Westleton Common

Annual Report 2004

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Introduction

History is said to have a habit of being repeated and this is true of the management of Westleton Common. Originally a habitat created by Neolithic Man, as he worked his way from today's mainland Europe into this county. Clearing woodland and then grazing and managing the land he created what today we call the 'Suffolk Sandlings Heaths' of which 'Westleton Common' is a remaining fragment.

His descendants continued to manage the land building our village of Westleton, for which the common would have been a vital source of fuel, raw materials and grazing land for their stock, the common was even then managed by the villages for the village use, as it still is today, although we have seen in its recent history other uses for the land and its raw material.

Westleton Common like so many other local heaths fell into decline as an open Heathland, with the advent of enclosed grazing fields and other fuel sources. With its easy access of raw materials the main area of the common was quarried, removing in parts, the landscape created in the Neolithic Age. When the common no longer became viable as an economic proposition to its owners and came on the market, the village took the unique opportunity to purchase the land and recommence with its daily management.

The purchase of the common was only possible with the support of The Heritage Lottery Fund, under leadership from Mr and Mrs Caines of Westleton the residents, along with grateful assistance from Suffolk Coastal District Council (SCDC) made a successful bid and the future management was secured by a Stewardship Grant from the Department for Environment, Food and Rural Affairs (defra).

In the first year of ownership and the renewed management of the common, the parishioners of Westleton have developed a 'steering group' along with a strong support group. Although a management plan has been written by the Suffolk Sandlings Project and SCDC, little of the flora, fauna and resident wildlife was known about. The group therefore decided that in order to proceed with any future management a better understanding of the common is required and survey work commenced and continues to be undertaken using the skilled local knowledge of parishioners.

Work parties meeting on a Saturday morning have carried out manual management work, as detailed in the original management plan and after fresh survey work agreed that no unknown habitat might be destroyed in carrying out the work. As a better understanding of the common occurs with this research, the thoughts as to further management develops and will be brought forward to the steering group and funding bodies for approval.

The parishioners of Westleton are proud of the common which is open to the public, although because of its position used mainly by the village residents. The aim to maintain open access across the land and increase its value in conservation of Suffolk's wildlife remains the main objectives, owned and managed by the village. The present ownership will continue to make this land secure and safe for the future.

I am very grateful for the tremendous support which Suffolk Coastal District Council Warden Service and the Suffolk Sandlings Project managed by the Suffolk Wildlife gives us. The steering group and those other valuable interested parishioners have created a strong group and established the way forward for the common's management, in reality we have recreated what would originally have occurred when the land would have been owned by the local squire with rights to be used by the local commoners who would have managed the land in similar circumstances when Westleton Common was used not for leisure and wildlife conservation but for the need to live.

By owning our own common we will maintain the right for public access, something we see being taken away in the name of conservation in neighbouring villages and will be able to help maintain our Suffolk wildlife and landscape in the management we carry out. This village historically managed the surrounding heaths since a settlement first appeared, although during the recent century this management dwindled there is no reason why the future management should.

Simon Moss, Chair Westleton Common Steering Group 2003 – 2004

Editorial.

Welcome to the first annual report detailing the activities on Westleton Common during 2004. The Common was purchased by Westleton Parish Council in 2003 with substantial funding from the Heritage Lottery Fund. The Common has for many years been managed by Suffolk Coastal District Council under a Countryside Stewardship agreement. Many of us living in the village wanted to be involved by helping with the management of the Common, so the Parish Council set up a steering committee to help co-ordinate this enthusiasm with the District Council. It is my belief that this partnership has worked very well as I hope this report will demonstrate.

2004 was a year to take stock. In past years several individuals and staff from Suffolk Wildlife Trust had worked to produce lists of birds and flowering plants, these lists being used as a basis for drawing up the first management plan for the Common. However at the time there were constraints on peoples time to enable the knowledge base to be increased, which left a lot of gaps in our knowledge of just "what makes the Common tick." The steering committee set out to try and rectify this. So during 2004 several villagers and some from away gave freely of their time and expertise to establish a baseline of just what was on the Common. Their efforts are now allowing us to gain a better understanding of the Common and what the most important features are. So for instance we have more detailed knowledge of the breeding birds, a better idea of the butterfly population especially the nationally important silver studded blue population and a significant number of vascular plants have been added to the original list. Others have worked on lesser known orders such as mosses, liverworts, lichens, fungi and galls, all of which are important in their own way as part of the complex web of life of the Common. Full details of these findings will be found in the report and appendices, I am most grateful to all who have provided me with the information to edit into this report.

One area for which no report was received but which is very important is the establishment of a photographic record of the Common using fixed point photography techniques. We are very grateful to Michael Kirby who undertook this work and I am sure that many of you will have seen the results on display at the Westleton Wildflower Festival. All of the photographs are on a CD and a copy is held by the Village Recorder.

As the editing of the text was nearing completion I was concerned at the lack of photographs to use in the report. However I need not have worried because contributions came rolling in and I have ended up with far more that I can use in this edition. This does not mean that those I have not selected will not be used, quite the reverse because we hope that this will be the first of many reports and those photographs not used have been archived for use in the future. I would like to express my gratitude to all who submitted photographs or who agreed for archived photographs to be used. The final selection of what has been used has been mine alone and I apologise if I have not used your favourite photograph this time round.

We now look forward to 2005. We will early in the year be looking at the approved management plan in the light of what has been found, to make certain that we do not defeat our twin aims of maintaining access for all and not destroying more important elements of the flora and fauna. The management of the Common will continue, under the guidance of Suffolk Coastal District Council and Suffolk Wildlife Trust. These are marvellous social occasions where we do accomplish a lot of work, almost invariably involving a bonfire and have a magnificent coffee break provided by some of the ladies to whom we are most grateful.
There are still gaps in our knowledge that we hope to fill during the year, if you know anyone who can help please do let our chairman, Simon Moss or the Common recorder (Alison Paul) know. For my part I hope to be able to do some work on dragonflies and moths.

Doug Ireland.

List of Contributors.

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Frances Berry

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Richard Fisk

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Simon Moss

Alison Paul

David Rous

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Ron Strowger

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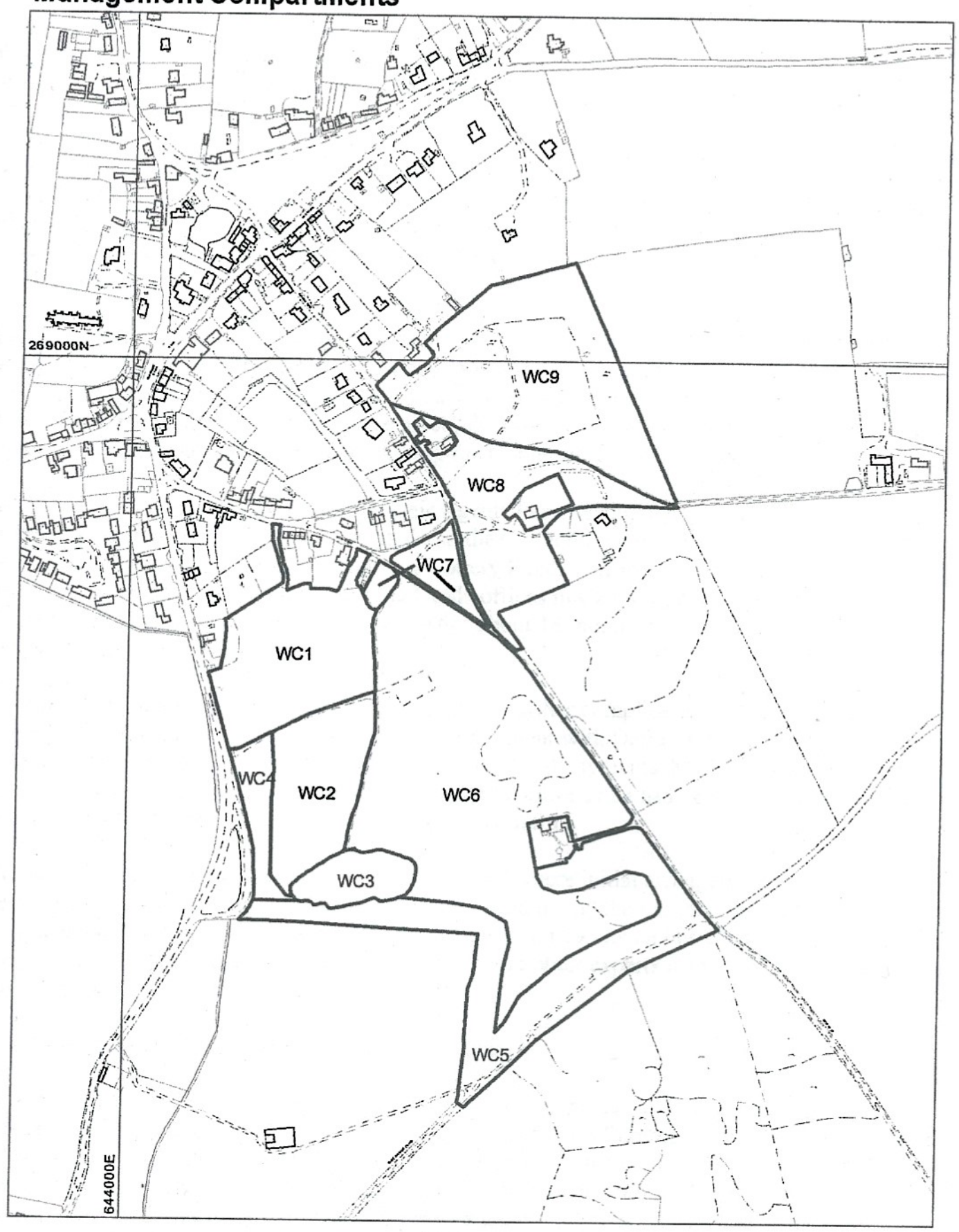
Westleton Common
Management Compartments



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Background to the Purchase of Westleton Common.

Barbara Caines who was Chair of Westleton Parish Council at the time of its purchase, and who incidentally did much of the hard work in securing the funding for the purchase, has provided some notes about the background to the purchase.

In January 2002 Ready Mixed Concrete (RMC) advertised that the Common in Westleton was for sale. The land had been used during the last war for the extraction of gravel, many of the runways on the airfields in this part of East Anglia were constructed using this material. More recently gravel extraction had ceased and the Common had been left to mother nature to repair the damage caused by the extraction.

Rumours began to circulate in the village about potential purchasers, the strongest of which was one that the area could be purchased for recreational purposes such as motor bike scrambling, which would have been detrimental to the wildlife of the area. The Parish Council were very concerned and called a Public Meeting at which many views were given, the meeting ended with agreement that the Parish Council should try and seek ways of purchasing the Common to safeguard its future.

The Parish Council offered RMC through their Agents Fenn Wright the sum of £75,000 for the purchase. After a time the offer was accepted and the Council then set about the task of trying to obtain funding for the purchase through the Heritage Lottery Fund. This involved a tremendous amount of form filling and verbal negotiations with the Funds offices in Cambridge, helped by the services of Mr D Turner from Birketts solicitors of Ipswich. After about 18 months the Council was informed that the application had been successful.

Before the negotiations and completion of purchase, a further complication arose in that it was necessary to renew the Countryside Stewardship agreement with Defra, if we had waited until the purchase was complete we would have lost the Stewardship payments. Mr John Davis from Suffolk Coastal District Council who with help from Suffolk Wildlife Trust had been managing the Common, drew up a new management plan that was accepted by defra.

In August 2003 a further public meeting was organised where initial arrangements were made so that people could be involved with helping to manage and maintain "their Common". A Steering Committee was formed and work began on the Common on 29 November 2003. Since then regular work parties have been held and several local people and other experts from Suffolk have helped us to improve our knowledge of what is on the Common.

The following Press release was issued in summer 2003:

After many years of hoping that Westleton Common would one day belong to the village, thanks to the Heritage Lottery Fund this dream has now come true. Westleton Common consists of 49 acres of gorse and heather and is a natural habitat for much wildlife, and is home to one of the largest colonies of silver studded blue butterflies in the country. The Parish Council with the help of Suffolk Wildlife Trust and the RSPB, both of whom are very keen to assist, will help with the improvement of the Common, which in recent years has been very neglected. Suffolk County Council and Suffolk Coastal District Council have been most supportive in offering financial help to cover any shortfall and have also promised to assist in the management.
During the last war thousands of tons of gravel were extracted from the Common to build runways for the many airfields in the area. It is hoped, in the years ahead to enhance the Common with footpaths, a car park, and possibly a picnic area, but much work will need to be done to clear overgrown bushes etc., with we hope volunteer labour, to encourage which, we will request the parishioners to give their ideas to improve the Common.

The Birds of Westleton Common

1. Review of 2004

The first winter period was most noticeable for the number of Woodcock that roosted on the Common. Up to 12 were seen flying off at dusk to feed on the coastal marshes. A few skeins of geese flew over, mainly Barnacle geese with amongst them a Red Breasted Goose which was presumed to be an escape from a collection.

As the Spring arrived, a few migrants were seen on the Common, the most unusual of which was a Wryneck on 18 April. Other birds seen flying over at this time included Whimbrel, Marsh Harrier, Mediterranean Gull and Curlew.

The breeding season was successful with some 40 species of bird breeding the most notable of which were Nightingale, Woodlark, Yellowhammer, Cuckoo, Turtle Dove and six species of warbler. One of the more interesting summer records was of a juvenile Nightjar flying around the Common in broad daylight on 11 August.

With the arrival of the autumn, migrants were again seen, with Hobby on a few dates in September, a female wheatear on 14 October and 23 Bewick's Swans flying over on 24 November. Later in the year, a male Hen Harrier was seen feeding over nearby fields while a group of Waxwings stayed for a short time on the Common. Even more exciting was the discovery of a Dartford Warbler, which is still present in early 2005, and a Tawny Owl holding territory as the year closed. A full list of birds recorded in 2004 can be found in Appendix 1.

2. Breeding Bird Survey.

a) Methodology

The method used was the British Trust for Ornithology (B.T.O.) Common Bird Census. All birds seen during 12 visits between mid March and mid June were noted using a standard list of symbols ie. B = Blackbird, ST = 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 if a nest was found, these were marked on the maps. All visits were made in the early morning, mostly between 6.30 am and 8.00 am, on days when the weather was good with wherever possible sunny calm days.

b) Results

A list of species maps for 2004, held by the recorder can be found in Table 1, whilst Table 2 gives details of the number of breeding territories for each species found breeding on the Common (or just off).

Table 1. List of Species Maps

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.

Table 2. Westleton Common – Territories held.

Sparrowhawk	1
Kestrel	1
Red-legged Partridge	1
Pheasant	1
Collared Dove	2
Turtle Dove	2
Cuckoo	1
Nightjar	1
Swift	1
Green Woodpecker	2
Great Spotted Woodpecker	1
Skylark	1
Woodlark	2
Pied Wagtail	1
Wren	15
Dunnock	6
Robin	12
Nightingale	8
Blackbird	8
Song Thrush	2
Mistle Thrush	2
Lesser Whitethroat	2
Whitethroat	3
Blackcap	3
Garden Warbler	4
Willow Warbler	5
Chiffchaff	9
Goldcrest	2
Blue Tit	12
Great Tit	5
Coal Tit	1
Long-tailed Tit	3
Jay	1
Magpie	4
Chaffinch	19
Greenfinch	12
Goldfinch	1
Bullfinch	2
Linnet	4
Yellowhammer	7

Woodpigeon – bred but not included in Survey.

c) Notes on some species.

Sparrowhawk and Kestrel
Seen regularly hawking over the Common but the nest was not located on the Common

Turtle Dove
Late in holding territory, at least two pairs, possibly a third

Nightjar
Breeding to the east of the Common and a single was observed just over the Common in May

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.

Swift
Many over the Common – one nest in Ralph's Mill

d) Species that bred close to the Common but that had no part of its territory on it but regularly flew over.

Oystercatcher, Shelduck, Stock Dove, Swallow, House Martin, Starling, Jackdaw, Rook, Crow

e) Species present just before the breeding season but not recorded between March and June.

Woodcock, Meadow Pipit, Siskin, Treecreeper

f) Unusual species recorded during the breeding season.

Wryneck	18 April
Mediterranean gull	19 April
Whimbrel	25 April
Marsh harrier	28 April

Richard Drew.

Mediterranean Gull *Photo Doug Ireland*

Butterflies.

Casual reports were received from several observers and their reports are incorporated in the Butterfly List in Appendix 2.

Two more detailed reports were received from Hazel Leggett and David Rous. Hazel regularly walks the Common with her dog and carried out several surveys during this activity, whilst David made a very detailed count of the silver studded blue colonies. First off we have Hazel's report:

Most incidental sightings were during dog walking and the morning sightings are generally not at an ideal time for butterflies being generally between 8.30 – 9.30 am.
Surveyed at the end of July, 13 species were recorded in seven areas of the Common, covering heather and sandy areas, tracks and perimeter hedges. Other sightings were recorded in a variety of areas regularly from April to September.

April
1 Peacock (15th, 22nd), 2 Tortoiseshell (15th), 1 Large White (16th),

May
1 Holly Blue (17th), 3 Speckled Wood (17th), 1 Large White (17th)
Several Small Coppers alongside footpaths
Towards end of May, Speckled Wood and Holly Blue in good numbers, and a few Orange Tip. 1 Green Hairstreak (seen by Richard Drew)

June
Speckled Wood, Large White and Small Coppers seen on most sunny days.
The sighting of a male Silver-studded Blue and the first Small Heath prompted a first survey, on 10th.
Weather overcast and humid with a light SW wind. 9.30 am.
2 male Silver-studded Blue on heather beside path from Ralph's Mill to Black Slough.
3 Small Coppers and 1 Small Heath. 5pm. Sunny and fresher: 3 Painted Lady, 1 Red Admiral (all rather tatty), in former council dump area. No other butterflies seen, despite an hour searching.
Others in June: 1 Painted Lady (26th)

July
29th-30th, detailed survey in 10 areas, see Table 1.
Others in July: 1 Comma (6th), 1 Ringlet (20th), 1 Grayling (31st)

August
Wet weather meant fewer than usual butterflies around
Two sunny days between thundery showers brought out good numbers on 21st & 22nd
22nd August: 2 Painted Lady on heather near Ralph's Mill, 3 Small Tortoiseshell on heather above dump, 1 Grayling near The Cleeve's garage, 1 Grayling near Ralph's Mill, several Gatekeeper and Small Copper in various areas.

September
After a wet August the first sunny days of September brought an increase in the butterflies seen.
Black Slough from the new steps to Mill Street was a good area for Small Coppers.
Large Whites commonly seen in various locations. A few Speckled Wood, sometimes a pair in combat flight. Most seen close to the knoddle on path to Little Oaks.
Occasional Grayling, Small Tortoiseshell. 1 very late Silver-studded Blue (M) below Ralph's Mill. 1 Red Admiral on track to Reckford Road.

2. Silver Studded Blue Butterflies – David Rous

At the beginning of the season I walked the entire area of the common looking for likely habitats for silver studded blues. When I first saw silver studded blues I again walked the whole of the common noting numbers and positions. From these results I divided the common up into eight areas (see Fig.1) that held the main concentrations of the silver studded blues. Having done this I made a further survey to check that no outlying colonies had been missed, but no more were found and it was obvious that the densest concentrations were in the south east corner (area 6).

From the start of the survey I tried to select warm sunny days with light winds and as far as possible keeping to the same time of day. Males and females in each area were counted using a zig-zag walking pattern so as to fully cover each area. Six weekly counts were made and the results can be found in Table 2.

The results show that the highest concentrations were found at the end of June and the beginning of July. After this there was a lot of rain which seriously affected the numbers of silver studded blues.

To ensure consistency, the 2005 counts will be made using the same techniques as 2004.

Silver studded Blue butterfly *Photo Doug Ireland*

Red Admiral butterfly *Photo Doug Ireland*

Table 1.

Butterflies, surveyed a. on 29 July 2004, 2.30 - 4.30 pm, and b. on 30 July 9.am. Sunny and hot, L to mod S/SE wind. Hazel Leggett

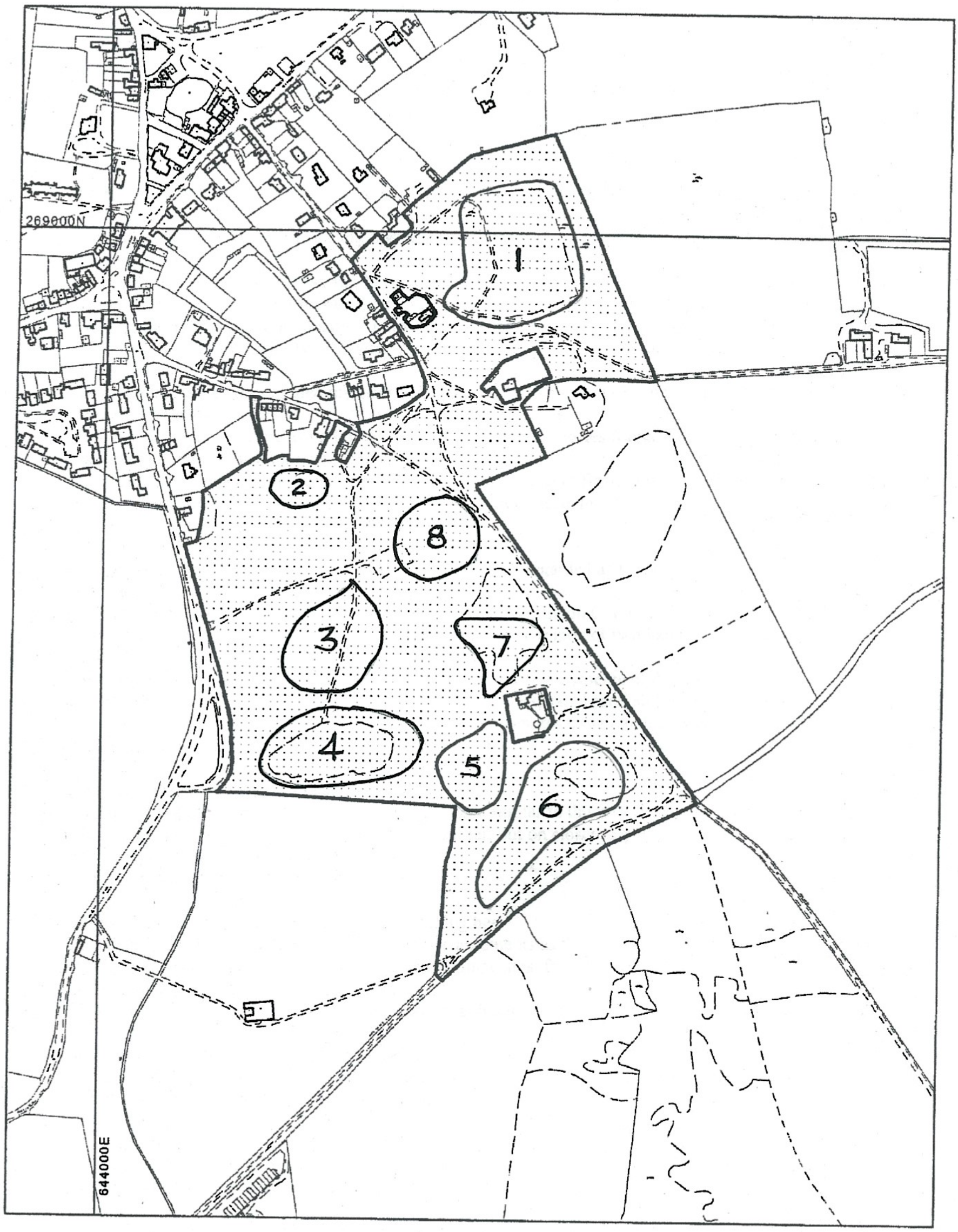
Area and Management Compartment (WC)	Gatekeeper	Meadow Brown	Small Heath	Small Copper	Large White	Speckled Wood	Holly Blue	Red Admiral	Silver-studded Blue	Wall
a. Path to knoddle from Little Oaks + knoddle (N edge WC1)	3				4	3	2	1		
a. Below knoddle to Cleeves garage + to Mill St (N edge WC1)	3	2		1	2					
a. Entrance to Ralph's Mill and steps to Black Slough* (WC5)	16	4	2	3	3				5 F 4 M	
a. Entrance to large area of sand + heather on it* (WC6)	4		1	2	2				5 M	
a. Track to Reckford Rd & former council dump (Boundary WC1/2)	8	4		2	8	1	1			
b. Black Slough from steps to Mill Rd (WC5)	3	1		6						
b. Roadside hedge back to flat-iron (NE edge WC6)	15	2			3					
b. Flat-iron + tracks near (WC7)	3				3					
b. Path to exit at King's farm footpath (Boundary WC8/9)	4		1	2	6				1 F	1 ?
b. Remainder of "Football Field" (WC9)	3	2	2	3	2				3 M 1 F	
Totals	**62**	**15**	**6**	**19**	**33**	**4**	**3**	**1**	**7 F 12 M**	**1?**

Nil for Small Tortoiseshell, Peacock, Ringlet and Comma
* Entrance where disabled access was created

Table 2. Silver Studded Blue Butterfly colony counts - Westleton Common 2004

Date	17-Jun	22-Jun	28-Jun	06-Jul	19-Jul	27-Jul
Area 1 M	6	17	41	34	12	5
Area 1 F	0	3	9	11	7	1
Area 2 M	0	3	3	3	1	0
Area 2 F	0	0	1	1	0	1
Area 3 M	18	25	39	48	17	6
Area 3 F	0	6	10	15	8	6
Area 4 M	2	3	29	22	4	1
Area 4 F	0	1	7	6	6	0
Area 5 M	17	30	38	23	4	1
Area 5 F	0	6	6	6	1	3
Area 6 M	46	47	63	61	13	2
Area 6 F	0	8	16	13	11	6
Area 7 M	11	25	37	25	9	3
Area 7 F	0	6	5	8	3	4
Area 8 M	9	15	29	15	14	2
Area 8 F	0	2	7	4	8	0
Total	**109**	**197**	**340**	**295**	**118**	**41**

FIG. 1. WESTLETON COMMON. SILVER STUDDED BLUE SURVEY - 2004



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3 APPROX. BOUNDARY OF COLONIES.

The Invertebrates of Westleton Common

A start has been made on surveying the invertebrates of the Common. Michael Kirby has made detailed studies of the ant lions (see his pictures on the following page), Minotour beetles and Galls. Nigel St John Cuming has looked at other species and his interim report is produced below.

Introduction.

During the summer of 2004, I was asked by Alison Paul to survey this area. Therefore, the records submitted do not give anything like a true picture of the Insect fauna of the common, many of the Insect species are more prolific during Spring and early Summer; so hopefully 2005 should give a clearer overall picture.
The methods I have employed, so far, have been, hand searching, sweep netting and limited vacuum sampling. In the future, if permission is granted, I would like to install some covered pitfall traps.
When an Insect has a "common name" I have included it in conjunction with it's scientific name, unfortunately, the vast majority of Insects are known only by their frequently awkward scientific names.
The area that I have concentrated my efforts, so far, is compartment WC6 on the management compartment map.
The Insects listed below are just a few of the more uncommon species found so far, and are included to help give guidelines for future management.
It is necessary to retain some voucher specimens to facilitate identification these are housed at my home address, but will be eventually be donated to Ipswich Museum.

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.
This large, rather attractive, solitary wasp is abundant on Westleton Common, I would consider that, as a conservative estimate, that there must be somewhere in the region of two hundred burrows in the sandy cliffs on the northern side of compartment WC6.
The common as it stands at present, seems to fit the habitat requirements of this species; it is thus important to maintain good expanses of bare and sparsely vegetated sand and plenty of flower rich areas for prey interception. Any management plan that promotes these conditions and holds back succession will ensure a bright future for this species.

Cerceris arenaria. L. Status: Locally common.
The habitat requirements of this solitary wasp are very similar to those of the above. At first glance this yellow and black wasp may be mistaken for the former, but on closer inspection the constrictions between the abdominal segments are very evident.
On the common in good numbers.

Dasypoda altercator. (Harris). Status: Nb. A mining bee.
This large bee species requires the same habitat requirements as the previous species.
The females need, in particular, yellow flowered Composites, from which they obtain pollen, with which they provision their nesting burrows.
In some areas this species has declined due to habitat being "tidied up" and also to succession.

Ectobius panzeri. Step. Lesser Cockroach. Status: Nb.
I have found this Insect in most areas of the common where there is Heather, Locally common on the Suffolk "Sandlings". Easily missed due to it's fast movements.

Physocephala rufipes. (F). Conopid fly. Status:Local.
I found this uncommon and unusual looking fly on one of the sandy slopes. It is parasitic on various species of Bumble bee. I have been unable to find out it's Suffolk distribution.

Porcinolus murinus. (F). A Pill beetle. Status: Nb.
This nationally notable beetle was found under a stone on the eastern sandy slope. Again, I am unsure of it's distribution in Suffolk, but this will be verified by the Suffolk Coleoptera recorder, Mr David Nash, when I have submitted the record.

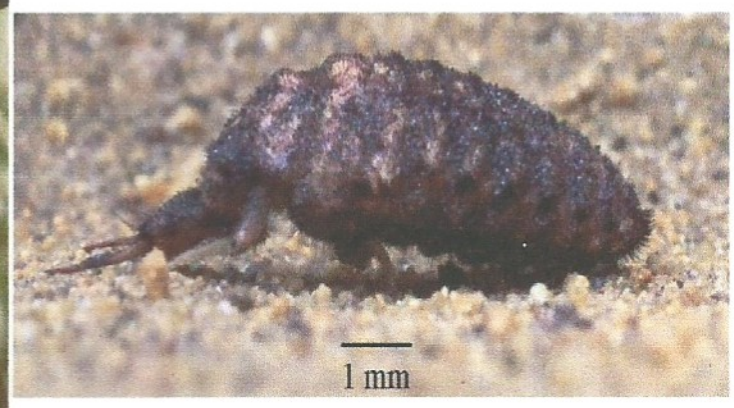
Aphanus rolandri. (L). A ground bug. Status: Na.
As far as I am aware , this is only the second Suffolk site for this very uncommon and local bug in Suffolk. The other site is on very similar habitat on Aldringham common. The examples that I found on Westleton common were found in rotten Gorse stems, on the eastern boundary of the common.

Concluding remarks.

Please accept these comments as, I hope, will be seen as encouraging and constructive.
When I originally spoke to Joan Westcott and Alison Paul, they briefly outlined the general management philosophy, and purpose of the common's future use, (A sentiment that I heartily endorse) that it will be an area that will be used by the village residents for recreational purposes.
From what I have observed during my visits the common looks fine, (The above are witness to this fact); the only word of criticism is, Please burn as little of the cut timber and vegetation as possible; try to construct "dead hedges,"etc, by doing this not only will the invertebrates that use this for undergoing their life-histories not be destroyed, but useful habitat for nesting birds be created.
I do hope that mountain bikes and motorcycles will not make too many visits to this superb area!
I will continue to survey this area and eventually a more comprehensive list of the invertebrates will materialise.

Nigel St John Cuming.

Ant Lion Pits (large and Small) *Photo Michael Kirby*



Ant Lion Imago and larvae in smaller picture *Photos Michael Kirby*

Westleton's Weather in 2004.

1. Introduction

The account that follows is taken from observations made at the Met.Office Climatological Station situated within Westleton Parish on the RSPB Minsmere reserve. Readings are taken at 09.00hrs GMT 365 days a year (366 in a leap year) and the data is sent to the Met.Office at the end of each calendar month. I have managed this station since my move to the area in late 1990, having run the Health Resort Station in Weymouth for a number of years prior to that.

I hope that a brief explanation of what happens on a daily basis may be of interest. A total of sixteen readings are taken, ten of these being temperatures. Four of the thermometers are housed in a Stevenson Screen. On opening the screen the first two thermometers to be read are the dry and wet bulb. The dry bulb records the air temperature at that time, whilst the difference between the dry and the wet bulb readings allows the relative humidity to be calculated. These readings are followed by the reading the maximum and minimum thermometers, which as their names imply show the maximum and minimum temperatures reached over the preceding 24 hours. These two thermometers are re-set and the screen is closed.
Next in line is the reading of the grass minimum thermometer which shows the minimum ground temperature over the previous 24 hours. This is followed by reading five soil thermometers set at depths of 100, 50, 30, 20 and 10 cm below ground level.
The rainfall over the previous 24 hours is then measured and measurements are taken of the wind direction and strength together with the cloud cover which is measured in octares. This just leaves the visibility and state of ground to be recorded. Visibility is based on whether fixed geographical or structural features can be seen, as an example two of our features are Sizewell A Power Station and Southwold Church. The state of the ground is as its name suggests, it is recorded whether it is wet, dry, dusty, frozen etc.
Additionally when snow falls, the depth of snow and the percentage cover is measured and recorded.

In addition to the 09.00 readings a weather diary is kept through the day and is written up using the Beaufort code letters. An example is that for 8 February 2004:

c0400 wind to 50k, ctlr$_o$s$_o$0535, c(93)0600, cpr$_o$0830, cpr$_o$s$_o$0840, cps$_o$0900, c(26)1000, c1330 wind to 40k, csh1525, c(26)1630 and all day.

Translating this shows that at 0400 a gale was blowing with winds gusting to 50 knots (force 10). At 0535 there was a thunderstorm with sleet, the thunderstorm finishing by 0600 but sleet showers continued which by 0830 had turned to rain. However at 0900 the temperature had fallen and there were snow showers until 1000. At 1330 the wind strengthened again and gusted up to 40 knots (force 9) and at 1525 there were showers of snow grains which finished at 16.30. It was then cloudy for the rest of the day.

2. Monthly weather report.

a) January

The new year opened wet and windy and this was to be the theme for most of the month. The month will probably be remembered for the events of the afternoon of 28th and the next day. Snow was forecasted by the Met.Office, I was on the north Norfolk coast at Sheringham when the sky started to turn that colour when you know that snow is imminent. I immediately set off home and arrived back just before the first snow showers started. By 1700 hours traffic in Norwich was at a standstill and a similar journey to mine from Sheringham to Beccles took nine hours later in the day.
An absolutely superb satellite picture taken late morning on the 29th and published in the Royal Meteorological Society Magazine "*Weather*" shows exactly the extent of the snow cover in England, Wales and southern Scotland. Westleton shows up white.

Measurable rain fell on 24 days giving a monthly total of 80.0mm, the wettest day being 12th with 9.3mm falling. There were three days of gales, five nights of air frost and fifteen nights of ground frost. The warmest day was 31st at 12.5°C, whilst the coldest night was 29th at -2.5°C.

b) February

Although rain fell on seventeen days, the total of 39.9mm was less that half that recorded in January. Included in this is five days when snow fell, the wettest day being 7th with 8.9mm.
The first thunder of the year occurred before dawn on 8th accompanied by sleet. There were eight nights of air frost and nine nights of ground frost, the warmest day was 4th at 17.4°C whilst the coldest night was 28th when the temperature fell to -2.5°C.

c) March

March 20th was a very bad day with storm force winds that gusted to 60 knots (violent storm) which left a lot of structural damage and brought down many trees and branches.
On the whole it was a dry month with only 29.2 mm of rain, the wettest day being 5th with 6.0mm. Rain actually fell on fourteen days plus snow on a couple of days, which did not settle, so you can see that daily amounts were small.
As we approach Spring the temperatures were slowly rising, less nights of air and ground frosts (three and eight respectively). The warmest day was 17th at 17.2°C and the coldest night was 3rd at -2.0°C.

d) April

April was generally an unsettled month, seventeen days of measurable rainfall totalling 67.4mm. The wettest day was the last day of the month with 9.4mm of rain falling.
There were no gales, no air frost and just three nights of ground frost, the coldest night being 1.0°C on 12th. The honours for being the warmest day were shared by 17th, 23rd and 24th when the temperature reached 17.3°C

e) May

The month opened with a thunderstorm at dawn on 1st. Generally a much warmer and drier month. The rainfall total was 40.7mm from nine days of rain, the wettest day being 3rd with 14.4mm.
The hottest day was 19th when the temperature peaked at 23.8°C, the coldest night being 22nd at 3.5°C.
No air or ground frosts were recorded.

f) June

On the whole June was not too bad a month. Measurable rain fell on ten days giving a total of 52.6mm, a lot of which was accounted for by thundery activity on 21st, 22nd and 23rd. 5.1mm. 19.0mm and 3.6mm fell respectively on these three days. The warmest day of the year was 14th when the thermometer rose to 27.4°C.

g) July

In contrast to June, July was a wash out. 105.4mm of rain fell on eighteen days, the wettest of which was the 7th with 22.3mm.
Temperatures were not too bad with the warmest day being 30th at 24.2°C.

h) August

August followed a similar pattern to July with 77.0mm of rainfall over seventeen days. The first cries of doom and gloom began to be heard from tourist accommodation and attractions, but fortunately the late Bank Holiday turned out to be reasonable and probably averted a catastrophe.
Not too warm either with the highest temperature being 23.7°C on 11th.

i) September

September was a lot better, as it often is. A much drier month with only 25.1mm of rainfall in total falling over nine days. Temperatures were up on July and August with the hottest day being 4th when the maximum temperature rose to 25.3°C.

j) October

So began the long run down to the shortest day. October was a 50:50 mix of dry and wet weather. 51.8mm of rainfall was recorded from sixteen days with measurable rainfall. The first ground frost of the latter part of the year was recorded on 19th. The warmest day was shared by 1st, 4th, 23rd and 24th when the temperature rose to 17.0°C

k) November

As would be expected temperatures went on a steady decline through the month. The warmest day was 3rd at 15.0°C, but there were two nights of air frost and four of ground frost, the coldest night being 21st when the temperature fell to -3.9°C.
Although measurable rain fell on fifteen days the total was only 38.3mm, 20.6mm of this falling on 18th, so minimal amounts on the other fourteen days.

l) December

December turned out to be a very dull dreary month with little sunshine or rain and very cold. Rainfall only totalled 27.0mm with 9.3mm of this falling overnight on 27th and measurable rain on another eight days.
The warmest day was 23rd at 13.3°C but this was the precursor of a very cold spell over Christmas which saw much of Scotland, north and west England and parts of Wales having a white Christmas.

3. Annual statistics.

The total rainfall for 2004 was 633.5mm. A chart of the monthly rainfall can be found in the appendices along with another showing the annual rainfall from 1991 to 2004.

You will be aware that it is predicted that the annual mean maximum temperatures are forecasted to rise as a result of global warming. I have been looking for any indication that this is happening here. In the appendices you will find a further chart showing the mean maximum temperatures for the period 1991-2004. From this I am not convinced that there is a definite upward trend, you can make up your own mind by studying the chart.

Doug Ireland MIOSH.

Photo Doug Ireland

A short history of the Common

(The Common is registered under the Commons Act 1899)

In the Westleton Tithe Map of 1840, the Common is shown as area 710, which has the same boundaries as the present site. It was used for pasture, and had no owner listed. There were a few cottages adjoining the Common, and Ralph's Mill was shown. Also adjoining the Common, the church had some allotments (where the gun club is now). The area south of the Common was heathland owned by Lord Huntingfield.

The Ordnance Survey Map of 1885 shows several gravel pits, which provided gravel for roads. Some of these pits, and others, are shown in the Ordnance Survey Maps of 1904 and 1927.

From the early 1900s to the 1940s, the Common was owned by the Lord of the Manor (Caines family), and during World War II, gravel was extracted for making airfields.

Before a mains water supply came to Westleton, families living near the Common obtained water in the summer from two 'rock-holes', which never dried up.

In World War II, the Common was used as a camp by the Army. Concrete bases for their buildings, and a well they dug, can still be seen near The Cleeves. They had a search light on the Noddle.

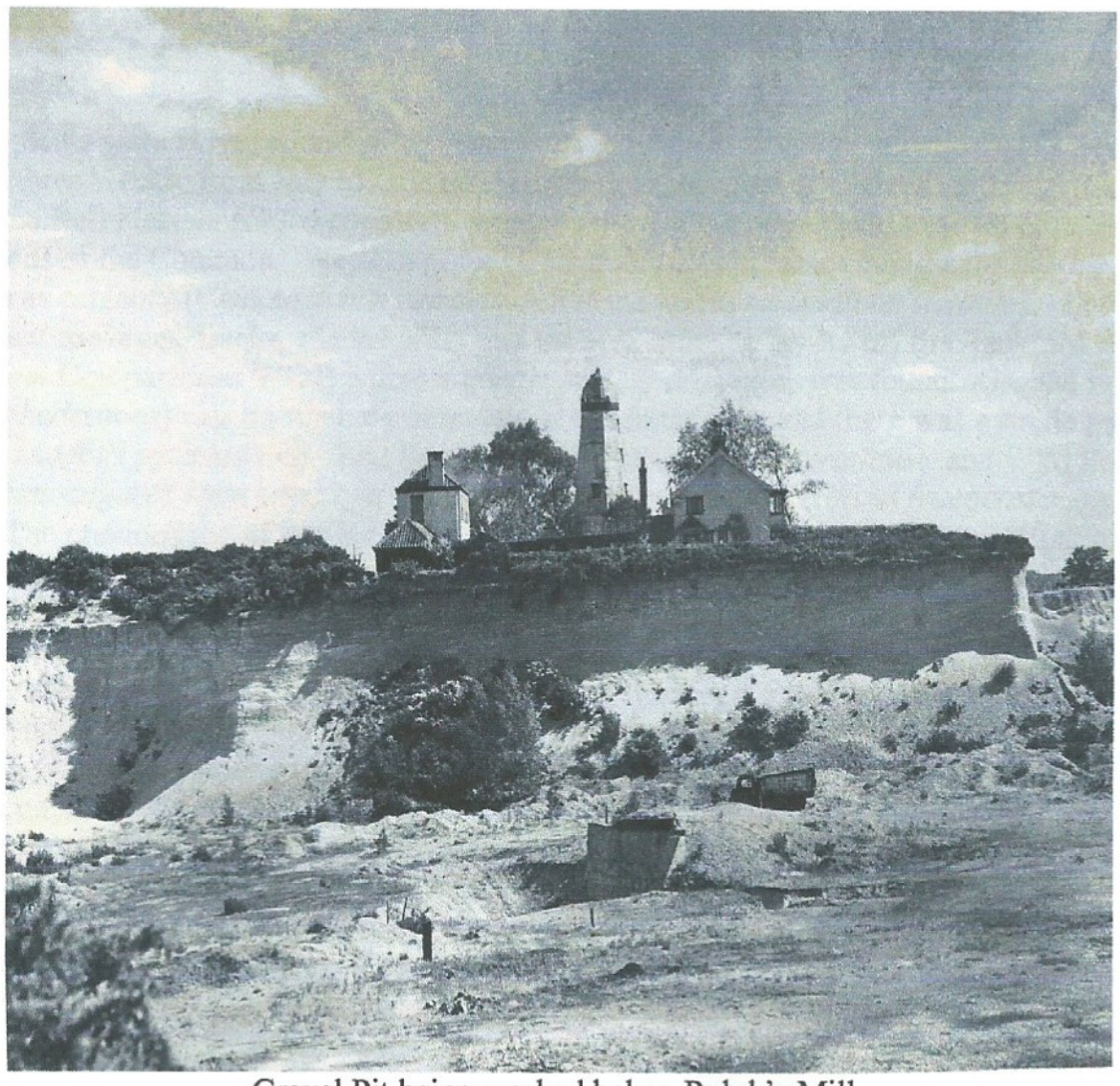
In the 1950s and 1960s, the Common was owned by a sand and gravel company, and the southern part of the Common was worked as a major gravel pit. This accounts for the steep sides to the edges of the Common, the damp areas in the centre where the washing pits were, the bank of washed sand in the southern corner and the large concrete base where the main machinery stood. In recent years, an area next to the layby on the Reckford Road was used by Suffolk County Council as a dump for soil and other road diggings. This was landscaped and made safer in January 2004.

Over 20 years ago, on the northern section of the Common, an area was cleared of gorse and set out as football field, and used regularly by small groups until the 1990s. The mowing has resulted in a good area of short heather.

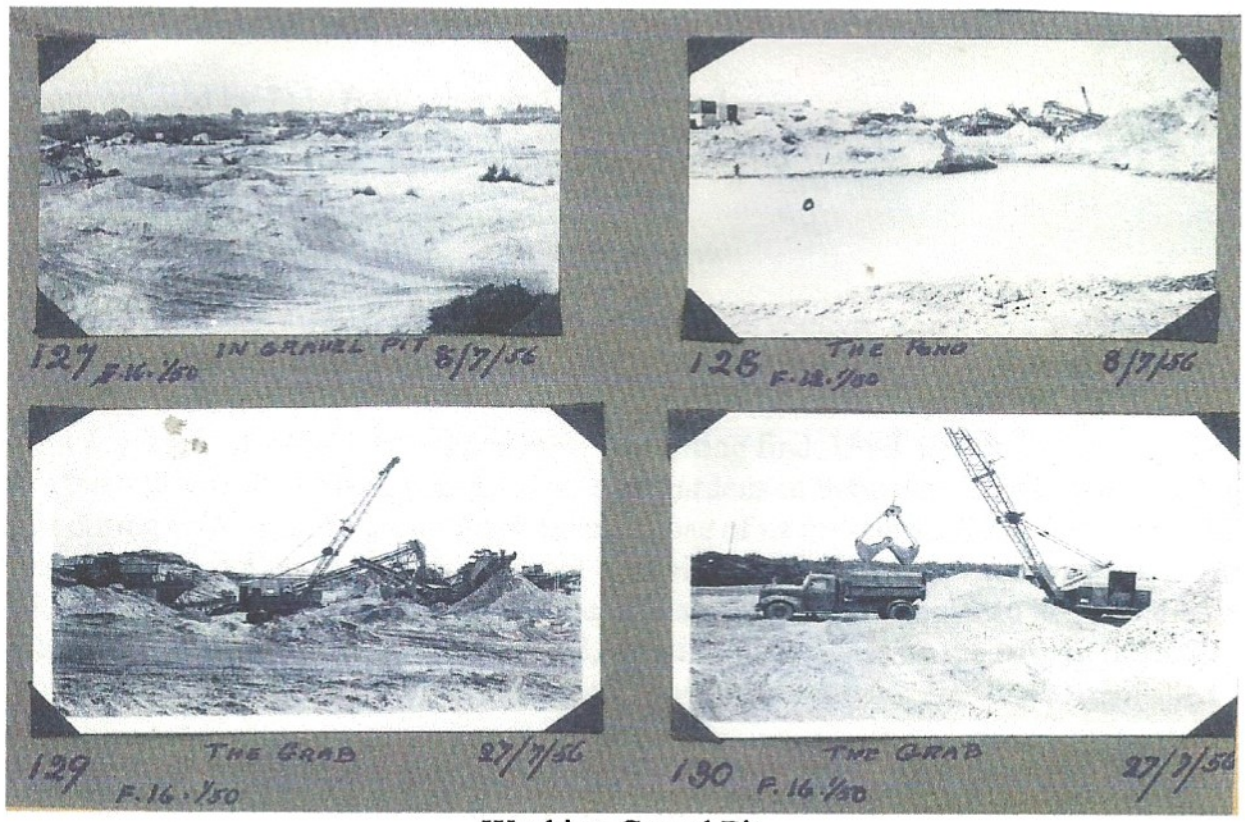
The gravel company tried unsuccessfully to reopen planning permission for more gravel extraction nearby in the 1990s. They then put the Common on the market, and it was bought by Westleton Parish Council in 2003, with the help of the Heritage Lottery Fund.

Alison Paul and Frances Berry, with the help of Ronnie Strowger, Morgan Caines, Jill Houghton and Jean Rouse.

Westleton Common from Black Slough 10 May 1993
Photo Bert Axell courtesy of Joan Westcott
(You might like to compare this photo with on the cover of this report, taken from the same position but 10 years later – Ed)



Gravel Pit being worked below Ralph's Mill.
Photo Gerry Ambridge courtesy of Frances Berry



Working Gravel Pit
Photos by Alf Fisk courtesy of Cana Turner and Frances Berry

Vascular plants

Flowering plants were surveyed in visits of one to three hours at weekly intervals from March to June, and two to three weekly from July to October. Heath flora, consisting of Heather (Ling) (*Calluna vulgaris*) and Bell Heather (*Erica cinerea*) predominated in the large clear areas on both the north and south sections of the Common. Western gorse (*Ulex galii*) was present amongst the heather, and also plants such as centaury (*Centaurium erythraea*) and heath bedstraw (*Galium saxatile*). Survey visits were frequent to verges, tracks, shaded areas and the area near the lay-by off the Reckford Road (Management Compartment WC4) where a greater variety of species was found. Ground ivy (*Glechoma hederacea*) was particularly abundant in the latter area, and there was a single pyramidal orchid (*Anacamptis pyramidalis*). Red Bartsia (*Odontites verna* ssp *serotinus*) and Wild Basil (*Clinopodium vulgare*) were other unusual finds. However, bramble (*Rubus fructicosus* agg) is re-invading. The previous use of this area by Suffolk County Council as a dump for soil and other material from roads has brought in a greater variety of species than would normally be expected for heathland flora, some of which have become established. Landscaping of this area in January 2004 resulted in a freshly disturbed area of soil. The tracksides up to the concrete base, the base itself and surrounding area, and the path up to the entrance off Mill Street also contained good numbers of species, of particular interest were Dark Mullein (*Verbascum nigrum*) and Hybrid Mullein (*Verbascum* x *semialbum* (*V.thapsus* x *nigrum*)). Blinks (*Montia fontana*) was found at the edge of a damp area beside the concrete base (GPS location 44257 68722). The short rabbit-grazed turf near the entrance off Mill Street and at the tip of the 'flat-iron' were also good areas, particularly for clovers (Management Compartment WC7). Wall Pennywort (*Umbilicus rupestris*) was also found in this area. Alexanders (*Smyrnium olusatrum*) was becoming numerous in this area and also on the soil dump (Management Compartment WC4). The Grey Willows in the centre of the Common, southern section (WC8), were all deemed to be the same subspecies (*Salix cinerea* ssp *cinerea*) despite some differences in leaf form.

A total of 206 species of vascular plants were recorded over the whole Common (see Appendix 4 for the full list). Of the 113 species listed in the Management Plan, 101 were found in 2004. Thus 105 new species were recorded.

Joan Westcott, assisted by Judy Boulanger and Alison Paul

Mosses and Liverworts.

One visit in November was made by Richard Fisk (Suffolk Bryophyte Recorder), the list of species seen is given in Appendix 5. He also has provided the following note:

The liverwort *Lophocolea semiteres* was the most interesting find. Until 1998 this was only known in Britain from the Scilly Islands and a couple of botanic gardens in Scotland. It was then found near Barton Mills during a Cambridge group meeting and those of us present realised that we had been seeing it elsewhere but not realised what it was (it is similar to *Lophocolea heterophylla*). It turns out to be fairly widespread down the East coat and scattered elsewhere. It is a southern hemisphere species and probably came with plants from New Zealand, certainly this would be the case in the Scilly Islands where other imports occur. It quite a vigorous species and is likely to become well established.

The moss *Campylopus introflexus* is another southern hemisphere species, first seen in Britain in 1941 and which spread rapidly and now dominates certain habitats like Dunwich heath and parts of Westleton Common.

Richard Fisk.

Gorse sculptured by Rabbits. *Photo Hazel Leggett*

The Knoddle, August 1993. *Photo Hazel Leggett*

Management Activities

Westleton Common is owned by Westleton Parish Council having been purchased with the help of the Heritage Lottery Fund. The common is managed by Suffolk Coastal District Council under a Coutryside Stweardship agreement with Defra.

Locally a steering group was set up consisting of members of the Parish Council, Barrel Fair, Village Hall committee and Womens Institute plus members of the local community with specialised knowledge or expertise:

Simon Moss	Chairman
Barbara Caines	
Peter Smith	Suffolk Coastal District Council Ranger
David Mason	Suffolk Wildlife Trust Sandlings Project Manager

Ann Bebbington, John Bebbington, Antony Clough, Richard Drew, Doug Ireland, Sue Ireland, Michael Kirby, Hazel Leggett, Alison Paul, David Rous, Gordon Turner, Joan Westcott, Harvey Young.

In 2004, the Steering Group met on 7th January, 17th March, 16th June, 29th September, and 6th December.

During 2004 there have been six work parties on the common led by Peter Smith (Suffolk Coastal Countryside Ranger) and David Mason (Sandlings Manager, Suffolk Wildlife Trust) and Simon Moss (Chair of Steering group).

Saturday 29th November 2003, 10-12.30 hours
35 people cleared the gorse stumps from below Ralph's Mill, these being the remnants of the fire there a few years ago (WC6, Management Proposal area 8).

Saturday 17th January 2004, 10-12.30 hours
32 people in two groups continued to clear the gorse stumps from WC6 (Management Proposal area 8), and to coppice gorse near the silver studded blue butterfly area (WC2 Management Proposal 3). Two people cleared brambles from the trackside between Bakers Lane and Mill Street (WC7).

Saturday 7th February 2004, 10-12.30 hours
30 people in two groups a) cleared willow from the small pond near the old football field (Eastern edge of WC9), b) continued to coppice gorse near the silver studded blue butterfly area (WC2 Management Proposal 3).

Saturday 17th April 2004, Footpath Day, 10-12.30 hours
20 people in four groups a) replaced the entrance posts from Mill Street (WC7), b) repaired the steps to the Black Slough (WC5), c) cleared the entrance from the layby (WC4), picked up rubbish and cut back some of the footpath from the layby to the sandy patch (WC4 to WC3).

Saturday 9th October 2004, 10-12.30
15 people cleared birch saplings near the track to King's Farm (WC9, Management Proposal area 15).

Saturday 20th November 2004, 10-12.30
22 people coppiced gorse between the Black Slough and the sandy slope (WC5, Management Proposal area 9)
Refreshments provided at work parties by Freda Thompson, Lis Young, Jane Jones and Vanessa Fraser

In all a total of 385 man hours of work for the year which is a very creditable achievement.

Other Management

The bracken was cut and litter stripped by the Suffolk Wildlife Trust in WC9, Management Proposal area 14, in early October 2004.

Other Activities

Saturday 26th June, 10am till 4pm, Suffolk Wildlife Trust Study Day 'Heathlands for Wildlife', Westleton Village Hall, 22 participants from Westleton and other parishes with heathland sites heard a variety of presentations by:

Sandlings Heathland - its value for wildlife and local communities (David Mason)
Purchase and history of the Common – Barbara Caines and Ron Strowger.
Also a display of results of the Breeding birds Survey (Richard Drew), Silver Studded Blue butterflies (David Rous), flowers (Joan Westcott), Ant-lions, Minotaur beetles (Michael Kirby), Photography (Michael Kirby) and historical documents and maps from the Westleton Village Records (Alison Paul and Frances Berry).
Case studies from members of other village commons groups in the Sandlings.

In the afternoon there was a site visit to the Common to look at and discuss aspects of heathland history, wildlife and management. Particular discussions on reptiles, ant-lions, silver-studded blue butterflies, birds and flowers.

Friday 30 July to Monday 2nd August, Westleton Village Hall Exhibition
A display of the wildlife surveys, photography and management work on the Common, set up as one of the 16 exhibitions at this Village Festival showing some of the early results from our first six months of work.

Alison Paul.

Work in full flight *Photo Alison Paul*

A welcome cup of coffee *Photo Alison Paul*

Appendix 1. Birds recorded in 2004.

Cormorant	*Phalacrocorax carbo*
Grey Heron	*Ardea cinerea*
Bewick Swan	*Cygnus columbianus*
Greylag Goose	*Anser anser*
Canada Goose	*Branta Canadensis*
Barnacle Goose	*Branta leucopsis*
Red-breasted Goose	*Branta ruficollis*
Shelduck	*Tadorna tadorna*
Marsh Harrier	*Circus aeruginosus*
Hen Harrier	*Circus cyaneus*
Sparrowhawk	*Accipiter nisus*
Kestrel	*Falco tinnunculus*
Hobby	*Falco subbuteo*
Red-legged Partridge	*Alectoris rufa*
Pheasant	*Phasianus colchicus*
Oystercatcher	*Haematopus ostralegus*
Lapwing	*Vanellus vanellus*
Woodcock	*Scolopax rusticola*
Whimbrel	*Numenius phaeopus*
Curlew	*Numenius arquata*
Mediterranean Gull	*Larus melanocephalus*
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*
Wryneck	*Jynx torquilla*
Green Woodpecker	*Picus viridis*
Great Spotted Woodpecker	*Dendrocopus major*
Woodlark	*Lullula arborea*
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*
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 Dragonflies & Moths recorded in 2004.

Large White	*Pieris brassicae*
Small White	*Pieris rapae*
Green-veined White	*Pieris napi*
Orange Tip	*Anthocharis cardamines*
Green Hairstreak	*Callophrys rubi*
Small Copper	*Lycaena phlaeas*
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*
Wall	*Lasiommata megera*
Grayling	*Hipparchia semele*
Gatekeeper	*Maniola tithonus*
Meadow Brown	*Maniola jurtina*
Small Heath	*Coenonympha pamphilus*
Ringlet	*Aphantopus hyperantus*

Dragonflies

Broad-bodied Chaser	*Libellula depressa*
Four-spotted Chaser	*Libellula quadrimaculata*
Emperor Damselfly	*Anax imperator*
Azure Damselfly	*Coenagrion puella*
Common Darter	*Sympetrum striolatum*

Moths

Silver Y	*Plusia gamma*
Lackey moth	*Malacosoma neustria*

Appendix 3. Amphibians, Reptiles and Mammals recorded in 2004.

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*
Grey Squirrel	*Neosciurus carolinensis*

Appendix 4. Flowering Plants recorded in 2004

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
Arcticum minus	Lesser Burdock
Arrhenatherum elatius	False Oat-grass
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
Cardamine hirsuta	Hairy Bitter-cress
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
Cirsium arvense	Creeping Thistle
Cirsium vulgare	Spear Thistle
Chaerophyllum temulentum	Rough Chervil
Chamerion angustifolium	Rosebay Willowherb
Chenopodium album	Fat-hen
Claytonia perfoliata	Spring Beauty
Claytonia sibirica	Pink Purslane
Clinopodium vulgare	Wild Basil
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
Galanthus nevalis	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 pyreniacum	Hedgerow Crane's-bill
Geranium robertianum	Herb Robert
Geum urbanum	Wood Avens (Herb Bennet)
Glechoma hederacea	Ground-ivy
Hedera helix	Ivy
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 aquefolium	Holly
Juncus bufonius	Toad Rush
Juncus effusus	Soft Rush
Lamium album	White Dead-nettle
Lamium purpureum	Red Dead-nettle
Leontodon autumnalis	Autumn Hawkbit
Ligustrum vulgare	Wild Privet
Linaria vulgaris	Common Toadflax
Lonicera periclymenum	Honeysuckle
Lotus corniculatus	Common Bird's-foot-trefoil
Lycopersicon esculentum	Tomato
Malus domestica	Apple
Malva moschata	Musk Mallow
Malva sylvestris	Common Mallow
Matricaria discoidea	Pine-apple-weed
Medicago arabica	Spotted Medick
Mellisa officinales	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
Rosa canina	Dog Rose
Rosa pimpinellifolia	Burnet Rose ("Dunwich Rose" locally)
Rubus caesius	Dewberry
Rubus fruticosus agg.	Bramble
Rumex acetosella	Sheep's-sorrel
Rumex crispus	Curled Dock
Rumex obtusefolius	Broad-leaved Dock
Sagina procumbens	Procument Pearlwort
Salix cinerea ssp. cinerea	Grey Willow
Salvia verbenaca	Wild Clary
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 media	Common Chickweed
Symphytum orientale	White Comfrey
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 = 206

Appendix 5. Bryophytes recorded in 2004.

Mosses

Barbula convoluta
Barbula unguiculata
Brachythecium albicans
Brachythecium rutabulum
Bryoerythrophyllum recurvirostrum
Bryum argenteum
Bryum bicolor
Bryum capillare
Caliergonella cuspidata
Campylopus introflexus
Ceratodon purpureus
Dicranella heteromalla
Dicranoweisia cirrata
Dicranum scoparium
Didymodon fallax
Eurhynchium praelongum
Funaria hygrometrica
Grimmia pulvinata
Hypnum cupressiforme
Hypnum jutlandicum
Hypnumlacunosum
Orthodontium lineare
Orthotrichum affine
Orthotrichum anomalum
Orthotrichum diaphanum
Plagiothecium curvifolium
Plagiothecium nemorale
Pohlia nutans
Polytrichum juniperinum
Polytrichum piliferum
Pseudocrossidium hornschuchianum
Rhynchostegium confertum
Rhytidiadelphus squarrosus
Scleropodium purum
Syntrichia intermedia
Syntrichia ruralis
Tortula muralis

Liverworts

Cephaloziella divaricata
Lophocolea bidentata
Lophocolea heterophylla
Lophocolea semiteres

Appendix 6. Fungi and Lichens recorded in 2004

Fungi

Flammulina velutipes	Velvet Foot
Trametes spp	(Bracket fungus)
Clitocybe spp	(Toadstool)
Clavaria argillacea	Fairy clubs
Amanita muscaria	Fly agaric
Hypholoma fasciulare	Sulphur tuft

Appendix 7. Galls, mites and Beetles

Willow leaf galls

Aceria tetanothrix
Pontia sp.

Oak galls

Andrichus fecundator	Artichoke gall
Cynips quercusfolii	Cherry gall
Neuroterus numismalis	Silk button gall
Neuroterus quercusbaccarum	Spangle gall
Neuroterus albipes	Smooth spangle gall
Andricus kollari	Marble gall
Biorhiza pallida	Oak apple gall
Andrichus lignicola	Cola-nut gall
Andrichus quercuscalicis	Knopper gall

Leaf gall

Trioza remota

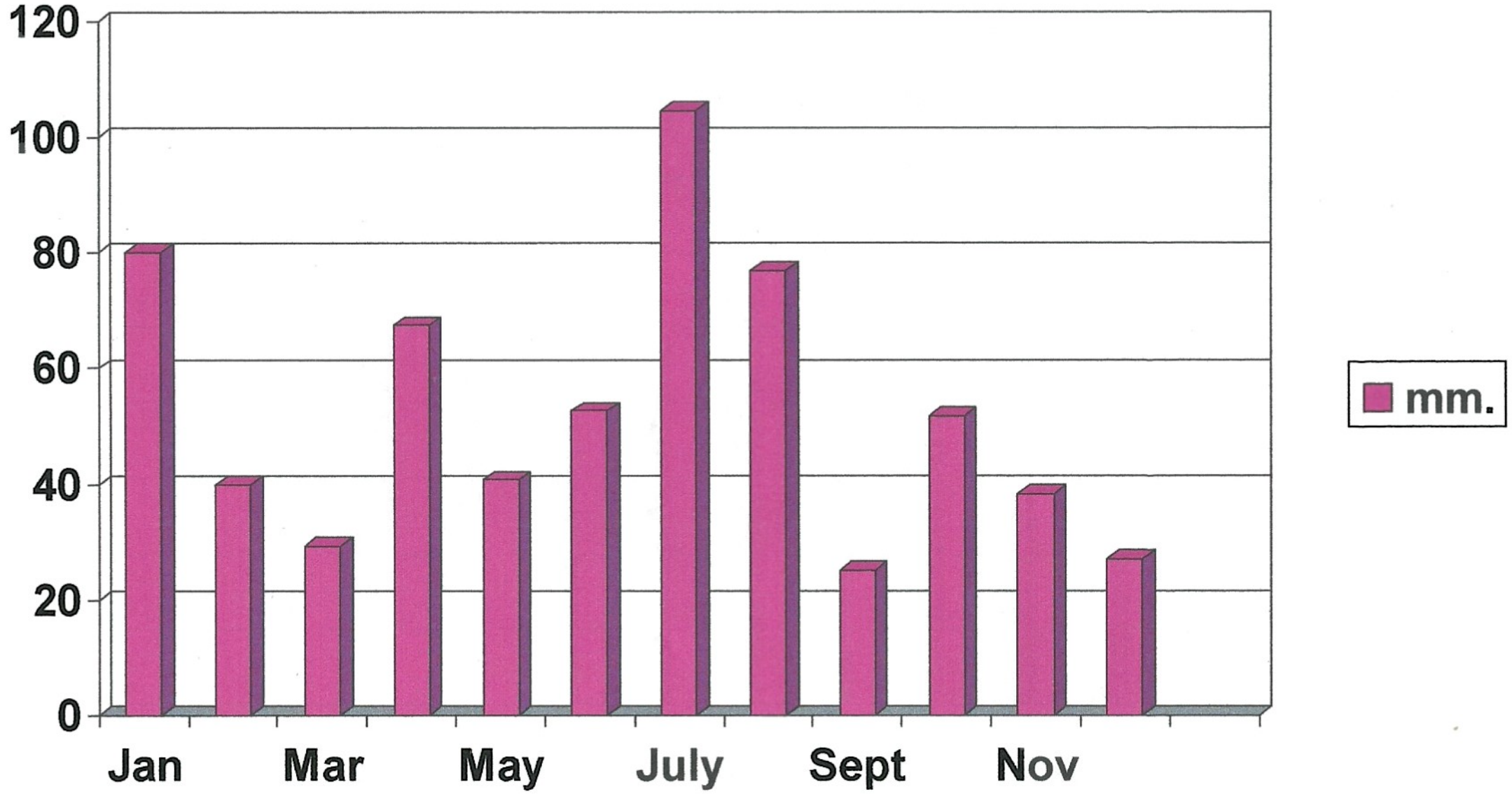
Mites

Tetranychus lintearius	Gorse mite

Beetles

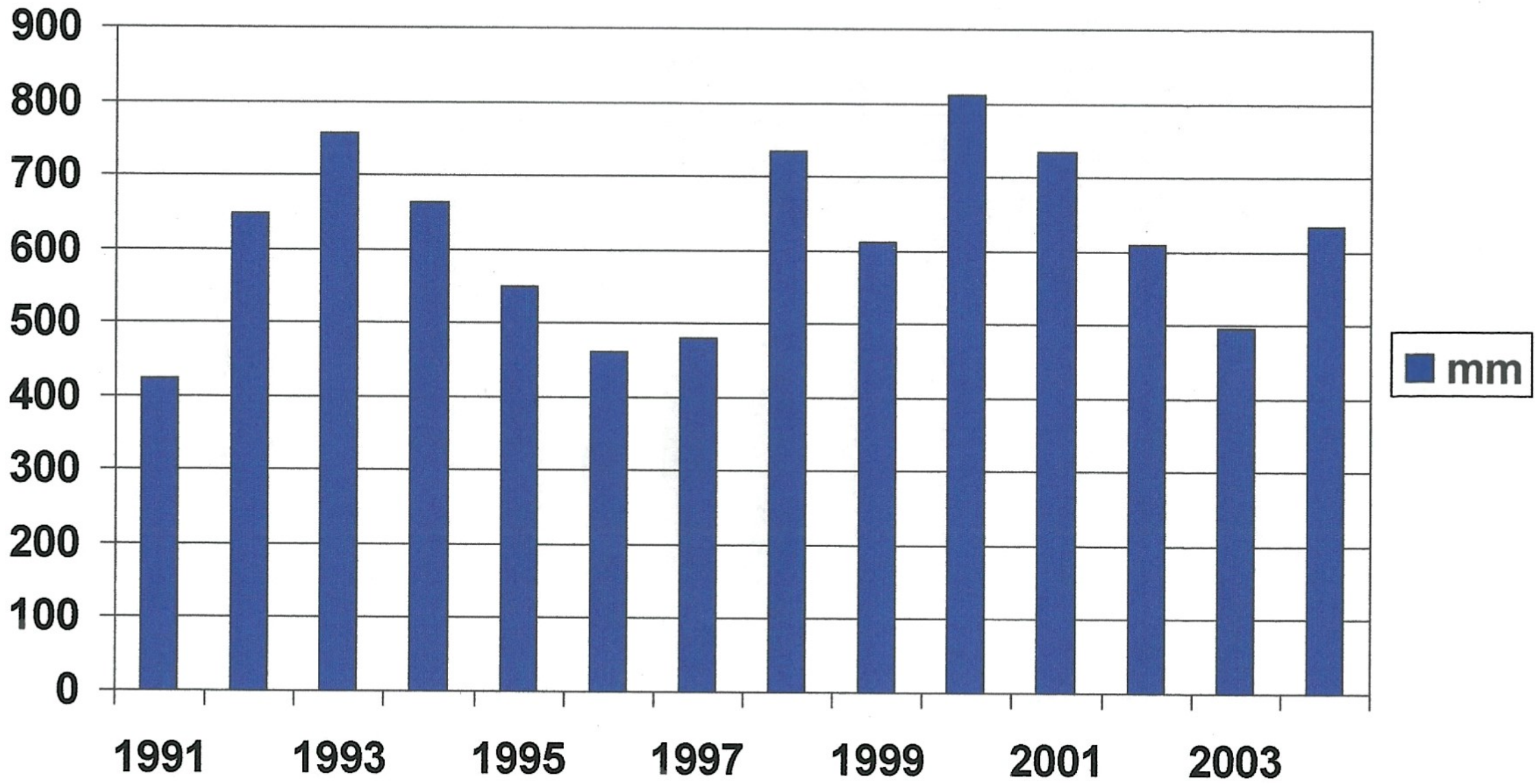
Stethorus punctillum	Ladybird
Typhaeus typhoeus	Minotaur beetle

Westleton. Rainfall 2004



Minsmere Reserve

Annual rainfall 1991 - 2004



Westleton. Mean Maximum Temperatures 1991-2004