpecker, Great Spotted Woodpecker
7. Mistle Thrush, Song Thrush, Lesser Whitethroat
8. Great Tit, Blue Tit
9. Robin
10. Chiffchaff, Willow Warbler
11. Yellowhammer, Wren
12. Chaffinch
13. Blackbird, Long Tailed Tit
14. Nightingale, Dunnock
15. Blackcap, Garden Warbler, Whitethroat
16. Turtle Dove, Collared Dove

WESTLETON COMMON - TERRITORIES HELD

	2004	2005	
Sparrowhawk	1	1	
Kestrel	1	0	
Red-legged Partridge	1	0	
Pheasant	1	1	
Collared Dove	2	2	
Turtle Dove	2	3	
Cuckoo	1	1	
Tawny Owl		1	
Nightjar	1	1	
Swift	1	0	
Green Woodpecker	2	2	
Great Spotted Woodpecker	1	2	
Skylark	1	1	
Woodlark	2	2	
Pied Wagtail	1	1	
Wren	15	16	
Dunnock	6	10	
Robin	12	12	
Nightingale	8	9	
Blackbird	8	9	
Song Thrush	2	4	
Mistle Thrush	2	1	
LesserWhitethroat	2	4	
Whitehtroat	3	4	
Blackcap	3	4	
Garden Warbler	4	5	
Willow Warbler	5	4	
Chiffchaff	9	7	
Goldcrest	2	1	
Blue Tit	12	11	
Great Tit	5	9	
Coal Tit	1	2	
Long Tailed Tit	3	2	
Jay	1	1	
Magpie	4	2	
Chaffinch	19	20	
Greenfinch	12	7	
Goldfinch	1	1	
Bullfinch	2	3	
Linnet	4	5	
Yellowhammer	7	6	
Woodpigeon - ***Bred but not included in Survey***			

Notes on some species.

Sparrowhawk
Seen regularly hawking over the common but the nest was not located on the common.

Turtle Dove
Late in holding territory , at least three pairs.

Nightjar
Held territory on the middle of the common during July

Little Owl
No territory on the common but one pair very close to the eastern edge.

Skylark
Breeds close to the common, rarely seen on it.

Greenfinch
Very difficult to be sure of exact numbers of pairs as so many territories backed on to gardens

Unusual Species Recorded during the breeding season

Marsh Harrier -	Regularly seen over the Common
Hobby -	Regularly seen over the Common and once perched on wires.
Hoopoe -	1 on 9 May 2005
Quail -	Up to 2 singing next to the Common 23 - 25 May and 10 June 2005
Mute Swan -	2 over on 23 May 2005
Marsh Tit -	1 on 23 May 2005
Cormorant -	1 over Common on 6 July 2005
Greenshank -	1 over the Common on 10 July 2005
Dartford Warbler -	1 juvenile on 14-15 July 2005
Reed Warbler -	1 on 30 July 2005

Contributed by Richard Drew.

Nightjar. *Photo: Doug Ireland Library*

Butterflies on Westleton Common 2005

It has not been a good year for butterflies in this area although numbers of Speckled Wood and Grayling were up and both were seen more frequently than last year.

April –May . First sighting on the Common were of Red Admiral on April 1st, followed by Peacock on the 2nd. By April 25th , Large and Small Whites, Orange Tip, Holly Blue, Peacock, Small Tortoiseshell and Speckled Wood had been seen. A single Common Blue was seen on 2nd May.

June. The first Silver-studded Blue was seen on 18th June, a couple of hours before the start of the Suffolk Naturalists Society's workshop on Silver-studded Blues held in Westleton village hall. This was a most informative and interesting day, and on the afternoon group walk, Large White, Small Copper, Red Admiral, Speckled Wood, Meadow Brown, Small Heath and a few Silver-studded Blue were seen.

July. On 15th July, I did a survey from the entrance path from the noddle car park, down to Reckford road through the former dump, up the sand, across to Ralph's Mill and back to the car park. Butterflies seen were Large White (10), Silver-studded Blue (6), Red Admiral (1), Comma (1), Speckled Wood (10+), Gatekeeper (2) , Meadow Brown (10+), Ringlet (1), Small Heath (5). Also seen that day, by Richard Drew, were Painted Lady (1) and skipper (1).

On 19th July, in a survey of WC1, 2, 3,4 & 6, the following were seen : Large White (10+), Small White (3), Green-veined White (1), Small Copper (3), Silver-studded Blue (10+), Peacock (1), Speckled Wood (7), Gatekeeper (10+) , Meadow Brown (20+), Ringlet (2), Small Heath (6). The first Grayling were seen on 29th July in the Black Slough area. One settled on clothing, and showed the typical behaviour of tucking forewings behind the hind wings, and also of tilting over when landing on the ground.

August The full survey was done on 1st and 2nd of August. On the 1st, the area was the larger part of the Common to the SW of Mill Street. The weather was very suitable with warm sunshine and light SE winds. The remainder of the survey on 2nd August was less than ideal, the weather being overcast but humid with moderate southerly winds and only occasional sunshine. See separate table.

Most of August was not good for butterflies, but the last few days of the month saw a few Meadow Browns, Grayling and Small Coppers and one or two Holly Blue and Speckled Wood on sunny days. Brambles in the former council dump area had set fruit early, so there were no flowers for butterflies such as Tortoiseshells, Peacocks and Red Admirals.

September A Purple Hairstreak was seen in the car park by the noddle on September 9th by Richard Drew. These butterflies are rarely seen as they usually fly high in the oak canopy.

The full list of butterflies seen in both 2004 and 2005 is shown in appendix 000.

Hazel Leggett

Table 1. **Butterfly counts on 1st (a) & 2nd (b) August 2005. Hazel Leggett**

Area and Management Compartment (WC)	Gatekeeper	Meadow Brown	Small Copper	Large White	Speckled Wood	Holly Blue	Silver-studded Blue	Red Admiral	Peacock	Comma	Grayling
a.Path to noddle from Little Oaks + noddle + car park (N edge WC1)	6		1	5	2						
a. From notice board to Ralph's Mill and steps to Black Slough, incl gorse & heather to l. of path (WC5)	17	7	3	8			1 M				3
a. From notice board to sand area & back to path nr Ralph's Mill (WC6)	10	3	1	3							1
a. Track from concrete to Reckford Rd & former council dump (Boundary WC1/2)	6	1		8					1	2	
a. Black Slough from steps to Mill Rd (WC5) + roadside hedge back to flat-iron (NE edge WC6)	3	1	2	1							1
b. From notice board on Bakers Lane to path to King's farm boundary (Boundary WC8/9)	1	2	1	4	3						
b. Remainder of "Football Field" (WC9)	5		3	5							1
b. Flat-iron + tracks nearby (WC7)	2			1		1		1			
Totals	**50**	**14**	**11**	**35**	**5**	**1**	**1**	**1**	**1**	**2**	**6**

a. 1st August 11.30am-12.45pm. Sunny and warm, moderate SE wind.
b. 2nd August 3-4 pm. Cloudy with occasional sunshine, warm and humid, moderate southerly wind

Silver-Studded Blue Butterfly Survey 2005

At the beginning of the season the site was walked regularly to see when the Silver-studded Blue Butterflies started to fly, this year, due to the poor weather, they were very late and were not recorded until the middle of June.

For consistency the survey method used was the same as in 2004. This is important if we are to check on what effects the management work has made to the site. The whole site was checked to see whether any insects had moved to new areas of the Common.

The results (see Table 2) show that the highest total of Silver-studded blues was at the beginning of July, but numbers were down on those counted in 2004. The season was cut short by more wet weather at the end of July. Please also see Fig.1 for the colony areas referred to in the table.

Table2. Silver-studded blue butterfly counts.

2005		Jun-19	Jun-23	Jul-03	Jul-10	Jul-17
AREA 1	M	4	12	25	25	15
	F	0	2	15	9	10
AREA 2	M	0	2	3	0	0
	F	0	0	1	0	0
AREA 3	M	3	27	47	30	11
	F	0	6	24	13	6
AREA 4	M	3	18	23	14	2
	F	0	3	13	7	0
AREA 5	M	8	24	17	12	2
	F	0	5	3	3	2
AREA 6	M	18	70	43	38	8
	F	1	11	21	9	3
AREA 7	M	4	21	18	9	1
	F	1	1	9	2	2
AREA 8	M	2	18	24	12	4
	F	0	3	6	5	3
TOTAL		44	223	292	188	69

David Rous

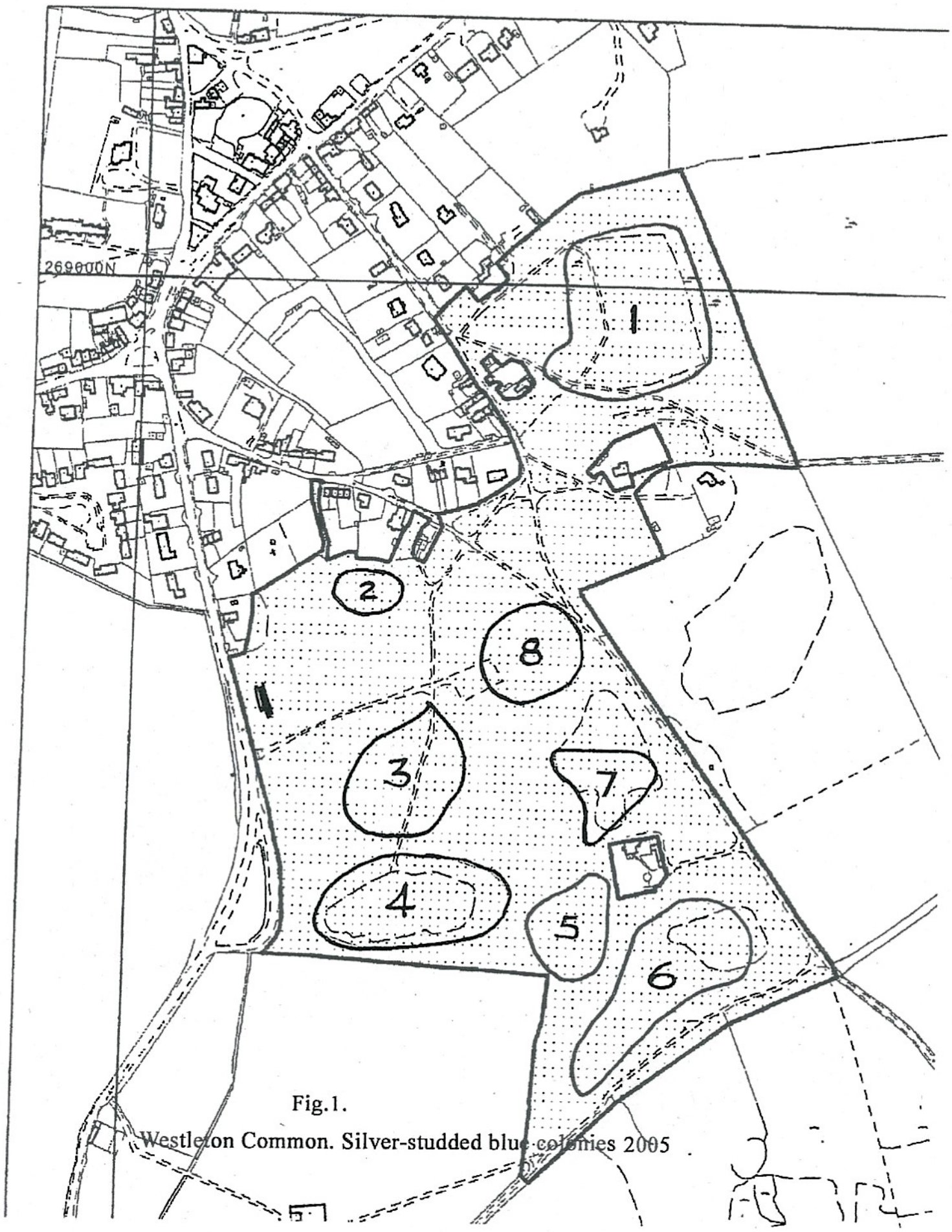

Fig.1.

Westleton Common. Silver-studded blue colonies 2005

The Reptiles of Westleton Common 2005

In March I began the survey by dividing the site into a grid pattern and distributed this around the village to people who use the Common a lot, asking them to keep records of when reptiles were seen, where they were seen, their size and whether they were male or female.

At the end of March I did my first survey looking for male adders as they came out of hibernation, but due to the weather I saw none.

During the summer records were kept of all sightings, and together with other records a distribution map was drawn up (see Fig.2). This showed that adders were found all over the site whereas only one slow worm and two common lizards were found.

David Rous

Photo: Doug Ireland

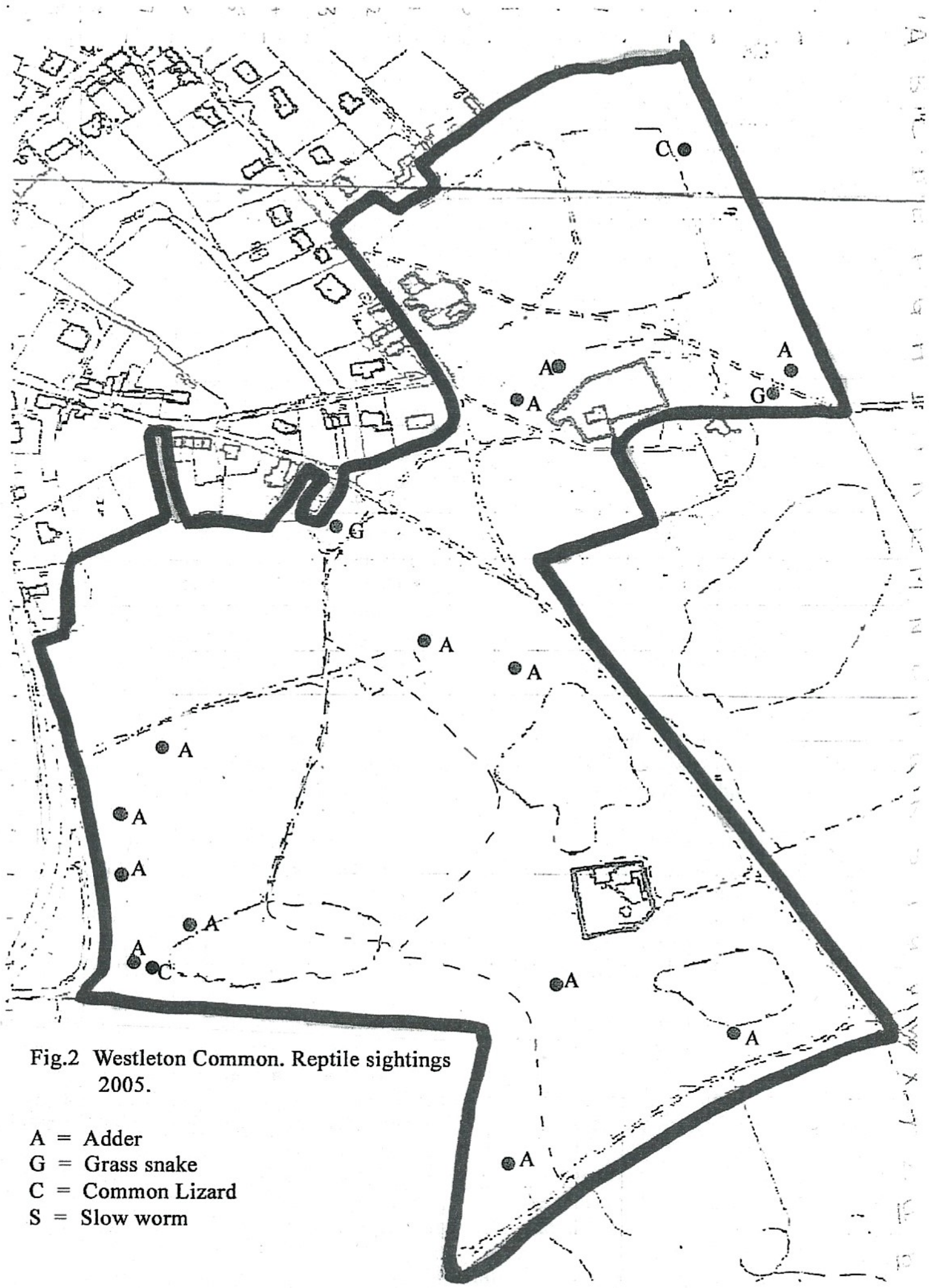

Fig.2 Westleton Common. Reptile sightings 2005.

A = Adder
G = Grass snake
C = Common Lizard
S = Slow worm

Westleton's Weather in 2005.

The account below is based on the daily readings taken at the Meteorological Office Climatological Station situated on the RSPB Minsmere Reserve. Details of the daily readings taken were described in the 2004 Westleton Common Report.

January was generally dry, mild and dry. Officially over the whole of Great Britain this was the mildest January since 1990, but that is not the case here on the east coast. The mean maximum temperature in January 1993 was 9.4°C against a mean of 9.2°C this January. There was only one night of air frost and nine nights of ground frost. Measurable rain fell on 17 days giving a low monthly total of 28.0mm. For three days at the end of the month, there was some winter weather with a little snow, but it soon became mild again.

February was a colder and wetter month, although the first ten days were cloudy and dry with above average temperatures. At the end of the second week there was the first significant rainfall since November 2004, the week itself ending with a strong gale. The second half of the month was colder and wetter with snow on most days. There were six nights of air frost and fifteen nights of ground frost. 68.0mm of rainfall was measured from 19 days, the wettest day being the snowfall on 19th.

March opened in a similar vein with cold and wet weather. Snow overnight on 6th was the eighteenth consecutive day that snow was recorded. Gradually the weather improved with higher temperatures and sun. There were five nights of air frost and ten nights of ground frost. Rainfall was measured on 14 days but the total of 35.1mm is rather low.
The Easter weekend started promisingly but the good weather only lasted one day. From the Saturday onwards it was dull, misty and foggy with some rain and cool temperatures which continued into the post Easter holiday period.

Generally calm and foggy, but not too cold into the beginning of **April**. However in the second week the weather gradually deteriorated. Friday 8th was a bit of a shock as it snowed to give a light covering by the next morning. The rest of the month was typical April weather with sunshine and showers.

May opened in spectacular fashion with a thunderstorm at dawn. Over the next ten days the showery theme continued but with cold, strong westerly winds. The next week the wind moved round to the north east which made it very cold for the time of year. There was little improvement until the end of the next week when it started to warm up. During the last week the temperature soared to 25.4°C on 26th, but as may be expected the weather went downhill for the Bank Holiday weekend with heavy rain by the Monday.

June was generally cool in the first half of the month, very warm in the second half. A dry moth with measurable rain on only 9 days giving a total of 17.0mm.

July was cool, dull and unsettled early and late with a hot spell during the second week. Rainfall at 78.8mm was much higher than normal, although the temperature did top the 25°C mark.

August opened in a similar vein, cool, cloudy and wet. In the late evening of 11th a thunderstorm broke which was very intense and lasted for a couple of hours. The cool cloudy weather continued for the rest of the month until the Bank Holiday weekend when it brightened up and the temperatures rose.

The warm weather continued through most of **September**, a short breakdown on 9th and 10th with thunderstorms. Towards the month end the weather became a little more changeable.

October opened with quite settled weather, but this broke down mid month and became very wet in the second half. Measurable rain fell on 14 days giving a total of 62.7mm.

The first half of **November** had above average temperatures, but the second half of the month was much colder with the first sleet and snow on 25th. Not a particularly wet month with a rainfall total of only 34.8mm

December was a generally quiet and settled month, although temperatures were a little below average. The wettest day of the month was reserved for the last day of the year when nearly an inch of rain fell. There were ground frosts on 17 night and air frosts on 6 nights. A little snow fell on the weekend before Christmas, the fifth consecutive year that there has been snowfall at that time. This boosted hopes that it would be a white Christmas, but it was not to be.

The total annual rainfall was 579.3mm. The monthly figures can be seen in Table 1.

Table 1. Monthly Rainfall (mm). Westleton. 2005.

January	28.00
February	68.0
March	35.1
April	37.3
May	49.2
June	17.0
July	78.8
August	59.7
September	58.9
October	62.7
November	34.8
December	49.8

Table 2. Selected Annual Statistics. Westleton. 2005.

Temperatures

Highest Maximum temperature	27^{0}C on 17 June
Lowest Minimum temperature	-3.7^{0}C on 4 March
Mean maximum temperature for 2005	14.1^{0}C
No. of days with air frost	22
No. of days with ground frost	64

Rainfall

Annual total	579.3mm
Wettest day	21.5mm on 30 December
No. of days rain recorded (above 0.2mm)	159

Doug Ireland

Vascular plants 2004-2005

The list represents vascular plants found in frequent visits from March to October. As in 2004, the areas covered in 2005 included heathland, scrubland, paths and sandy areas, rabbit-grazed turf, the concrete patch and the area near the lay-by off the Reckford Road.

This year has not been quite so hectic as last year, and much of the work was checking the existing plant list from 2004 and at the same time watching for any new species. Inevitably some species were missed second time round – partly because the weather was rather erratic and flowering times not easy to forecast. 16 species were added to the list (some of these quite common, such as Shepherd's Purse), bringing the combined total of the two years 2004 and 2005 to 222. The full list is given in Appendix 000.

The orchid flowered again, and when it was just at its best, someone unknown picked it so it had no chance to produce seed. It was a particularly good year for foxgloves, which occurred on many parts of the common. They made a spectacular display on the bank below Ralph's Mill.

I must thank Judy Boulanger for her help – I could not have managed without her.

Joan Westcott

Foxgloves below Ralph's Mill. *Photo Frances Berry.*

Jill Houghton an Appreciation

The Common lost a long-standing and good neighbour in 2005 on the death of Jill Houghton at the age of 85 years. Living at The Cleeves on the edge of the Common for over 50 years, Jill had a great interest in the area, and became a fund of knowledge on its wildlife and history. She played an active part in the procedures to get the Common Registered under the Commons Act. Over the years, Jill's leading roles in village and wider ranging responsibilities was legendary. The Women's Institiute, Girl Guides, the church, the village hall, the annual wild-flower festival, and the parish council all benefited from Jill's involvement.

Jill particularly enjoyed flowers, and knew when to look out for particular species and where they were to be found. As well as on the Common, she explored the flowering plants in other areas around Westleton, especially Minsmere reserve and the 'Old Football Field' on Westleton Heath. Her notes and photographs from the mid 1970s to late 1980s are a valuable 'time capsule'.

Since the purchase of the Common by the Parish Council, Jill was very supportive of the new activities, though her limited mobility prevented her from taking an active part. She was always interested in the wildlife recording and the work parties, the coffee for the first sessions being served from her garage adjoining the Common. We shall miss her wisdom and enthusiasm.

Alison Paul and Joan Westcott

Jill in 1962. *Photo Joan Westcott*

The Gorse on Westleton Common

Gorse is a major element of the vegetation of the Common, particularly south of Mill Lane. The management plan generally regards it as a bad thing and aims greatly to reduce it, allowing heather to extend its range.

Is gorse really the villain that some make it out to be? The beauty of gorse in flower is undisputed and the sweeps of golden yellow together with its musky fragrance are a joy particularly when it is in full flower in April and May, but also giving a welcome splashes of colour throughout the winter. The Common is also fortunate to have substantial stands of Western gorse (*Ulex gallii*), classed as a rare species in Suffolk.

For anyone interested in bugs and beetles gorse bushes provided a habitat for lots of interesting species, some of which have an important history in the development of the science of biological control.

A personal interest is the gorse mite (*Tetranychus lintearius*)[1], which this year (2005) started to spin its silvery web over several bushes, particularly in the southwest corner. On bright days these became covered with tiny red mites, strutting to and fro, industriously spinning or clustering around gorse spines, sucking out the sap. A period of heavy rain, at times torrential, in November, however, washed away the web entangling and killing many mites, those escaping the deluge huddled (December) in tight clusters under the gorse canopy. A severe infestation of mites can greatly weaken a gorse bush and scientists from New Zealand and other parts of the world where gorse has found a congenial home thought to use mites to control the spread of gorse onto agricultural land and into areas of native bush.

The Common was host to a Suffolk Naturalists Society Workshop about gorse, including looking at it as a habitat for various groups of animals. In spite of inclement weather, beating some gorse bushes yielded more than 20 arthropods including many interestingly marked bugs (Hemiptera). Among the beetles collected was the gorse weevil (*Apion ulicis*), another biological control pioneer, exported to New Zealand and other regions. This beetle lays its eggs in the young gorse pods where the larvae eat the seeds and then pupate within the pod, only to be released in August when the pod 'pops', flinging the weevils out with any surviving seeds. Shown to children these provided an intriguing interlude on a sunny afternoon.

One of the most beautiful of shield bugs was also common in the spring. The euphoniously named *Piezodorus lituratus* (gorse shieldbug) was seen feeding, basking and mating on the tops of bushes and some searching revealed a chain of interestingly marked barrel shaped eggs down among the gorse twigs.

Not only arthropods find sustenance in the gorse; it is also an important food source for rabbits and in places on the Common there are neat mounds and pyramids of gorse, trimmed by rabbit topiarists in their search for food.

This eulogy could continue listing spiders, moths and other organisms which depend on gorse and constantly provide interest and stimulus for the passer-by. Even in death gorse bushes are host to several higher fungi, the fruiting bodies of which give further colours to the panoply of the Common.

References.

1. Kirby E.J.M. (2005) Gorse mites and their predators. *British Wildlife* 16; 314-317..

Michael Kirby

Gorse mites

Gorse shieldbug

Gorse pod weevils

Sulphur Tuft Fungi

All photographs by Michael Kirby

`ANTLIONS – HABITAT AND HISTORY

MICHAEL KIRBY

The antlion (*Euroleon nostras*) in Britain is found almost exclusively in the Suffolk Sandlings but pre-1966 there were doubts as to whether it was a native species, breeding in the region. The habitat factors which determine its distribution and history are discussed in this paper.

Sand

The first essential for the antlion larva is free-running, fine sand. The shape of the abdomen of the larva, a backwards facing wedge and its way of walking backwards enables it to move easily beneath the surface (Kirby, 2001). Its pit in which it traps small arthropods is also dependent on the characteristics of dry sand. As the antlion larva makes its pit, sand is thrown upwards and outwards by the insect and forms a regular inverted conical pit, its sloping sides at the angle of rest (one of the earliest descriptions of pit building was by the Suffolk Naturalist, the Rev. W. Kirby (Kirby & Spence, 1826), although he did not see antlions in Britain). The sloping sides of the pit are only just stable and the slightest disturbance by an insect such as an ant running across the rim of the pit starts a mini-avalanche and it slides quickly to the bottom. The avalanche develops in the surface of the sand slope, only a few grains in depth (Daerr & Douady, 1999), so that the insect falls with only a small amount of sand which does not hinder the antlion as it seizes its prey.

Origin of the sand

Much of the Sandlings was derived from sand and gravel carried by the proto – Thames flowing from the south west (Rose, 2000). It discharged into a shallow sea where the sand and gravel was sorted and deposited as beds several metres thick. As the sea level fell during the ice ages, glaciers diverted the Thames towards its present course. The emerging land was unaffected by glaciation and no further deposits took place in much of this area; for example the topography of the Westleton Beds has not changed and can be seen at present as the rounded, gently undulating sand banks of Westleton Heath.

The newly exposed land was eventually covered by climax vegetation, covering and stabilising the sand, the type depending on the prevailing climate. Subsequently agricultural activities produced the cover of heather and grass land seen today. Where heather or grass do not cover the ground, the surface is stabilised by lichens, moss and other organisms.

The far travelled sand particles in the Sandlings deposits are mostly quartz and quartzite, polished and rounded by the process of tumbling along the river. When examined under the microscope the sand from antlion sites is seen as smoothly rounded, polished spherical grains (Fig. 1). Small angular fragments of flint and quartzite may also be present.

Fig 1. Sand grains from an antlion pit.

Antlion sites

Antlion pits are found where the sand is exposed, usually on a steeply sloping bank, such as exposed quarry faces. Here the sand is not stabilised by vegetation and is constantly renewed by erosion causing falls of fresh sand and by solitary bees and wasps making their burrows in the near vertical banks.

Pits are usually found close to the bottom of the bank or on ledges wide enough to accommodate them. They appear to favour places overhung by bushes or in some cases by a layer of glacial till which resists erosion more strongly than the sand stratum beneath. Antlion pits are also found on where a road cuts deeply into the ground and where vehicles such as large lorries or farm vehicles drive close to the side scouring out the vegetation and exposing sand.

Following the 1987 gales when many large trees were blown down, the root plate assumed an almost vertical attitude with large lumps of sandy soil adhering to the broken roots. As this weathered on ledges formed by the roots it produced suitable, but transient sites for pit building (Plant, 1998).

Site orientation

Pits occur on sunny, south facing sites. Otherwise apparently suitable places which face north or are heavily shaded are not colonised.

Sand temperatures

The temperature of the sand at the level of the antlion, about 10 mm below the surface of sand, was recorded throughout the day (Kirby, 2002). On a sunny day on a bank facing due south, with the sand darkened by an admixture of organic matter and with a slope such that that it zenith the sun's rays were almost normal to the surface, the temperature quickly rose above 50°C, possibly getting up to about 65°C. At other sites temperatures around 50°C were also recorded. Comparable measurements of temperature relations for a North American antlion gave similar results (Green, 1955). This temperature exceeds the thermal death temperature even for desert insects and the antlion retreats to deeper levels with cooler temperatures, returning as the day advances to refurbish its pits.(Because the high surface temperature hastens the rate at which the sand dries, it presumably more than compensates for discomfiture the antlion suffers causing it to move to avoid lethal temperatures.)

The temperature characteristics of south facing banks may also be involved in site selection by the egg laying imago. Eggs may be laid on north facing banks or in dense shade and not survive but it seems more likely that the imago can sense the suitability of a patch of sand. Experiments in northern Germany showed that female imagos of *Euroleon nostras* preferred artificially heated boxes of sand to lay their eggs (Yasseri & Parzefall, 1996).

Wet sand

Dry sand has extremely low strength, but when wetted becomes much stronger as a bridge of water forms between the sand particles. Thus 'small quantities of liquid dramatically change the properties of sand, leading to a large increase in the angle of repose' (Hornbaker et al., 1997). The cohesive forces are such that antlion larvae cannot move or build its pits in wet sand and are immobilised until the sand dries.

Gravimetric measurements were made to try to find out how time of year and exposure affected the rate at which sand dried but small local variations in slope and orientation and made in difficult to compare rates of drying at a site. The measurements, however, showed that on fine sunny days the sand in the antlion sites dried very quickly.

Weather

The balance between dry sand when the antlion is able to make it pits and trap prey and wet sand when it is unable to move or feed will depend on the weather. As little as 5mm of rainfall will wet sand to a depth of 100 mm, restraining the antlion just as effectively as a heavy rainfall of e.g. 25mm. Thus the number of days of rain will be a better measure of the wetting potential than rainfall amount.

The rate at which sand dries depends mainly on temperature and wind speed. It increases rapidly with increases in temperature and therefore the high surface temperatures of the sand banks favoured by antlions makes for quick drying after rain allowing them to resume activity with minimum delay. Thus hours of sunshine, rather than air (screen) temperature provides the better measure of drying potential.

Data for sunshine duration (hours) were obtained from the Meteorological Office web site (http://www.met-office.gov.uk/climate/uk/averages) which provides, for each month of the year, maps of average values for the period 1971-2000. These show that for every month from April to September (months when antlions are active) the Sandlings

region was in the highest category (Table 1) except for April when the highest values were confined to the southwest. For May (Fig. 2) and July the highest values for sunshine duration were confined, in Suffolk, to the eastern fringe only.

Table 1.Rainfall and Hours of sunshine for Cuxhaven* (N. Germany) and Lowestoft (1971-2000)

Month	Rainfall (mm)		Hours of sunshine	
	Cuxhaven	Lowestoft	Cuxhaven	Lowestoft
April	45	42	170	151-203
May	55	40	225	201-243
June	60	47	250	191-238
July	87	44	220	204-250
August	90	51	200	197-242
September	76	53	150	144-173

*from Yasseri, A.M. & Parzefall, J. (1996)

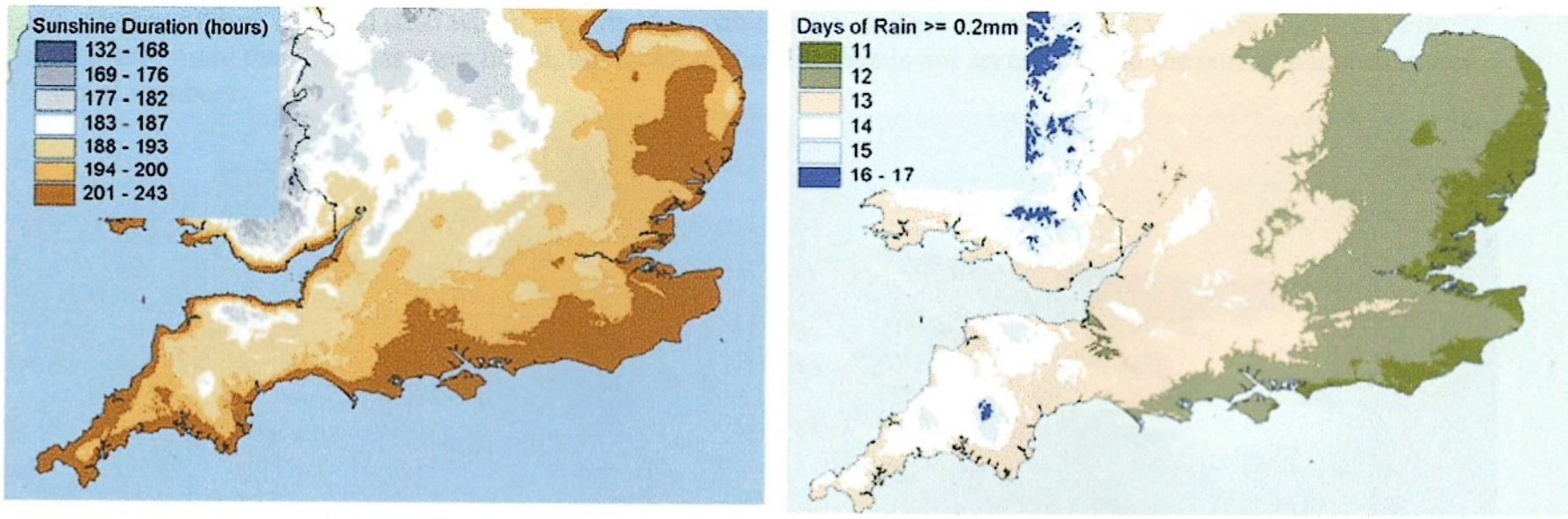

Fig. 2. Maps of averages for May, 1971-2000: LH, Sunshine Duration (hours); RH, Days of Rain >= 0.2mm.
(c) Crown copyright 2005 Published by the Met. Office

Data for rainfall (days of rain = < 0.2 mm rain) were also obtained from Meteorological Office maps. For all months (April – September) the Sandlings region was among the driest parts of the country. Except April and September there was on average more than 20 days/month with < 0.2 mm of rain. For example, in May a narrow strip along the east side of Suffolk, Essex and Kent and a few areas along the south coast of Kent had the fewest days of rain in the Britain (Fig. 2).
These data show that, from the point of view of two important weather variables, the Sandlings region provides conditions which may be critical for the antlion larva to thrive. Other regions in the south of the country have equally sunny conditions, but the combination of sunny and rain free days is found most frequently along the eastern fringe of East Anglia from the Thames estuary to Lowestoft.

Discussion

Weather data show that the Sandlings region resembles northern Germany (Table 1) where antlions (*Euroleon nostras*) are indigenous and common. Both have long rain-free sunny periods which ensure that exposed sand dries quickly and remains dry ensuring that antlion can trap sufficient prey and complete its life cycle. Both regions also have extensive deposits of sand, which, where the vegetation is stripped, make suitable sand banks for antlion larvae (Fig. 8, Yasseri. & Parzefall 1996).

Before World War II, however, they were few reports from Suffolk of sightings of antlion imagos and none of pits or larvae (Mendel, 1996; Plant, 1998). There may have been undetected breeding antlions, perhaps even since the first report in 1781 (Plant, 1998) but the absence of further reports after the interest engendered by the 1931 sighting (Doughty, 1931) and the consequent report in a local newspaper indicate that few, if any, colonies existed. Mendel (1996) lists the existence of a long established, indigenous population as the fourth option in his list of possibilities of antlion status during this period. Migration of the imago, either ship-assisted or by 'freak' weather conditions or migration establishing temporary breeding populations received a higher rating.

Not until 1994 were there the further reports of antlions. Soon after the first report substantial numbers of antlion larvae and imago is were found (Cottle, et al 1996). At this time there must have been large populations in Westleton parish, as from 1998 pits were found in all of the quarry sites as well as roadside verges and bulldozer scrapes (personal observations; Kirby, 2001)

How may this change in antlion numbers be explained? As well as favourable weather, places with exposed sand are essential and these are only found where the covering vegetation is torn away, either by some natural phenomenon or by man's activity. Before the war, a time of economic recession, there was probably little activity such as large scale quarrying or other activities which would expose sand banks With the onset of World War II there was much activity which provided suitable habitats for antlions. Defence installations along the coast such as anti-glider trenches were made on the heath, extending for considerable distances. At the same time large pits for sand and gravel extraction to were opened up to provide material for aircraft runways. Yet another factor were the gales of 1987 which blew down many trees whose up-ended root plates also provided, for a time suitable places for antlion pits.

Westleton Common is an example of the change in topography brought about by quarrying. Small sand and gravel pits marked on the 1885, 1906, and 1927 Ordnance Survey maps indicated that some sand and gravel was extracted over a long period, but probably only in small amounts for local road making and building. On the 1885 map, some are already described as 'old gravel pit' and not described in subsequent editions indicating that they had already may had been overgrown. Major work on gravel extraction started in 1940s and the site was abandoned in 1960s (Westleton parish archives). Extraction to the north of the quarry was restricted by Mill Lane, leaving sand cliffs about 10 m high (Fig. 3). Elsewhere the terrain is more or less level or with gently sloping banks, now vegetated, mainly by gorse and heather or mosses and lichens. The steep northern slopes are now partly vegetated by gorse but there are many patches of raw, exposed sand which provide ideal habitats for antlions as well as solitary wasps and bees (Fig. 3). On occasion, more than 200 pits were found, but much of the cliff face is not accessible and the counts underestimated the actual numbers.

Fig. 3. Westleton Common quarry. The LH (west) and the foreground of the photograph was excavated to a level base and has been colonised, mainly by heather. Extraction to the north was stopped by a windmill, now demolished, and the mill houses and by Mill Lane. The slope to the left of centre has been almost completely grown over by gorse. To the right of centre the slope has several areas of bare sand amongst the gorse and heather, where a large population of antlions make their pits. The slope to the far right hand (northeast) is much used by people on foot and on bicycles, steadily working sand down the slope, preventing growth of plants.
(Camera position, grid reference TM 44426 68466)

Other quarries/sand pits in the district probably have similar histories and each now has a thriving population of antlions. As well as antlion habitats the exposed steep sand banks are much used by several species of solitary wasps and bees to make nesting tunnels. More research will provide details on when they were made and how quickly they have become vegetated.

Thus the history of the antlion in Westleton parish and probably the Sandlings generally is linked with the history of man's activity.. In the first period possibly from 1781 or before until the 1940's, they were few places where the antlion could make pits and breed. During this time then there have been small, undiscovered colonies or possibly transient colonies deriving from inseminated female imagos blown across the North Sea.

Wartime activities created many more suitable sites; those like anti-glider- trenches providing routes across the heath along which the insect could spread. As the quarries fell out of use they have progressively become colonised and are major loci for antlions.

The root plate sites exposed by the gales of 1987 created new sites, many around the RSPB reserve, Minsmere where the concentration of experienced naturalists soon led to their discovery and identification (Plant, 1998). Thus although the first postwar reports were from Minsmere, this may be a secondary site rather than the primary focus, proposed by Plant who apparently did not inspect the quarries as none are listed in his paper.

What of the future? A Biodiversity Action Plan was published for the antlion in June 2003 (http://www.suffolkcc.gov.uk/e-and-t/countryside/biodiversity/action_plan/appendix1.html). In this' the local key partners are charged to monitor the populations and establish population dynamics via the Sandlings group. They are also charged with ensuring that the known sites have management plans for the species. The partners have yet to report (May 2005) and no management recommendations have been published.

By their very nature, suitable sites have only limited duration. Any remaining root plates thrown up by the gales are now washed free of sand and no longer provide sites for antlion pits. Road verges, damaged by traffic soon revert as the grass grows back. Quarries which harbour the greatest number of antlion are likely to last the longest, but ultimately the steep sand cliffs will erode, either by natural forces or by people running or cycling on them, to more gentle slopes which then become overgrown. The prospect of future commercial gravel extraction seem remote as much of the potentially suitable areas are now owned by conservation bodies. Forestry operations and land clearance often result in banks of cleared roots which are sometimes colonised and together with damage to roadside verges and similar steep banks seem to be the most likely ways in which new sites may be created. Whether these will provide sufficiently large numbers to maintain the population and how quickly and how far the adult females travel and colonise new sites is not known.

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Management Activities and Meetings 2005

Steering Group

Simon Moss	Chairman to June 2005
Doug Ireland	Chairman from June 2005
Barbara Caines	Westleton Parish Council
Peter Smith	Suffolk Coastal District Council Ranger
David Mason	Suffolk Wildlife Trust Sandlings Project Manager
David Rous	Work Party leader from June 2005

Steering group, other wildlife and regular work party contributors: John and Ann Bebbington, Renny Bell, Brian and Judy Boulanger, Chris Chambers, Antony Clough, Richard Drew, Roger and Janie Driver, Mike and Anne Follows, Vanessa Fraser, Tony and Anne Ingram, Doug and Sue Ireland, Roy Jones, Michael Kirby, Hazel Leggett, Jean Maskell, Alison Paul (Records coordinator), John and Linda Robinson, David Rous, Stan and Gwen Saunders, Ron Strowger, David Thompson, Gordon Turner, Joan Westcott, Harvey Young. Representatives from the Parish Council, Barrel Fair, Village Hall and Women's Institute.
Several others have also contributed over the year.
Refreshments provided at work parties, meetings and walks by Lis and Harvey Young, Jane and Roy Jones, Freda and David Thompson, Penny Rous, Hazel Leggett, Tony and Anne Ingram

In 2005, the Steering Group and other contributors met on 2nd February, 3rd June and 3rd August

Purchases for the Common

Seats: March 2005
Tools : Used for the first time on 7th May.
Container for tools: September 2005
Display Boards and Cycle rack – October 2005

Working parties on the Common

Led by Simon Moss (to May 2005), then David Rous (from June 2005), with input from Peter Smith, (Suffolk Coastal DC), David Mason, (Suffolk Wildlife Trust) and Doug Ireland

Saturday 15th January 2005, 10-12.30 hours
31 people continued clearing birch saplings near the track to King's Farm (WC9, Management Proposal area 15).

Saturday 5th March 2005 planned, but cancelled due to snowy weather. In early March, two new seats, constructed by Antony Clough and Brian Boulanger, were put up by them and Peter Smith. One is at the viewpoint on the top of the old sand spoil heap, the other in the flat sandy area below Ralph's Mill.

Saturday 7th May 2005, Footpath Day, 9.30-12.30 hours
14 people in three groups cut brambles from footpaths at a) entrance from car park down to the concrete patch (WC1), b) on Noddle (WC1), and c) on the northern part of the Common (WC9). The Heritage Lottery Sign near the entrance to the lay-by off Reckford Road was replaced by a smaller one. One new notice board, supplied by Suffolk Coastal DC, was put up by Simon Moss and team, near the entrance to the southern common from the car park (WC1/7). The second notice board was put up a month later near the footpath leading to King's farm at the entrance to the northern part of the common (WC8). These boards, having perspex covered opening doors, were to enable topical information to be displayed and changed frequently. Michael Kirby provided the display material (see later).

Saturday 13th August 2005, Ragwort, 10.30-12 hours
10 people pulled up ragwort from many parts of the common, particularly near the roads in the centre (WC7).

Saturday 15th October 2005, 10-12.30
14 people coppiced gorse and cut bramble near the concrete patch (WC2 , Management Proposal area 3).

Saturday 19th November 2005, 10-12.30
26 people coppiced gorse by the path from the concrete patch towards Ralph's Mill (WC2 , Management Proposal area 5).

Other Management

The bracken to the north of the old football field was sprayed by Suffolk Coastal DC contractors in August 2005 (WC9, Management Proposal area 14).
Strips were mown in the mature heather near the edges of the old football field, by Suffolk Coastal DC contractors in November 2005 (WC9, Management Proposal area 12).
The bracken near the Noddle was cut by Doug Ireland in November 2005 (WC1, Management Proposal area 1).

Other Activities

Thursday 10th February 2005. As part of a Workers Educational Association (WEA) course on The Suffolk Coast and Heaths, held in Westleton, tutor David Mason led the session on heaths. This included a site visit to the Common to look at and discuss aspects of heathland history, wildlife and management. 30 people took part.

Saturday 12th March 2005. Suffolk Naturalists Society Workshop in Westleton on The Ecology of Gorse, led by Michael Kirby. This valuable day covered taxonomy, pollination insects, insect predators, gorse mites, physiology and development, control and regeneration. A morning session of demonstrations at the Village Hall was followed by a visit to the Common to study the gorse there, including impacts of management and fires. 12 people took part.

Saturday 7th May 2005. Dawn Chorus walk starting at 5 am, led by Doug Ireland. 14 people were rewarded for the early start by a nightingale in full song at the meeting point. In all 36 species were seen or heard. Despite overcast and thundery weather, warblers and a turtle dove were singing well. Concern was being expressed that migrants were late arriving this year due to poor weather in the Mediterranean. Many tips were learned on identifying bird songs.

Friday 3rd June 2005. Evening walk planned but thwarted by thunder storm.

Saturday 18th June 2005. Suffolk Naturalists Society Workshop in Westleton on The Ecology of Silver-studded Blues, led by Rob Parker (Suffolk Butterfly Recorder). The Common is one of the best sites in Suffolk for this threatened heathland butterfly. The day provided an opportunity to learn a great deal about identification of the butterfly, its habitat requirements, distribution and how to monitor the populations. The morning in the Village Hall was followed by a walk on the Common to observe the butterfly and learn more about its habits. 25 people took part, and were also shown Ant-lions by Michael Kirby.

Friday 29th July to Monday 1st August. Westleton Village Hall Exhibition
A display of the wildlife studies and surveys, photography and management work on the Common, was set up as one of the 16 exhibitions at this Village Festival. The Common display was organised by Penny Rous, Alison Paul and David Rous.

Friday 23rd September 2005. Open Social Evening in Westleton Village Hall. Displays and discussions of the wildlife findings of the season, and microscope demonstrations of gorse mites and of galls. Also many photographs and historical maps. This was followed by refreshments, then a talk from Doug Ireland on Mute Swans, revealing many aspects of their lives and how to study them. Evening organised by Penny Rous, Alison Paul and David Rous. Microscope demonstrations by Michael Kirby.

Tuesday 27th December 2005. Post-Christmas walk, on the snow, led by Doug Ireland. Few birds were about, but several goldcrests were well seen. The walk was followed by mulled wine. 15 people took part.

Notice Boards

The notice boards, situated at the entrances to the N. and S. parts of on the Common. were used to put up mini-posters about plants and animals in season. These, illustrated by photographs, gave information about where to find them, ecological importance, history, and other background.

Topics have included, blue green algae, lichens, fungi, arthropods and mites on gorse and western gorse.

Michael Kirby has provided copies of several of the displays which were exhibited during the year. Unfortunately space does not allow us to reproduce them all ,two are shown. However we know from feedback from residents and visitors alike how much these posters have been appreciated – Ed.

Alison Paul and Michael Kirby.

Orange Lichen

Small patches of an orange lichen (*Xanthoria*) are common everywhere on stones, posts and tree branches and similar places. An elder bush near to the spoil heap (see red button on map) is, however, almost covered with the lichen so that in the late afternoon sun it positively glows as though gold ecrusted..

have been the source of a dye.

Lichens are an association between a fungus and a unicellular alga which lives within the fungus body. The fungal nature of *Xanthoria* can be seen by the fungal fruiting bodies which are formed in the middle of the lichen patches. These are orange cups with a pale rim and are lined with spore-producing sacs.

lichens and *Xanthoria* is a leafy (foliose) type. There are lichens with a crusty appearance (crustose), shrubby other forms. There are several sorts of lichen on the Common, many of which have brightly coloured parts. Many lichens

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Technical stuff
Phylum, Ascomycota (Sac fungi e.g. lichen) Class, Ascomycetes, *Xanthoria parietina*

A general account of lichens with superb colour photographs is:
Lichens byWilliam Purvis, published by the Natural History Museum (ISBN 0-565-09153-0)

Two dry-land plants

Sheeps Sorrel is an perennial forming many fine rhizomes. It creeps around making large red patches when in flower. The leaves, like those of the common Sorrel are edible but very bitter (hence its Latin name Rumex acetosella). It is very common on dry, acid, sandy soil and it is used as an indicator plant by farmers and gardeners.

Bulbous buttercup (Mill Lane, near the Noddle) grows mainly in dry grassland. It is perennial, earlier and smaller than the other meadow buttercups, distinguished by its bulbous base and reflexed petals.

Gangmasters on the Common

We read in the Press from time to time of the activities of gangmasters in distant parts like Lincolnshire recruiting migrant workers to harvest sprouts in the frosts of winter in return for pittance wages and squalid accommodation.Such happenings are far removed from rural Suffolk. Or are they?

Observant visitors to Westleton Common in recent months might have seen large gangs of workers, male and female, labouring at clearance work. These indigenous and migrant workers are cutting down birch trees, removing gorse and bramble and cutting out great swathes of bracken, risking serious injury from the huge fires they are forced to manage.

This back-breaking work is carried out under the eagle eye of the forceful gangmaster, believed to be known as "Doug". During their working day the unfortunate labourers are only allowed one short break for refreshment. The food supply is meagre and the scramble to obtain a share is furious.

The only accommodation these oppressed workers have is a freight container!

Outraged by the gross maltreatment of these poor souls a concerned resident , at great risk to himself, hid on the Common and managed to take a photograph of the appalling gangmaster. For his own safety he had to remain hidden and therefore the picture is rather obscure.

DO YOU KNOW THIS MAN? CAN YOU IDENTIFY HIM OR OFFER ANY CLUES WHICH MIGHT HELP IDENTIFY HIM? IF SO, PLEASE CONTACT THE CHAIRMAN OF THE PARISH COUNCIL IMMEDIATELY!

What exactly is going on here? What we are seeing is the enthusiastic participation by local residents in conservation work on the Common-now owned by the Village-as required by the Management Plan drawn up by the Suffolk Wildlife Trust and the Suffolk Coastal District Council. The work is labour intensive but extremely satisfying for those involved who are rewarded by the enhanced appearance of the Common-**our Common**-and the knowledge that they are preserving our very special local environment for future generations. The "gangmaster", Doug Ireland, is a key figure in this work, planning the operation and directing the volunteers. The Common Working Group is extremely fortunate to have Doug's knowledge and experience and above all his great enthusiasm to guide them in this important work.

Roy Jones

Appendix 1. Westleton Common. Birds recorded in 2005.

Cormorant	*Phalacrocorax carbo*
Grey Heron	*Ardea cinerea*
Mute Swan	*Cygnus olor*
Greylag Goose	*Anser anser*
Canada Goose	*Branta Canadensis*
Barnacle Goose	*Branta leucopsis*
Shelduck	*Tadorna tadorna*
Red Kite	*Milvus milvus*
Marsh Harrier	*Circus aeruginosus*
Hen Harrier	*Circus cyaneus*
Sparrowhawk	*Accipiter nisus*
Kestrel	*Falco tinnunculus*
Hobby	*Falco subbuteo*
Red-legged Partridge	*Alectoris rufa*
Quail	*Coturnix coturnix*
Pheasant	*Phasianus colchicus*
Oystercatcher	*Haematopus ostralegus*
Lapwing	*Vanellus vanellus*
Woodcock	*Scolopax rusticola*
Whimbrel	*Numenius phaeopus*
Curlew	*Numenius arquata*
Redshank	*Tringa totanus*
Greenshank	*Tringa nebularia*
Black-headed gull	*Larus ridibundus*
Lesser Black-backed Gull	*Larus fuscus*
Herring Gull	*Larus argentatus*
Stock Dove	*Columba oenas*
Woodpigeon	*Columba palumbus*
Collared dove	*Streptopelia decaocto*
Turtle Dove	*Streptopelia turtur*
Cuckoo	*Cuculus canorus*
Little owl	*Athene noctua*
Tawny owl	*Strix aluco*
Nightjar	*Caprimulgus europaeus*
Swift	*Apus apus*
Hoopoe	*Upupa epops*
Green Woodpecker	*Picus viridis*
Great Spotted Woodpecker	*Dendrocopus major*
Skylark	*Alauda arvensis*
Swallow	*Hirundo rustica*
House Martin	*Delichon urbica*
Meadow Pipit	*Anthus pratensis*
Grey Wagtail	*Motacill cinerea*
Pied Wagtail	*Motacilla alba yarrellii*
Waxwing	*Bombycilla garrulous*
Wren	*Troglodytes troglodytes*
Dunnock	*Prunella modularis*
Robin	*Erithacus rubecula*
Nightingale	*Luscinia megarhynchos*
Wheatear	*Oenanthe oenanthe*
Blackbird	*Turdus mercula*
Fieldfare	*Turdus pilaris*
Song Thrush	*Turdus philomelos*
Redwing	*Turdus iliacus*
Mistle Thrush	*Turdus viscivorus*

Reed Warbler	*Acrocephalus scirpaceus*
Dartford Warbler	*Sylvia undata*
Lesser Whitethroat	*Sylvia curruca*
Whitethroat	*Sylvia communis*
Garden Warbler	*Sylvia borin*
Blackcap	*Sylvia atricapilla*
Chiffchaff	*Phylloscopus collybita*
Willow Warbler	*Phylloscopus trochilus*
Goldcrest	*Regulus regulus*
Long-tailed Tit	*Aegithalos caudatus*
Marsh Tit	*Parus palustris*
Coal Tit	*Parus ater*
Blue Tit	*Parus caeruleus*
Great Tit	*Parus major*
Treecreeper	*Certhia familiaris*
Jay	*Garrulus glandarius*
Magpie	*Pica pica*
Jackdaw	*Corvus monedula*
Rook	*Corvus frugilegus*
Carrion Crow	*Corvus corone*
Starling	*Sturnus vulgaris*
Chaffinch	*Fringilla coelebs*
Greenfinch	*Carduelis chloris*
Goldfinch	*Carduelis carduelis*
Siskin	*Carduelis spinus*
Linnet	*Carduelis cannabina*
Bullfinch	*Pyrrhula pyrrhula*
Yellowhammer	*Emberiza citronella*

Appendix 2. Butterflies, Moths and Dragonflies. 2005

Butterflies

Large skipper	*Ochlodes venata*
Large White	*Pieris brassicae*
Small White	*Pieris rapae*
Green-veined White	*Pieris napi*
Orange Tip	*Anthocharis cardamines*
Purple Hairstreak	*Quercusia quercus*
Small Copper	*Lycaena phaleas*
Silver-studded Blue	*Plebejus argus*
Common Blue	*Polyommatus icarus*
Holly Blue	*Celastrina argiolus*
Red Admiral	*Vanessa atalanta*
Painted Lady	*Cynthia cardui*
Small Tortoiseshell	*Aglais urticae*
Peacock	*Inachis io*
Comma	*Polygonia c-album*
Speckled Wood	*Pararge aegeria*
Grayling	*Hipparchia semele*
Gatekeeper	*Maniola tithonus*
Meadow Brown	*Maniola jurtina*
Small Heath	*Coenonympha pamphilus*
Ringlet	*Aphantopus hyperantus*

Moths

Humming-bird Hawk Moth	*Macroglossum stellatarum*
Broad-bordered Bee Hawk Moth	*Hemaris fuciformis*
Silver Y Moth	*Autographa gamma*
Lackey Moth	*Malacosoma neustria*
Cinnabar Moth	*Tyria jacobaeae*
Lunar Yellow Underwing	*Noctua orbona*
Large Yellow Underwing	*Noctua pronuba*
Square-spot Rustic	*Xestia xanthographa*
Lunar Underwing	*Omphaloscelis lunosa*
True Lovers Knot	*Lycophotia porphyrea*
Small Magpie	*Eurrhypara hortulata*
Garden Carpet	*Xanthorhoe fluctuata fluctuata*
Silver-ground Carpet	*Xanthorhoe montanata montanata*
Buff-tip	*Phalera bucephala*
Gold Triangle	*Hypsopygia costalis*
	Pyrausat purpuralis
	Endotricha flammealis
	Pterophorus pentadactyla

Dragonflies

Emperor Dragonfly	*Anax imperator*

Appendix 3. Amphibians, reptiles and mammals recorded in 2004-2005

		2004	2005
Amphibians			
Frog	*Rana temporaria*	✔	
Reptiles			
Grass Snake	*Natrix natrix*	✔	✔
Adder	*Viperus berus*	✔	✔
Common Lizard	*Licerta vivipara*	✔	✔
Slow Worm	*Anguis fragilis*	✔	
Mammals			
Red Deer	*Cervus elaphus*	✔	✔
Muntjac Deer	*Muntiacus reevesi*	✔	✔
Fox	*Vulpia vulpia*	✔	
Rabbit	*Orytolagus cuniculus*	✔	✔
Stoat	*Mustella erminea*	✔	✔
Weasel	*Mustela nivalis*		✔
Mole	*Talpa europaea*		✔
Grey Squirrel	*Neosciurus carolinensis*	✔	✔
Common Shrew	*Sorex araneus*		✔

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Appendix 4. Vascular plants 2004-2005

* Species added in 2005

Acer pseudoplatanus		Sycamore
Achillea millefolium		Yarrow
Agrostis capillaris		Common Bent
Agrostis stolonifera		Creeping Bent
Agrostis vinealis		Brown Bent
Aira praecox		Early Hair-grass
Alliaria petiolata		Garlic Mustard
Amsinckia micrantha		Common Fiddleneck
Anacamptis pyramidalis		Pyramidal Orchid
Anagallis arvensis		Scarlet Pimpernel
Anchusa arvensis		Bugloss
Anisantha sterilis		Barren Brome
Anthoxanthum odoratum		Sweet Vernal Grass
Anthriscus caucalis		Bur Parsley (Bur Chervil)
Anthriscus sylvestris		Cow Parsley
Aphanes australis		Slender Parsley-piert
Arabidopsis thaliana		Thale Cress
Arctium minus		Lesser Burdock
Arrhenatherum elatius		False Oat-grass
Artemisia vulgaris	*	Mugwort
Arum italicum		Italian Lords-and-Ladies
Arum maculatum		Lords-and-Ladies
Ballota nigra		Black Horehound
Bellis perennis		Daisy
Betula pendula		Silver Birch
Bromus hordeaceus ssp. hordeaceus		Soft Brome
Bryonia dioica		White Bryony
Calluna vulgaris		Ling
Capsella bursa-pastoris	*	Shepherd's Purse
Cardamine hirsuta		Hairy Bittercress
Carduus nutans		Musk Thistle
Carduus tenuiflorus		Slender Thistle (Seaside Thistle)
Carex arenaria		Sand Sedge
Carex pilulifera		Pill Sedge
Castanea sativa		Sweet Chestnut
Centaurium erythraea		Common Centaury
Cerastium fontanum ssp. vulgare		Common Mouse-ear
Cerastium glomeratum		Sticky Mouse-ear
Cerastium semidecandrum		Little Mouse-ear
Ceratocapnos claviculata		Climbing Corydalis
Chaerophyllum temulentum		Rough Chervil
Chamerion angustifolium		Rosebay Willowherb
Chenopodium album		Fat-hen
Cirsium arvense		Creeping Thistle
Cirsium vulgare		Spear Thistle
Claytonia perfoliata		Spring Beauty
Claytonia sibirica		Pink Purslane
Clinopodium vulgare		Wild Basil
Conium maculatum	*	Hemlock
Consolida ajacis		Larkspur
Convolvulus arvensis		Field Bindweed
Conyza canadensis		Canadian Fleabane
Crassula tillaea		Mossy Stonecrop
Crataegus monogyna		Hawthorn
Crepis capillaris		Smooth Hawk's-beard
Crepis vesicaria		Beaked Hawk's-beard

Cynoglossum officinale		Hound's-tongue
Cytisus scoparius		Broom
Dactylis glomerata		Cock's-foot
Digitalis purpurea		Foxglove
Dryopteris dilatata		Broad Buckler-fern
Elytrigia repens		Couch Grass
Erica cinerea		Bell Heather
Erodium cicutarium		Common Stork's-bill
Erophila verna		Common Whitlowgrass
Euphorbia lathyris		Caper Spurge
Euphorbia peplus		Petty Spurge
Fallopia baldschuanica		Russian-vine
Fallopia japonica		Japanese Knotweed
Festuca ovina agg.		Sheep's Fescue
Festuca rubra agg.		Red Fescue
Filago vulgaris		Common Cudweed
Foeniculum vulgare		Fennel
Fraxinus excelsior	*	Ash
Galanthus nivalis		Snowdrop
Galium aparine		Cleavers
Galium mollugo		Hedge Bedstraw
Galium saxatile		Heath Bedstraw
Geranium dissectum		Cut-leaved Crane's-bill
Geranium molle		Dove's-foot Crane's-bill
Geranium pyrenaicum		Hedgerow Crane's-bill (Pyrenean Crane's-bill.)
Geranium robertianum		Herb Robert
Geum urbanum		Wood Avens (Herb Bennet)
Glechoma hederacea		Ground-ivy
Hedera helix		Ivy
Heracleum sphondylium	*	Hogweed
Hesperis matronalis		Dame's Violet
Holcus lanatus		Yorkshire Fog
Hordium murinum		Wall Barley
Humulus lupulus		Hop
Hyacinthoides non-scripta		Bluebell
Hypericum perforatum		Perforate St. John's-wort
Hypochaeris radicata		Cat's-ear
Ilex aquifolium		Holly
Juncus bufonius		Toad Rush
Juncus effusus		Soft Rush
Lamium album		White Dead-nettle
Lamium purpureum		Red Dead-nettle
Lapsana communis	*	Nipplewort
Leontodon autumnalis		Autumn Hawkbit
Leucanthemum vulgare	*	Ox-eye Daisy
Ligustrum vulgare		Wild Privet
Linaria vulgaris		Common Toadflax
Lonicera periclymenum		Honeysuckle
Lotus corniculatus		Common Bird's-foot-trefoil
Lunaria annua	*	Honesty
Lycopersicon esculentum		Tomato
Malus domestica		Apple
Malva moschata		Musk Mallow
Malva sylvestris		Common Mallow
Matricaria discoidea		Pineapple-weed
Medicago arabica		Spotted Medick
Melisa officinalis		Balm
Molinia caerulea		Purple Moor-grass
Montia fontana		Blinks
Myosotis arvensis		Field Forgetmenot

Myosotis discolor		Changing Forgetmenot
Myosotis ramosissima		Early Forgetmenot
Narcissus sp.		Daffodil
Odontites verna ssp. serotinus		Red Bartsia
Oenothera glazioviana		Large-flowered Evening-primrose
Ornithogallum angustifolium		Star-of-Bethlehem
Oxalis articulata		Pink-sorrel
Papaver rhoeas		Common Poppy
Papaver somniferum		Opium Poppy
Parietaria judaica		Pellitory-of-the-wall
Pentaglottis sempervirens		Green Alkanet
Phleum bertolinii		Small Cat's-tail
Picris echioides		Bristly Ox-tongue
Pilosella oficinarum		Mouse-ear Hawkweed
Plantago coronopus		Buck's-horn Plantain
Plantago lanceolata		Ribwort Plantain
Plantago major		Rat's-tail Plantain
Poa nemoralis		Wood Meadow-grass
Poa pratensis		Smooth Meadow-grass
Polypodium vulgare		Polypody
Potentilla argentea		Hoary Cinquefoil
Potentilla reptans		Creeping Cinquefoil
Primula vulgaris		Primrose
Prunella vulgaris		Selfheal
Prunus spinosa		Blackthorn
Pteridium aquilinum		Bracken
Pulicaria dysenterica		Common Fleabane
Quercus robur		Pedunculate Oak
Ranunculus bulbosus		Bulbous Buttercup
Ranunculus ficaria		Lesser Celandine
Ranunculus repens		Creeping Buttercup
Ranunculus sardous		Hairy Buttercup
Raphanus raphanistrum		Wild Radish
Reseda luteola		Weld
Ribes rubrum		Red Currant
Ribes sanguineum	*	Flowering Currant
Rosa canina		Dog Rose
Rosa pimpinellifolia		Burnet Rose ("Dunwich Rose" locally)
Rubus caesius		Dewberry
Rubus fruticosus agg.		Bramble
Rumex acetosa	*	Common Sorrel
Rumex acetosella		Sheep's-sorrel
Rumex crispus		Curled Dock
Rumex obtusifolius		Broad-leaved Dock
Sagina procumbens		Procument Pearlwort
Sagina subulata	*	Heath Pearlwort
Salix cinerea ssp. cinerea		Grey Willow
Salvia verbenaca		Wild Clary
Sambucus nigra	*	Elder
Scrophularia nodosa	*	Common Figwort
Sedum acre		Biting Stonecrop
Sedum album		White Stonecrop
Senecio jacobaea		Common Ragwort
Senecio sylvaticus		Heath Groundsel
Senecio vulgaris		Groundsel
Silene latifolia		White Campion
Silene dioica		Red Campion
Sisymbrium officinale		Hedge Mustard
Smyrnium olusatrum		Alexanders
Solanum nigrum		Black Nightshade

Sonchus asper		Prickly Sow-thistle
Sonchus oleraceus		Smooth Sow-thistle
Sorbus aucuparia		Rowan
Spurgularia rubra		Sand Spurry
Stellaria holostea	*	Greater Stitchwort
Stellaria media		Common Chickweed
Symphytum orientale		White Comfrey
Symphytum x uplandicum	*	Russian Comfrey
Tanacetum parthenium	*	Feverfew
Tanacetum vulgare		Tansy
Taraxacum officinale agg.		Dandelion
Taraxacum Sect. Erythrosperma		Lesser Dandelion
Teesdalia nudicaulis		Shepherd's Cress
Teucrium scorodonium		Wood Sage
Torilis japonica		Upright Hedge-parsley
Trifolium campestre		Hop Trefoil
Trifolium dubium		Lesser Trefoil
Trifolium glomeratum		Clustered Clover
Trifolium micranthum		Slender Trefoil
Trifolium ornithopodioides		Bird's-foot Clover (Fenugreek)
Trifolium repens		White Clover
Trifolium subterraneum		Subterranean Clover
Trifolium suffocatum		Suffocated Clover
Tripleurospermum inodorum		Scentless Mayweed
Ulex europaeus		Gorse
Ulex gallii		Western Gorse
Ulmus procera		English Elm (in hedgerow)
Umbilicus rupestris		Navelwort (Wall Pennywort)
Urtica dioica		Stinging Nettle
Urtica urens		Small Nettle
Verbascum nigrum		Dark Mullein
Verbascum thapsus		Great Mullein
Verbascum x semialbum (V.thapsus x nigrum)		Hybrid Mullein
Verbascum virgatum		Twiggy Mullein
Veronica arvensis		Wall Speedwell
Veronica chamaedrys		Germander Speedwell
Veronica hederifolia		Ivy-leaved Speedwell
Veronica persica		Common Field-speedwell
Veronica serpyllifolia		Thyme-leaved Speedwell
Vicia hirsuta		Hairy Tare
Vicia sativa ssp. nigra		Common Vetch ssp.
Vicia sativa ssp. segetalis		Common Vetch ssp.
Vinca major		Greater Periwinkle
Viola arvensis		Field Pansy
Viola riviniana		Common Dog-violet
Vulpia bromoides		Squirrel-tailed Fescue

Total number of species = 222

Appendix 5. Bryophytes and cyanobacteria recorded on Westleton Common 2004-2005

* Species added in 2005
** Species recorded on willows in the damp 'hollow', added in 2005

Mosses

Amblystegium serpens **
Aulacomnium androgynum **
Barbula convoluta
Barbula unguiculata
Brachythecium albicans
Brachythecium rutabulum
Bryoerythrophyllum recurvirostrum
Bryum argenteum
Byrum bicolor
Byrum capillare
Caliergonella cuspidata
Campylopus introflexus
Campylopus pyriformis *
Ceratodon purpureus
Dicranella heteromalla
Dicranoweisia cirrata
Dicranum majus *
Dicranum scoparium
Didymodon fallax
Eurhynchium praelongum
Funaria hygrometrica
Grimmia pulvinata
Hypnum cupressiforme
Hypnum jutlandicum
Hypnum lacunosum
Mnium hornum *
Orthodontium lineare
Orthotrichum affine
Orthotrichum anomalum
Orthotrichum diaphanum
Orthotrichum lyellii **
Plagiothecium curvifolium
Plagiothecium nemorale
Plagiothecium undulatum *
Pleurozium schreberi *
Pohlia nutans
Polytrichum formosum *
Polytrichum juniperinum
Polytrichum piliferum
Pseudocrossidium hornschuchianum
Rhynchostegium confertum
Rhytidiadelphus squarrosus
Scleropodium purum
Syntrichia intermedia
Syntrichia ruralis
Tortula muralis
Ulota bruchii **

Liverworts

Cephaloziella divaricata
Frullania dilatata **
Lophocolea bidentata
Lophocolea heterophylla
Lophocolea semiteres

Cyanobacteria (Blue-green algae)

Nostoc commune *

Appendix 6. Fungi and lichens recorded in 2004-2005

		2004	2005
Fungi			
Amanita muscaria	Fly agaric	✔	✔
Clavaria argillacea	Fairy clubs	✔	✔
Clitocybe spp	(Toadstool)	✔	✔
Flammulina velutipes	Velvet foot	✔	
Hypholoma fasciulare	Sulphur tuft		✔
Lycoperdon spp	(Puffballs)		✔
Macrolepiota procera	Parasol mushroom		✔
Phallus impudicus	Stinkhorn	✔	✔
Polypore spp	(Bracket fungus)		✔
Trametes spp	(Bracket fungus)	✔	
Lichens			
Cladonia spp		✔	✔
Xanthora parietina	An orange lichen		✔

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Appendix 7. Gals, Mites and Beetles recorded in 2005.

Antlions

Euroleon nostras	Antlion		

		2004	2005
Mites			
Tetranychus lintearius	Gorse mite	✔	✔
Willow leaf galls caused by:			
Aceria tetanothrix	A gall mite	✔	
Pontania sp.	A sawfly	✔	
Oak galls caused by gall wasps:			
Andricus fecundator	Artichoke gall	✔	✔
Andricus kollari	Marble gall	✔	✔
Andricus lignicola	Cola-nut gall	✔	✔
Andricus quercusalicis	Knopper gall	✔	✔
Biorhiza pallida	Oak apple gall	✔	
Cynips quercusfolii	Cherry gall	✔	
Neuroterus albipes	Smooth spangle gall	✔	
Neuroterus numismalis	Silk button gall	✔	
Neuroterus quercusbaccarum	Spangle gall	✔	✔
Leaf gall caused by:			
Trioza remota	A bug	✔	
Beetles and Bugs			
Coccinella 7-punctata	7-spot ladybird	✔	✔
Exochomus 4-pustulatus	Pine ladybird		✔
Stethorus punctillum	A black ladybird (on gorse)	✔	✔
Typhaeus typhoes	Minotaur beetle	✔	✔
Carabus violaceus	Violet ground beetle		✔
Piezodorus lituratus	Gorse sheildbug	✔	✔

Uncommon Invertebrate Species seen in 2004 (Nigel St John Cuming)

Philanthus triangulum. (F). Bee-wolf. Status: Formally still regarded as RDB2. but in the light of it's expansion of range this status is under revision.
Cerceris arenaria. L. Status: Locally common.
Dasypoda altercator. (Harris). Status: Nb. A mining bee.
Ectobius panzeri. Step. Lesser Cockroach. Status: Nb.
Physocephala rufipes. (F). Conopid fly. Status:Local.
Porcinolus murinus. (F). A Pill beetle. Status: Nb.
Aphanus rolandri. (L). A ground bug. Status: Na. (seen also in 2005)

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With apologies for any omissions