



MOOR GREEN LAKES  
NATURE RESERVE

FOURTEENTH ANNUAL REPORT  
2006

# MOOR GREEN LAKES NATURE RESERVE

## FOURTEENTH ANNUAL REPORT: 2006

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## CHAPTER 1

### INTRODUCTION TO THE FOURTEENTH REPORT OF THE MOOR GREEN LAKES GROUP

*Peter Scott*

Our wildlife recorders have once again produced, here, a thorough overview of the reserve during 2006. On the whole it indicates that habitats on the site continue to attract large numbers of most animal groups, decreases in some species being balanced by increases in others. An exception is reptiles, which suffered a marked decrease last year. However, a single year's data is insufficient to confirm a problem, especially for animals which are not seen in large numbers at any time. A second 'poor' year would be a little worrying.

In addition to the 'usual' chapters, our annual reports sometimes include extras describing surveys that are not made every year. There are two examples in this edition. Steve Farmer describes his observations of bumblebees made last summer. It is always encouraging to find that we host species that we are, perhaps, not usually aware of. Kevin Briggs, in one of his final contributions to the group's work, carried out a common-bird-census-style survey of birds' breeding territories. Chapter 4 describes his findings. This is a survey that, ideally, should be made every 5 or 6 years. It was previously done in 2000, and comparison of the two years' results is, again, quite encouraging.

Kevin has now left the area, retiring to his native Lancashire. His varied contributions to the group since its foundation have been enormous and it will not be easy to fill all the gaps he leaves behind. Certainly, no single person can match the combination of skills and experience that he brought to his tasks: we can only cover them to the best of our joint abilities.

Another founder member who has stepped down this year is Delphine Hoyle, and the botanical report (chapter 5) will be her last. Fortunately, Delphine has agreed to assist with future plant surveys, so her expertise will not be completely lost just yet. As nobody has yet offered to act as plant recorder, I am filling the role for the time being. However, it is bad policy (for the group) to allow a situation to develop in which one person does several jobs, as replacing them when they eventually retire becomes extra difficult. So, we are in great need of one or more people to take over as plant recorder or reptile recorder.

Controlling the water level in the lakes once again proved difficult. CEMEX's clearance of the blocked outlet pipe in the south-west corner was unfortunately only temporary. That pipe has now been converted to an open culvert over much of its length, making future clearance easier. However, by the time this was done the water had been very high for several months. Not only did this reduce the area of exposed mud (beloved by wading birds), but it was also a probable cause of the fence on Tern Island being undermined by wave action. The fence has been repaired, but the 'treatment' may not be effective in the long term, so we may need to install further protection. Although the effectiveness of the fence is not certain, we believe that it should be maintained: the loss of so many gulls and terns last year through predation (see chapter 3) may have been at least partially a result of the fence failing.

Developments at Manor Farm, to the west of the current reserve, are gradually increasing in their effects on our work. In chapter 2 Sue Dent mentions some of the manual tasks carried out there, not least some initial planting of reeds to get the proposed reed bed started. Ian Brown's bird reports have included that area for some time, of course. In fact, many of the rare visitors that cause so much excitement seem to prefer the 'dereliction' of the gravel workings to the habitats we work so hard to provide! Of the two barn owl boxes installed in autumn 2005, the one on Manor Farm has so far been the more successful.

CEMEX have continued their input to the work, notably by paying for the coppicing of the perimeter woodland and by copying this report and our newsletters for us. We hope that their commitment will continue after they have finished quarrying in the area.

Finally, I would like to thank one other person for her efforts. Although she no longer appears in the list of committee members in appendix G, Chris Rose has once again collated this report, including a certain amount of retyping after my editing.

## CHAPTER 2

### **Moor Green Lakes Nature Reserve SITE MANAGEMENT REPORT APRIL 2006 TO MARCH 2007**

*Dr Sue Dent  
Countryside and Access Officer  
Blackwater Valley Countryside Partnership*

*General Site Management 2006/2007*

#### **Plantations to southern edge of reserve**

The rotational cutting of the plantation has continued, including some blocks that have never been cut and which were beginning to create a significant woodland edge to the reserve. For the second year some newly cut trees have been protected with mesh tree guards to prevent grazing by deer, and occasionally by straying cows. This seemed to work well last year, and re-growth has been strong.

#### **Scrub control**

The annual scrub and bramble control has been carried out. Stump treating the scrub around the lake edges help to keep the job manageable. The bramble remains an issue, and we are considering some limited spraying next year. This will concentrate on Tern and Plover Islands where a total clearance of vegetation is ideal. This will free up the volunteer work parties to tackle other tasks around the reserve.

#### **Grassland management**

Cattle have grazed the reserve again this year from September until December. They do an excellent job of grazing off the vegetation, but it can be very difficult to get them moved on when their job is done and before they start to poach the ground. However, the balance is still very much in favour of grazing as a method of managing the grassland areas.

#### **Islands and scrapes**

The management of Long Island has been a priority this year with a lot of bramble and scrub being cut back right across the island. A survey of the six scrapes around the island in August 2006 found that the 3 northern scrapes were quite acidic and contained little invertebrate life while the overgrown scrapes to the south supported were very diverse and provided very good invertebrate habitat. A management plan for the scrapes has been written which balances the value of the scrapes both as invertebrate habitats and as feeding places for birds.

**Tern and Plover Islands** have been mostly cleared of vegetation. After the major re-working of the Colebrook and Grove Scrapes in 2005/6 the main bunds have been cleared of vegetation to maintain them as bird feeding areas.

#### **Himalayan Balsam**

This invasive species has now extensively colonised the river corridor but not the main reserve area. Pulling and cutting the plants before flowering does seem to give an element of control and this will be continued.

#### **Water level management**

A combination of high rainfall and a blocked outlet pipe from Colebrook Lake meant that for most of this year it wasn't possible to control water levels in the lakes. However, the pipe has now been opened up into a culvert and it is hoped that this will give better control next year.

**Other reserve matters**

Two stag beetle buckets were installed as part of a project being run by the People’s Trust for Endangered Species. The buckets are filled with wood chip and provide a way of monitoring the presence of stag beetles. They will be dug up again and checked for the presence of larvae.

There is a new notice board on the path down to the hide. It was funded jointly by Wokingham District Council and Cemex.

There was some unauthorised use of the lakes for swimming in the summer, but the group was eventually deterred by being regularly told that they were not permitted.

**Conservation Volunteers**

As always, the management of the reserve is only possible because of the hard work and support of a dedicated band of volunteers, both from the Moor Green Lake Group and the Blackwater Valley Countryside Volunteers.

The Moor Green Lakes Group has been out for 7 Sundays from September to March. Overall, they have done 70 person-days of practical work, with an average of 10 people out on the Sunday Tasks. Special thanks to Peter Scott, Simon Weeks and Tim Mockridge who have led the Moor Green Lakes Group tasks this year. This has been backed up by the Blackwater Valley Tuesday group, who has done 7 tasks and 139 person-days.

Which all comes to 209 days of volunteer effort, or over £11 thousand pounds worth of work.

Extra thanks to Peter Scott who plans the practical work and makes sure that the volunteer teams know what needs doing each month, and to Simon Weeks, the Site Liaison Officer, who keeps an eye on the site on a day-to-day basis, and checks on cattle while they are on site.

**Manor Farm**

The current working site to the west of Moor Green is now being restored and much of the eastern side of the site, adjacent to Moor Green, now has its final levels and landform, including much of the new reedbed area. Two task days have been spent carrying out planting trials of reeds to find out the best way of colonising the new reedbed area. A variety of methods have been used including stem cuttings, rhizome cuttings and planting out rooted cuttings. The new plants have been surrounded by low mesh fences to protect them from feeding by geese

**Moor Green Lakes, Volunteer Tasks, Apr 06 — March 07**

		<b>Job</b>	<b>No. Vols (incl. Leader)</b>	<b>No. staff</b>	<b>Vol leader</b>
23-5-06	Tues	Manor Farm reedbed planting <ul style="list-style-type: none"> <li>• Take cuttings / root cuttings and plant</li> <li>• install netting around new planting</li> </ul> Replace gate post by Colebrook Hide	12	2	1
18-7-06	Tues	Cut and pull Himalayan balsam. Cleared from Mill Lane to Manor Farm Cut back footpath vegetation	14	1	0
10-9-06	Sun	Meadow <ul style="list-style-type: none"> <li>• Cut and raked</li> <li>• Vegetation around feeding station cleared</li> </ul> Colebrook North: install fence to protect spring Colebrook scrape <ul style="list-style-type: none"> <li>• Bunds cleared of vegetation (1/3 approx.)</li> <li>• Vegetation clearing views cut</li> </ul>	10	0	1
8-10-06	Sun	Grove scrape <ul style="list-style-type: none"> <li>• Bund cleared</li> <li>• Vegetation in front of hide cleared.</li> </ul>	10	0	1

17-10-06	Tues	Long Island • Bramble NW of island • Clear shoreline NW corner of island • Clear bramble from 20m of cut at western end	16	1	1
12-11-06	Sun	Plover Island • About 2/3 of island cleared Colebrook North • Clear leggy gorse from shore	12	1	1
21-11-06	Tues	Long Island • Bramble NW of island, continued • Burn brash • Trees cleared from NW shoreline	19	1	1
10-12-06	Sun	Tern Island • Clearance nearly completed, and vegetation removed	9	1	0
12-12-06	Tues	Colebrook Lake North • Clear bramble	20	1	1
14-1-07	Sun	Colebrook Lake North • West shore cleared & stump treated • Added to dead hedge by hide • Gorse on north meadow reduced • Fence on eastern boundary '2 repaired	15	0	1
23-1-07	Tues	Long Island • S3, trees and saplings removed, not veg on bund • N1, vegetation raked from centre, bund lowered • S1 bund stripped bare plus (not much) adjacent shore • S2 some on land side removed. • N2 bund stripped bare (not much) • N3 + N2 (acidic) cut breaks in bund and removed weed blocking entrance.	20	1	
11-2-07	Sun	Goose Island • Cleared vegetation	8	1	0
20-2-07	Tues	North of Grove Lake • Around ochre stream bramble cut and raked • Alder re-growth cut and treated. • Loafing areas cut and treated. Grove Island • Path across island cut	19	1	1
28-2-07	Thurs	Moor Green • Repairs to mink fence • Removed some grass	3	1	0
11-3-07	Sun	Grove scrape • Vegetation cleared from bund and piled on bank	6	1	0
27-3-07	Tues	Reedbed planting Manor Farm • Reeds dug from Grove scrape • Transplanted to new reedbed with protective netting Viewing slots • protected last year and put onto newly cut plants this year.	19	2	1
26-10-06	Thurs	Manor Farm • Thin and burn in northern plantations	2	1	0
30-11-06	Thurs	Manor Farm Thin and burn in northern plantations	2	1	0
22-2-07	Thurs	Manor Farm Woodland Thinning	2	1	0

	<b>Tasks</b>	<b>Staff</b>	<b>Volunteer Leaders</b>	<b>Volunteers</b>	<b>Total Volunteers</b>	<b>Average</b>
<b>Tuesdays</b>	7	10	7	132	139	19.9
<b>Sundays</b>	7	4	4	66	70	10.0
<b>Totals</b>	18	18	11	198	209	11.6
<b>Value</b>			£1,650	£9,900	£11,550	

	<b>Tasks</b>	<b>Staff</b>	<b>Volunteer Leaders</b>	<b>Volunteers</b>	<b>Total Volunteers</b>	<b>Average</b>
<b>Extras</b>	4	4	0	9	9	2.3
			£0	£450	£450	

## CHAPTER 3

### REPORT ON BIRDS 2006

*Recorder: Ian Brown*

During the year 142 species were recorded (a site record) of which 67 were present in suitable breeding habitat in the summer. This equals the previous best year (1996) for breeding species and is the second highest annual recorded total equalling the number of species recorded in 1997. These figures partly reflect habitat improvement and increased habitat diversity. Two new species was added to the site list, Red Footed Falcon and Ring-Necked Duck, bringing the total number of species recorded to 207.

In the early winter period waterfowl numbers were generally good although Wigeon were present in significantly lower numbers than usual whilst site record counts were made of Gadwall (262 in February), Pintail (10 in January), continuing the recent trend as a regular wintering species, and Shoveler (117 in March). Tufted Duck numbers also increased. Little Egrets were again regular visitors, whilst a flock of 40 Golden Plover was a site record. Barn Owls regularly used the boxes and good numbers of Brambling were present on stubble to the west. Other records included an unseasonal Redshank, and a leucistic Red Crested Pochard.

Waders began to move in early March with Curlew and Dunlin before arrivals of Little Ringed Plover and Ringed Plover (with a good showing of spring records). March ended with a flurry of good records including the first record of Sanderling for that month, a fine summer-plumage Mediterranean Gull, Little Gulls and Common Tern (second year running with March arrivals). Good birds continued into April with Osprey, several Red Kites, a singing Grasshopper Warbler, a few Whimbrels, more Little Gulls, two Arctic Terns and an exceptional passage of Wheatear with numbers peaking at nine. A winter-plumage Bar Tailed Godwit was notable since it lingered for more than a day and was seen by a number of observers, only to be surpassed in May by a fine bird in full summer plumage that frequented the pools to the west of the bridleway for four days! May is traditionally a very good month, and this year was no exception with the main highlights being a short-staying Little Tern, the first for twelve years, and a Short-Eared Owl for the second consecutive year, but both birds were only seen by single fortunate observers. Other birds included three Arctic Terns, a Black Tern, Whimbrel, Turnstone, two Sanderling, Nightjar and a record count of 94 Common Terns.

Overall, it was a very good breeding season with waders and waterfowl moderately successful, including Redshank (3 young), Lapwing and Little Ringed Plover. Tufted Duck enjoyed one of their most successful seasons with at least ten broods, whilst Gadwall, Mandarin and both grebe species reared young. Egyptian Geese were successful for the third year running rearing 14 young. Black Headed Gull and Common Tern largely failed due to predation, with mink the chief suspect. Other species that had a good breeding season either on the reserve or nearby were Little Owl, Buzzard, Hobby, Kingfisher, Grey Wagtail and Skylark. Breeding may have been attempted by Sand Martin and Red Legged Partridge, in the case of the latter the first possibility for 12 years.

Consistent with recent years July was an excellent month with bird of the year being a Red Footed Falcon (first for the site) that stayed for at least five days. The bird entertained many observers during its stay and was entirely unexpected, initially providing an identification challenge as a first-year female. Other records during the month included a pair of eclipse Garganey, a party of four Black Tailed Godwits and singleton Wood Sandpiper and Oystercatcher. August's highlights were a long-staying Spotted Redshank (most records relate to one day visits), a site record count of 12 Green Sandpipers, Ruff and Redstart. Notable autumn records were record counts of Greylag (101) and Egyptian Geese (69) at roost, a party of five Little Stints in October and a late Osprey in November.

The year ended with another site first; a female Ring-Necked Duck was present for a single day in November. This duck a vagrant from North America, spent time either side of this sighting on nearby Yateley Gravel Pits. Other records included Peregrines, Red Kite, two Smew and a site record count of Little Egret (7).



Again, my thanks go to the growing band of observers who submit records, especially including those who provide observers names on the log sheet. I would thank the small band of stalwarts covering the site on a daily basis irrespective of weather!

## CHAPTER 4

### ORNITHOLOGICAL MONITORING 2006

*Dr K B Briggs*

Ten field visits were undertaken from mid-March to mid-July, totalling 33.30 hours, to record the status and position of all birds on the reserve in 2006, using standard BTO Common Bird Census methodology. Supplementary data was added from the nest box recording visits. The field information was transcribed to species' maps, cluster analysis undertaken, territory maps were drawn and a report produced totalling 72 hours.

The results are given in Table 1, which also gives comparable figures for the 2000 survey. The conservation status of each species is also given and the change in population at Moor Green and for the southeast of England, based on the national BBS Survey. In total, 85 species were recorded, 62 were breeding and 1001 territories located and 53 definitely bred within the reserve fence.

A closer look at Table 1 shows that 13 species present in 2000 were not recorded in 2006, of which Hobby, Little Owl and Spotted Flycatcher were territorial. The converse is the addition of 12 new species for 2006, of which Greylag Goose, Egyptian Goose (both feral), Black Headed Gull (most territories), Barn Owl, Reed Warbler and Treecreeper are territorial.

Eleven species present in 2000 have changed status to territorial in 2006 (Gadwall, Teal, Snipe, Buzzard, Collared Dove, Lesser Whitethroat and Goldcrest), whilst Snow Goose, Hybrid Goose, Skylark and Starling are demoted from territorial in 2000 to present in 2006.

The report highlighted the reserve management to maintain the red and amber listed species populations, which are currently stable or increasing. Habitat management and facility provision (nest box and artificial feeding) are working well.

**Table 1**

**Bird Species and Number of Territories of Breeding Species recorded in 2006 and 2000**

Species	2006	2000	1	2	3
Little Grebe	-	P	g	-	
Great Crested Grebe	3	4	g	-	
Cormorant	P	P	A	=	
Grey Heron	P	P	g	=	+7
Mute Swan	1	1	A	=	-26
Greylag Goose	1	-	A	+	
Canada Goose	37	32	g	+	+72
Barnacle Goose	1	5	A	-	
Snow Goose	P	1	g	-	
Hybrid Goose	P	1	g	-	
Egyptian Goose	3	-	g	+	
Mandarin	8	2	g	+	
Wigeon	P	P	A	=	
Gadwall	3	P	A	+	
Teal	1	P	A	+	
Mallard	30	25	g	+	+52
Shoveler	P	P	A	=	
Tufted Duck	36	33	g	+	
Pochard	-	P	A	-	
Goldeneye	P	P	A	=	
Goosander	-	P	g	-	
Ruddy Duck	-	P	g	-	

Sparrowhawk	1	1	g	=	+9
Osprey	-	P	A	-	
Buzzard	1	P	g	+	+700
Kestrel	1	1	A	=	-17
Hobby	-	2	g	-	
Pheasant	9	3	g	+	+38
Moorhen	25	12	g	+	+11
Coot	29	28	g	+	+5
Little Ringed Plover	3	1	g	+	
Lapwing	13	11	A	+	-9
Snipe	3	P	A	+	
Green Sandpiper	P	P	A	=	
Redshank	3	2	A	+	
Red-necked Phalarope	-	P	R	-	
Greenshank	-	P	g	-	
Common Sandpiper	P	P	g	=	
Black-headed Gull	189	-	g	+	
Lesser black-backed Gull	P	-	A	-	
Common Tern	30	5	g	+	
Feral Pigeon	P	-	g	+	-7
Stock Dove	8	2	A	+	-2
Wood Pigeon	23	15	g	+	+13
Collared Dove	1	P	g	+	+38
Turtle Dove	-	P	R	-	-40
Cuckoo	P	P	A	+	-44
Barn Owl	1	-	A	=	
Little Owl	-	2	g	-	
Nightjar	P	-	R	+	
Swift	P	P	g	=	-35
Kingfisher	1	1	A	=	
Green Woodpecker	3	4	A	-	+28
Great Spotted Woodpecker	3	3	g	=	+105
Skylark	P	1	R	-	-14
Sand Martin	P	P	A	=	
Swallow	P	P	A	=	+23
House Martin	P	P	A	=	-17
Meadow Pipit	P	-	A	+	+21
Yellow Wagtail	-	P	A	-	
Grey Wagtail	P	P	A	=	
Pied Wagtail	3	4	g	-	+17
Wren	42	16	g	+	-10
Duncock	30	7	A	+	+4
Robin	38	14	g	+	+6
Redstart	P	-	A	+	
Blackbird	25	17	g	+	+4
Song Thrush	9	6	R	+	-5
Fieldfare	P	-	A	+	
Mistle Thrush	2	3	A	-	-37
Grasshopper Warbler	-	P	R	-	
Sedge Warbler	12	6	g	+	
Reed Warbler	3	-	g	+	
Lesser Whitethroat	1	P	g	+	-58
Whitethroat	34	19	g	+	+62
Garden Warbler	4	3	g	+	-12

Blackcap	17	9	g	+	+44
Chiffchaff	8	4	g	+	+3
Willow Warbler	7	5	A	+	-56
Goldcrest	11	P	A	+	+41
Spotted Flycatcher	-	1	R	-	-67
Long-tailed Tit	7	6	g	+	-22
Blue Tit	25	25	g	=	+19
Great Tit	30	16	g	+	+24
Nuthatch	1	1	g	=	+35
Treecreeper	2	-		+	+2
Jay	5	6	g	-	-28
Magpie	9	9		=	+1
Jackdaw	2	2	g	=	+30
Carrion Crow	8	7	g	+	-5
Starling	P	1	R	-	-44
Chaffinch	29	17	g	+	+12
Greenfinch	2	2	g	+	+2
Goldfinch	2	3	g	-	+4
Linnet	3	1	R	+	-24
Bullfinch	2	2	R	=	-13
Yellowhammer	1	P	R	+	-23
Reed Bunting	9	9	R	=	-1
<b>Total species present</b>	<b>85</b>	<b>86</b>			
<b>Total breeding species</b>	<b>62</b>	<b>55</b>			
<b>Number of territories</b>	<b>1001</b>	<b>429</b>			

## Key

### 1) Conservation level:

Birds listed as Birds of Conservation Concern 2002 - 2007.

Red (R) High Concern; Amber (A) Medium Concern and (g) Green Listed.

### 2) Change in population at MGL 2000 - 2006.      + increase; - decrease; = same.

3) Population changes for period 1994 - 2005 for Government Office Region Southeast. Percentage change given for species recorded in 30 or more BBS survey squares.

## CHAPTER 5

### BOTANICAL SURVEY 2006

*Dr Delphine Hoyle*

Quantitative surveys of the meadow areas on the north and west sides of Colebrook Lake North have been undertaken since 1997. Prior to that, overall records of the plants occurring on the reserve have been kept since 1992.

The method used is based on National Vegetational Classification Methodology. The 2006 survey was carried out on 24 May on the north side and on 21 June on the west side. Ten random samples (1 x 1 m) were taken five on each side. The National Grid References of these sites are as follows:

	North Side		West Side
1.	SU8057962661	6.	SU8054862596
2.	SU8062562650	7.	SU8054962580
3.	SU8067762625	8.	SU8055462541
4.	SU8076962574	9.	SU8055062516
5.	SU8083962550	10.	SU8055362483

These sites are also shown on the site map at Appendix I

In each of the sample squares the species present were identified and quantified on the abundance present -

1	<i>&lt;4 % few individuals</i>		6	26-33 %
2	<i>&lt;4 % several individuals</i>		7	34-50 %
3	<i>&lt;4 % many individuals</i>		8	51-75 %
4	4-10%		9	76-90%
5	11-25%		10	91-100%

In addition, the frequency of occurrence was also recorded –

I	1-20%	(1 in 5 Samples)
II	21-40%	(2 in 5 Samples)
III	41-60%	(3 in 5 Samples)
IV	61-80%	(4 in 5 Samples)
V	81-100%	(5 in 5 Samples)

Table A gives the frequency and abundance of the species found in the sample squares. Table B lists other species noted in the immediately surrounding areas in column B1. Two other sites were also surveyed. These were the Colebrook Cut Wood and the Corner Wood. The additional species found at these two sites are given in columns B2 and B3. Table C shows the changes in some of the predominant species between 1997 and 2006.

Black Knapweed, Lady's Bedstraw, Cut-leaved Cranesbill, Ox-eye Daisy, Lesser Stitchwort, Ribwort Plantain and Clover were all abundant this year. While Perforate St John's Wort, Sheep's Sorrel and Common Vetch were present on the north side they were not found in the squares on the west side.

Eighteen of the original sown species were found. There was little evidence of tree or shrub seedlings though brambles continue to spread in the surrounding areas but are cut back regularly. Few new plant species have been found in the last ten years.

Thanks are due to Doreen Dye, Irene Draper, Steve and Sheila Farmer and Peter Scott for their help with the main survey and to Peter Scott for the surveys of Colebrook Cut Wood and the Corner Wood.

**Table A**

LATIN NAME		COMMON NAME	COLEBROOK LAKE NORTH	
			North	West
S	<i>Achillea millefolium</i>	Yarrow	I (4)	0
	<i>Agrimonia eupatoria</i>	Agrimony	I (1)	0
S	<i>Centaurea nigra</i>	Black knapweed	IV (2-7)	V (1-7)
	<i>Cerastium fontanum</i>	Common mouse-ear	III (1-2)	III (1)
	<i>Cirsium</i>	Thistle	0	I (1)
S	<i>Daucus carota</i>	Wild carrot	II (1-3)	I (2)
	<i>Filipendula ulmaria</i>	Meadow sweet	I (5)	0
	<i>Fraxinus excelsior</i>	Ash	I (1)	0
S	<i>Galium verum</i>	Lady's bedstraw	IV (1-8)	III (2-4)
	<i>Geranium dissectum</i>	Cut-leaved cranesbill	IV (1-2)	IV (1-3)
S	<i>Hypericum perforatum</i>	Perforate St John's wort	II (4-5)	0
S	<i>Hypochoeris radicata</i>	Common cats-ear	II (2-3)	0
	<i>Lathyrus pratensis</i>	Meadow vetchling	I (1)	I (1)
	<i>Leontodon hispidus</i>	Rough hawkbit	I (1)	I (1)
S	<i>Leucanthemum vulgare</i>	Ox-eye daisy	V (2-7)	III (1-7)
S	<i>Lotus corniculatus</i>	Bird's-foot trefoil	I (8)	II (4-5)
S	<i>Medicago lupulina</i>	Black medick	III (1-3)	I (7)
	<i>Myosotis discolor</i>	Changing forget-me-not	II (3)	0
S	<i>Plantago lanceolata</i>	Ribwort plantain	V (4-7)	IV (1-6)
S	<i>Prunella vulgaris</i>	Selfheal	III (1-7)	I (2)
	<i>Quercus robur</i>	Oak seedling	I (1)	I (1)
S	<i>Ranunculus acris</i>	Meadow buttercup	II (1-3)	IV (2-4)
	<i>Ranunculus repens</i>	Creeping buttercup	0	I (2)
	<i>Rubus fruticosus</i>	Bramble	III (1-3)	0
S	<i>Rumex acetosa</i>	Common sorrel	0	V (1-3)
	<i>Rumex acetosella</i>	Sheep's sorrel	III (2-6)	0
	<i>Seneciojacobaea</i>	Ragwort	II (1)	0
	<i>Stachys officinalis</i>	Betony	I (3)	I (1)
	<i>Stellaria graminea</i>	Lesser stitchwort	III (3-4)	IV (2-7)
	<i>Taraxacum officinale</i>	Dandelion	II (1-2)	I (1)
	<i>Trifolium pratense</i>	Red clover	V (5-8)	V (1-7)
	<i>Trifolium repens</i>	White clover		II (1-2)
S	<i>Vicia sativa</i>	Common vetch	IV (1-4)	0
S	<i>Vicia hirsuta</i>	Hairy tare	0	I (1)

Note: S = Sown species

**Table B**

Plants recorded at other locations.

B1 - Outside recorded squares

B2 - Colebrook Cut wood

B3 - Corner wood

	LATIN NAME	COMMON NAME	B1	B2	B3
S	<i>Achillea millefolium</i>	Yarrow	X		
	<i>Agrimonia eupatoria</i>	Agrimony	X		
	<i>Angelica sylvestris</i>	Wild angelica			X
	<i>Arctium minus agg</i>	Lesser burdock	X		
	<i>Artemisia vulgaris</i>	Mugwort		X	X
	<i>Atriplex patula</i>	Common orache		X	
	<i>Bellis perennis</i>	Daisy	X		
S	<i>Centaurea nigra.</i>	Black knapweed			X
	<i>Cerastium fontanum</i>	Common mouse-ear	X		
	<i>Cirsium palustre</i>	Marsh thistle	X	X	X
S	<i>Daucus carota</i>	Wild carrot		X	
	<i>Digitalis purpurea</i>	Foxglove		X	
	<i>Epilobium hirsutum</i>	Greater willowherb	X		
	<i>Epilobium montanum</i>	Broad-leaved willowherb			X
	<i>Epilobium parviflorum</i>	Hoary willowherb		X	
	<i>Filago vulgaris</i>	Common cudweed	X		
S	<i>Galium aparine</i>	Cleavers	X		
	<i>Galium palustre</i>	Marsh bedstraw	X		
	<i>Geranium pratense</i>	Meadow cranesbill	X		
	<i>Gnaphalium sylvaticum</i>	Heath cudweed		X	
	<i>Heracleum sphondylium</i>	Hogweed	X		X
	<i>Hieracium pilosella</i>	Mouse-ear hawkweed	X		
S	<i>Hypericum perforatum</i>	Perforate St John's wort	X		X
S	<i>Hypochoeris radicata</i>	Common cat's ear	X	X	
S	<i>Knautia arvensis</i>	Field scabious	X		
	<i>Lapsana communis</i>	Nipplewort		X	X
	<i>Lathyrus pratensis</i>	Meadow vetchling	X		
S	<i>Leucanthemum vulgare</i>	Ox-eye daisy		X	
	<i>Lotus uliginosus</i>	Greater birdsfoot trefoil	X		
	<i>Lychnis flos-cuculi</i>	Ragged robin	X		
	<i>Lycopus europaeus</i>	Gipsywort	X		X
	<i>Lythrum salicaria</i>	Purple loosestrife	X		
	<i>Mentha aquatica</i>	Water mint	X		X
	<i>Oenanthe cracata</i>	Hemlock water dropwort	X		X
	<i>Plantago major</i>	Greater plantain		X	X
S	<i>Primula veris</i>	Cowslip	X		
	<i>Prunella vulgaris</i>	Selfheal		X	
	<i>Pulicaria dysenterica</i>	Common fleabane	X		
	<i>Quercus robur</i>	Oak seedling	X		
	<i>Rubus fruticosus</i>	Bramble		X	X
	<i>Rumex conglomeratus</i>	Clustered dock			X
	<i>Rumex crispus</i>	Curled dock	X		
	<i>Rumex obtusifolius</i>	Broad-leaved dock		X	
	<i>Rumex sanguineus</i>	Wood dock			X
	<i>Scrophularia auriculata</i>	Water figwort	X		
	<i>Senecio jacobaea</i>	Ragwort	X		

S	<i>Silene alba</i>	White campion	X		
	<i>Stachys officinalis</i>	Betony	X		
	<i>Stachys sylvatica</i>	Hedge woundwort			X
	<i>Stellaria holostea</i>	Greater stitchwort	X		
	<i>Torilis japonica</i>	Upright hedge parsley		X	X
	<i>Tragopogon pratensis</i>	Goatsbeard	X		
	<i>Urtica dioica</i>	Nettle	X	X	X
	<i>Veronica chamaedrys</i>	Germander speedwell	X		

**S = Sown species in area covered by B1 only**

**Table C Comparison of some predominant species between 1997 and 2006**

	1997		1998		1999		2000		2001	
	N side	W side	N side	W side	N side	W side	N side	W side	N side	W side
<i>Centaurea nigra</i>	V (4-5)	V (4-5)	V (1-6)	IV (1-5)			II (1-3)	V (1-7)	III (4-6)	V (5-8)
<i>Leucanthemum vulgare</i>	V (4-8)	V (3-9)	V (3-7)	IV (2-4)			V (2-8)	IV (3-5)	V (4-7)	V (1-4)
<i>Plantago lanceolata</i>	V (4-7)	V (6-8)	V (5-8)	IV (5-9)			V (1-9)	IV (5-7)	V (2-7)	V (1-8)
<i>Stellaria graminea</i>	V (2-5)	V (3-5)	V (1-5)	IV (1-5)			V (1-4)	III (1)	II (3-4)	I (3)

	2002		2003		2004		2005		2006	
	N side	W side	N side	W side	N side	W side	N side	W side	N side	W side
<i>Centaurea nigra</i>	III (1-9)	V (7-9)	IV (3-7)	V (5-7)	IV (1-5)	V (4-9)	V (1-5)	V (3-5)	IV (2-7)	V (1-7)
<i>Leucanthemum vulgare</i>	V (4-9)	IV (1-7)	V (2-9)	V (1-5)	V (4-8)	III (1-2)	V (3-6)	V (1-8)	V (2-7)	III (1-7)
<i>Plantago lanceolata</i>	V (1-9)	V (1-8)	IV (3-8)	IV (1-8)	V (1-8)	V (2-9)	V (2-5)	V (1-8)	V (4-7)	IV (1-6)
<i>Stellaria graminea</i>	IV (1-4)	III (1-5)	II (2-3)	II (1-2)	IV (1-7)	V (1-6)	V (1-4)	V (2-4)	III (3-4)	IV (2-7)



## CHAPTER 6

### REPORT ON BUTTERFLIES FOR 2006

*Recorder Sue Proudley*

No butterflies were recorded at Moor Green during February and March 2006. The first butterfly to be recorded was a Comma on 5th April. The first Brimstones, 7, were recorded on 12th April together with 6 Commas.

Despite the late start 29 Brimstones were recorded in May, which is the highest number for four years, 10 in June and 2 in July. Large White and Small White numbers were slightly up on the 2005 records but Green-veined Whites were lower. Only 27 Orange-tips were recorded in May.

Very few Small, Essex and Large Skippers were recorded.

Speckled Wood butterflies did not do as well this year peaking at 30 in September. Meadow Brown, Gatekeeper and Ringlet numbers were one third of those recorded in 2005.

3 Green Hairstreaks were recorded in both April and May, 3 Purple Hairstreaks in August only one Small Copper was found in June and again in August. Holly Blues were recorded each month from April to August the highest number being 4 in May.

6 Common Blue butterflies were seen in August.

Small Tortoiseshells remain scarce. The highest number recorded was 6 in May. Peacocks did little better. Red Admirals showed well from May until October. Commas were also more abundant than in 2005 with 24 recorded in July.

One Marbled White was found in July.

One Painted Lady visited in June and was recorded again in July and September. There were no sightings of Clouded Yellows or any other unusual visitors.

The last butterfly recorded was a Red Admiral on 30th November.

The list of species observed on the reserve in 2006 is as follows:

Small Skipper	Purple Hairstreak	Marbled White
Essex Skipper	Small Copper	Speckled Wood
Large Skipper	Common Blue	Gatekeeper
Brimstone	Holly Blue	Meadow Brown
Large White	Red Admiral	Ringlet
Small White	Painted Lady	Marbled White
Green-veined White	Small Tortoiseshell	
Orange Tip	Peacock	
Green Hairstreak	Comma	

Number of species 24

I would like to thank all the people who have taken the trouble to record their observations. Please keep up the good work and remember to print your name at the bottom of record sheet so that I can give you the credit. The following observers contributed to the records in 2005: K & P Crick, D East, J E Warren, S & S F Farmer, G Murgatroyd, AEB, I H Brown, M N Clifford, J & R Westmacott, E Godden, K B Briggs, B & R McCartney.

## MOOR GREEN BUTTERFLIES

2006

Recorded numbers Mar - Oct 2006	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT
Small Skipper ( <i>Thymelicus sylvestris</i> )				2	2			
Essex Skipper ( <i>Thymelicus lineola</i> )				1	1			
Large Skipper ( <i>Ochiodes venata</i> )				2	4			
Clouded Yellow ( <i>Colias crocea</i> )								
Brimstone ( <i>Gonepteryx rhamni</i> )		7	29	10	2			
Large White ( <i>Pieris brassicae</i> )			5	9	22	8	6	
Small White ( <i>Pieris rapae</i> )		1	7	4	7	7		
Green-veined White ( <i>Pieris napi</i> )		1	3	6	1	5		
Orange tip ( <i>Anthocharis cardamines</i> )		1	27	7				
Green Hairstreak ( <i>Callophrys rubi</i> )			3	3				
Purple Hairstreak ( <i>Quercusia quercus</i> )						3		
Small Copper ( <i>Lycaena phlaeas</i> )				1			1	
Common Blue ( <i>Polyommatus icarus</i> )						6		
Holly Blue ( <i>Celastrina argiolus</i> )		1	4	1	2	3		
Red Admiral ( <i>Vanessa atalanta</i> )			3	6	6	8	3	3
Painted Lady ( <i>Cynthia cardui</i> )				1	1	1		
Small Tortoiseshell ( <i>Aglais urticae</i> )		2	6	1	1			
Peacock ( <i>Inachis io</i> )		2	7	6			1	1
Comma ( <i>Polygonia c-album</i> )		6	12	15	24	3	4	
Speckled Wood ( <i>Pararge aegeria</i> )			7	10	5	25	30	9
Grayling ( <i>Hipparchia semele</i> )								
Gatekeeper ( <i>Pyronia tithonus</i> )					55	5		
Meadow Brown ( <i>Maniola jurtina</i> )				36	50	10		
Small Heath ( <i>Coenonympha pamphilus</i> )								
Marbled White ( <i>Melanargia galathea</i> )					1			
Ringlet ( <i>Aphantopus hyperantus</i> )				21	26			

## CHAPTER 7

### REPORT ON DRAGONFLIES AND DAMSELFLIES FOR 2006

*Ken Crick*

The data collection protocol outlined in last year's report was adhered to for the 2006 season. The long cold spell from late winter continuing through early spring significantly delayed the onset of the flight period for most early-season damselflies. Southern England was particularly affected, and Moor Green was no exception.

Visits to site during April and late September produced no records. An explosion of activity and an early cessation of the flight season followed the late start. Only 12 survey visits provided data. In all 19 species were observed on the wing. Nine species were observed copulating and/or egg laying. The exuviae of 8 species were found in the emergent vegetation.

Whereas the number of species seen on the wing was 2 higher than last year, the number of species demonstrated to have completed a full life cycle on site was two lower than last year.

I was particularly grateful to Mr. Ray Reedman who provided a photograph taken on the 31st July at Moor Green of a female Golden-ringed Dragonfly. This is the first independent confirmation of the species making its annual appearance at Moor Green. The steep-sided cut channelling water from Grove Lake to Colebrook Lake South has had male Golden-ringed Dragonflies patrolling it intermittently over a number of seasons. This year in an attempt to make the cut more attractive to this species, a dam was constructed with natural materials gleaned from Moor Green. The dam backs up the water in part of the cut, creating a relatively slow flowing zone. Water continues to pass through the dam and in times of spate cascades over the dam. Experience has shown that these slow flowing areas are often rich in aquatic invertebrates, food for any Golden-ringed larva.

Another new habitat has been created albeit probably transient, on the Grove Lake major scrape. The new bund wall dividing the scrape has created a marsh-like area of medium acidity pH 4.7 and above. This area has attracted Black Darter and Keeled Skimmer. Local conditions currently mimic those of nearby Wildmoor where both species can be found.

The last reported sighting for the flight season was made by S Farmer with three male Common Darters seen on the 18th of November.

My thanks go to those members providing information on the hide charts, who were J Warren, S Proudley, R Eagling, I H Brown and 'No Name' twice.

Ian Brown, who covers far more of the site than I do, recorded upwards of 5000 Common Blue Damselflies on the wing on the 17th of June.

#### ODONATA CHECKLIST 2007

##### DAMSELFLIES *Zygoptera*

Species	Date of maximum count	Max count	Life cycle confirmation Exuvia	Observed Flight period
Large Red <i>Pyrhosorna nymphala</i>	13 Jun	9	No	23 May - 13 Jun
Azure <i>Coenagrion puellao</i>	3 Jun	30	Yes	13 May -19 Jul
Common Blue <i>Enallagama cyathigerum</i>	28 Jun	897	Yes	27 May - 10 Sep

Banded Demoiselle <i>Calopteryx splendens</i>	13 Jun	176	No*	13 May - 10 Sep
Blue-tailed <i>Ischnura elegans</i>	28 Jun	44	Yes	13 May - 29 Aug
Red-eyed <i>Erythromma najas</i>	13 Jun	63	Yes	13 May - 10 Sep

### DRAGONFLIES *Anisoptera*

Species	Date of maximum count	Max count	Life cycle confirmation Exuvia	Observed Flight period
Downey Emerald <i>Cordulia aenea</i>	23 May	1	No	23 May
Black-tailed Skimmer <i>Ortheirum cancellatum</i>	28 Jun	39	Yes	3 Jun - 10 Sep.
Four-spotted Chaser <i>Libellula quadrimaculata</i>	13 and 28 Jun	5	Yes	13 May - 19 Jul
Emperor <i>Anax Imperator</i>	22 Jun	2	No	13 Jun - 15 Jul
Golden-ringed <i>Cordulegaster boltonii</i>	19 Jul	2	No	19 Jul - 8 Aug
Common Darter <i>Sympetrum striolatum</i>	10 Sep	30	Yes	19 Jul - 10 Sep
Southern Hawker <i>Aeshna cyanea</i>	8 Aug	2	No	11 Jul -29 Aug
Brown Hawker <i>Aeshna grandis</i>	19 Jul	14	No	19 Jul
Migrant Hawker <i>Aeshna mixta</i>	10 Sep	23	Yes	19 Jul - 10 Sep
Ruddy Darter <i>Sympetrum sanguineum</i>	10 Sep	3	No	8 Aug - 10 Sep
Keeled Skimmer <i>Orthetrum coerulescens</i>	28 Jun and 8 Aug	1	No	28 Jun and 8 Aug
Black Darter <i>Sympetrum danae</i>	8 Aug	3	No	8 Aug
Broad-bodied Chaser <i>Libellula Depressa</i>	13 Jun	3	No	13 Jun

## CHAPTER 8

### REPTILE REPORT FOR 2006

*Peter Scott*

Reptile recording on site has two components:

- 1) regular inspections of 'basking sheets' (and their surroundings) in two areas
  - a) six sheets within 50 metres of the hibernaculum near Colebrook Lake North
  - b) one sheet on the north shore of Grove Lake (two sheets having been lost since the previous year)
- 2) casual reports of sightings anywhere on the reserve.

#### *Regular inspections*

Fourteen sheet-inspection visits were made between April and October. All nine sheets were checked each time. Once again, most of the visits produced no sightings. The remainder found individual snakes under various tins. On no occasion were two or more snakes found together, unlike the preceding three years. The overall results are summarised in the following table.

#### Summary of Surveys of Reptile Basking Tins

	2002	2003	2004	2005	2006
Site visits made	11	14	15	16	14
Total tin-inspections	93	140	150	144	126
Total grass snakes (or skins) seen	6	14	15	13	7
Total adders seen	0	0	3	4	0
Snake sightings per tin-inspection	0.06	0.10	0.12	0.12	0.06

The decrease from the previous three years is marked. As usual, the small scale of the survey must be borne in mind when interpreting these results, but it seems that the stable situation of 2003-5 has been broken. The most obvious change to the local environment is the new barn owl box, installed in autumn 2005 close to the reptile hibernaculum. It may be that snakes feel threatened by this potential 'look-out post' for predators (not necessarily barn owls, which tend to be most active when reptiles would have 'retired for the night', but also kestrels, which have used the box). This is supported by the fact that sightings at the tins along the north bank of Grove Lake, though few, are little changed from last year, so that the decrease is entirely at the tins close to the hibernaculum (and the barn owl box).

#### Casual Reports

Only four reptiles (three grass snakes and one adder) were reported, compared with 9, 10 and 16 in the previous three years. This, if genuinely due to a decrease in reptile numbers rather than less enthusiastic reporting, might indicate that the decline found at the basking tins was general around the reserve and not, after all, an effect of the barn owl box.

#### Summary

There appears to have been a decrease in reptile activity on the reserve in 2006, especially in the area around the hibernaculum. Results for 2007 may help us decide whether the siting of the barn owl box is a factor in this.

I am grateful to those (Les Thorn, Steve Farmer, Noel Silver and ML) who reported seeing reptiles. Please take the trouble to note your sightings on the forms in the hides.

## CHAPTER 9

### MAMMAL REPORT 2006

*Recorder Ian White*

The site has had its usual run of deer, squirrels, weasels and foxes - just what you would expect on a nature reserve. But there were two surprises in 2006; one was good news and one bad news.

The bad news first. After a warning in 2005 that there had been some damage to eggs on Tern Island, people wondered who the culprit was. Was it a fox or was it a mink? Due to an increased number of sightings in 2006 it seems almost certain that it was mink.

Most people will be familiar with mink, but here is a brief overview. They are in the Genus *Mustela* (Latin: weasel) along with our native Stoat *Mustela erminea*, weasel *Mustela nivalis* and polecat *Mustela putorius*. Despite this very close relationship with these other species, we commonly recognise mink, and of those there are just two species. The European mink *Mustela lutreola* and the American mink *Mustela vison*. Unfortunately, we don't have the one we should have had, the European mink which is a declining species; instead, we have the American mink which in this country is something of a pest. They were introduced to Britain in 1929 to be bred for their fur. Inevitably some escaped and there were also some releases from farms by animal liberation groups. A BBC report from August 2000 stated:

A spate of attacks on mink fur farms, which released thousands of the creatures into the British countryside were called "catastrophic" by the RSPCA. The society feared the voracious mink would decimate local wildlife.

However, by that time mink were already established in the wild and the majority of those released, which were not used to fending for themselves in the wild, were rounded up the morning following their liberation in the local car park!

Mink tend to have a long narrow territory; the size of which varies but may be several miles in length and is generally centred on a watercourse. They can be active at any time of day or night.

Mink are voracious predators and are thought to be instrumental in the catastrophic decline of the water vole. The water vole's usual method of defence is to use an underwater burrow to escape danger to its nest. A female mink is small enough to enter the burrow and pursue the vole, which then becomes a large snack. They are also a serious threat to waterfowl, game birds, poultry and fish.

There have been suggestions that the expanding population of otters may have a future effect on mink numbers. Early work in Oxford suggests that what may be happening is that as otters are nocturnal, mink change their behaviour to become predominantly diurnal, so that the animals reduce their chances of meeting.

So why are they back? It may be that trapping in the area has been reduced, or that there has been a population explosion and hence expansion from the Basingstoke Canal where they are prevalent. We will be putting a couple of mink rafts in an area of the lake to identify how serious the mink problem has become before deciding what we can do about it.

On to the good news. Harvest mice are back! Did they ever go away — who knows? They are our smallest rodent and our second smallest mammal (the honour of the smallest is taken by the Pygmy shrew at 4g which itself is the second smallest mammal in the world). The Harvest mouse weighs in at 5-6 grams and its size is alluded to in its scientific name of *Micromys minutus*. Gilbert White, a naturalist who lived in Selbourne, Hampshire, first described it accurately in 1767; he found it living in cornfields around his village - hence the name 'harvest mouse'.

Harvest mice are very active both day and night. They are agile little animals, using their prehensile tail as a fifth limb to grasp grass stalks. What is eaten depends on what is available; in early spring, the mouse eats buds on bushes, new grass shoots and nectar from flowers. Seeds from crops are mainly eaten during the

summer but insects such as wheat fly aphids, blackfly, grasshoppers, moths and caterpillars are also relished. Blackberries and rosehips are eaten in the autumn.

They are sufficiently small that they are very hard to find and usually their presence is only indicated by the discovery of a woven nest supported on grass stems, which is about the size of a tennis ball.

Man has never deliberately persecuted harvest mice since their small appetites do little to affect crop yields. They even do the farmer a bit of a favour by eating harmful pests such as aphids. However, they seem to be less numerous in cornfields than they used to be. This is most likely due to changing farming methods such as combine harvesting, reduced stubble length and crop spraying.

Harvest mice must have shelter to retreat to once the crop has been harvested, so hedgerows are an important habitat for them, providing food as well as shelter. When hayricks were more common, many mice over-wintered in these.

What is the status of harvest mice now? The truth is no one knows. They have been little studied, and more survey work needs to be done to ascertain how widespread or endangered they are. Again, a preliminary study in Oxford studied a good population at an agricultural site, yet the following year they had disappeared although there had been no management changes.

A very charming and worthwhile addition to Moor Green Lakes Nature Reserve. Let's hope they are still there next year.

# CHAPTER 10

## REPORT ON NESTBOXES 2006

Dr K B Briggs

During February and March 2006 more wooden nestboxes were replaced by Woodcrete boxes, two Stock Dove boxes and 5 tit boxes were sited on the new workings and 3 old Mandarin boxes replaced. A total of 50 boxes were on site and 94% were occupied in the 2006 breeding season.

### Great Tit

Egg laying was much delayed this year with the first egg on 15 April and 3 other pairs initiating clutches within 4 days. The majority of pairs laying in late April with a mean date of 22 April (sd 4.4 days). Laying proceeded normally with a mean clutch size of 8.4 (sd 1.4). However, during incubation hornets took over one box and weasels predated females and complete clutches of five incubating pairs. The probable reason for this was the lack of field voles widely reported in the country, but unfortunately the predator-proof Woodcrete boxes failed in their primary task. Hatching success was good with successful birds having broods of 7.8 (sd 2.0) young and fledging broods of 7.5 (sd 2.1). Because of predation the 19 pairs that attempted to nest only had a 61% success in converting eggs to fledged young and averaged 5.2 (sd 3.9) young. This was a poor year.

### Blue Tit

Nine pairs used the nestboxes this year, the other 16 pairs on the reserve using natural sites or bat boxes. The first egg was laid on 17 April, but most pairs waited about a week and the mean laying date was 23 April (sd 6 days). Mean clutch size was slightly smaller than usual, 10.5 (sd 1.7), and mean brood size on hatching was 10.0 (sd 2.0) and unusually no young were lost up to fledging giving a mean brood size of 10 young. Predation by weasels on two nest boxes during incubation reduced the overall conversion of eggs to young to 74% and the mean brood size at fledging to 5.2 (sd 3.9) young per nesting attempt. A poor year for this species.

### Stock Dove

The first clutch was laid on 8 March but the two young died (aged about 2 weeks due to starvation) in late April. In total seven pairs nested in boxes but had very poor success due to nest usurping by Mandarins and chick starvation. Mean laying date for first clutches was 15 April (sd 17 days) and from 16 eggs laid, 10 hatched and only 4 chicks fledged. The 25% fledging success means this was the worst year recorded.

### Mandarin

Ten nesting attempts were recorded in the boxes with the first egg laid on 6 April, a month later than 2005. Most females laid in the last week of April, but two clutches were initiated in late May and could have been new females or relays after desertion. The mean laying date was 24 April (sd 19 days) and mean clutch size 11.4 (sd 6.5) with only three cases of egg-dumping recorded in clutches of 17, 18 and 22 eggs. Grey Squirrels usurped 5 nests so overall breeding success was low. The five successful females had mean broods of 10.8 (sd 4.4) on hatching and 9.8 (sd 2.5) on leaving the nestbox. The 5-year-old female FC77988 was unsuccessful in 2006, the clutch of 22 eggs she incubated being eventually taken over by squirrels. In total 114 eggs produced 49 duckling (43% success), making this a poor breeding season.



# CHAPTER 11

## BUMBLEBEE SURVEYS DURING 2006

*Steve Farmer*

### Results of Bumblebee Surveys

Surveys of bumblebees were conducted at three sites on the Moor Green Lakes Nature Reserve during the summer of 2006. These were the wildflower meadows on (a) the west side and (b) the north side of Colebrook Lake North and (c) the small area of wildflower meadow on the north side of Grove Lake (near Grove Island). Surveys were also carried out at a fourth site. This was (d) the bank on the north side of Horseshoe Lake. Subsequently these are referred to as CLN (west), CLN (north), Grove (north) and Horseshoe (north) respectively.

These are all open sites with a range of different species of wildflowers, some of which were sown during the restoration of the gravel pits. CLN (west) has a good selection of species of flowers which thrive because of its low-lying position near the edge of the lake. CLN (north) is the largest area surveyed. It also has a good range of species. Some parts of this site are damp near the margins of the lake, but other parts are very well drained and dry. Grove (north) has coarser vegetation and some of the finer species of wildflower are in short supply or absent. Horseshoe (north) is a steep dry bank. This has the poorest range of wildflowers and suffered the worst effects due to drought conditions during the summer of 2006.

The primary purpose of these surveys was to establish what species of bumblebees were present on the Moor Green Lakes Nature Reserve. Each survey was conducted by walking slowly across the site and making a note of all the bumblebees which were seen and could be confidently identified. A note was also made of the caste (queen, worker (infertile female) or male). In addition, the type of flower which was being foraged and whether the bumblebee was collecting nectar or pollen or both. Any other interesting activity such as males "patrolling a scenting circuit" or nest sites were noted. The time taken for each survey at each site varied between about 20 and 60 minutes depending on the amount of bumblebee activity and the size of the site. No attempt has been made to normalise the number of bees seen to a standard observing pattern. The results reported here are all field observations. No bees were caught for examination off site.

The surveys showed that all of the six commonest social bumblebees were present on the sites. In addition, one of the commonest "cuckoo" (parasitic) bumblebees was observed. These findings are in agreement with the maps of the distribution of these bumblebees published by the Bees, Wasps and Ants Recording Society (BWARS) for this area.

Three complete surveys were conducted. These were Survey A (21-22 June), Survey B (2-4 July) and Survey C (17-18 July). The surveys were made on fine, warm, sunny days. They were usually made during the morning when nectar flow is at a peak. During the summer of 2006 there was no problem with selecting two or three day periods of settled conditions. The numbers of bumblebees seen on each site on the survey days are given in Table 1, 2 and 3 below.

A simple measure of the success of each site can be obtained by combining the totals for all the surveys. CLN (north) had the largest number of bumblebees recorded (199), followed by CLN (west) with (129). Grove (north) had (105) while Horseshoe (north) had only (57). CLN (north) appears to have been the best site, but it should be stressed that it was also the largest site surveyed. There appears to be little doubt that Horseshoe (north) provided the poorest opportunities for bumblebees to forage.

A short summary follows for each of the 7 species of bumblebee recorded during the surveys.

*Bombus pascuorum* (Common Carder Bumblebee).

The queens of this species emerge fairly early in the spring from hibernation. *B.pascuorum* has a long nesting cycle and the number of workers only build up slowly. The results of the surveys confirm this. It is surface nesting, typically among thick tussocks of grass. Some nests may have failed during the summer of 2006 due to the very hot, dry conditions.

*Bombus lapidarius* (Red-tailed Bumblebee).

This species emerges fairly late from hibernation. It has a long nesting cycle, and the number of workers builds up only slowly. The observations at MGL confirm the slow increase in the number of workers.

*Bombus pratorum* (Early nesting Bumblebee).

This species builds its nest early and has a short nesting cycle. By late June the nests were already declining. Only one new queen and one male were seen on 21 June and just a single male on 17 July. However, this bumblebee is common in the suburban gardens in the Blackwater Valley in spring and its low incidence at MOL is not a particular cause for concern.

*Bombus terrestris* (Buff-tailed Bumblebee).

This species is one of the first to emerge from hibernation and has a long period of activity, even having a second complete nesting cycle in some summers. The observations at MGL suggested a peak in the number of workers in early July. However, some of the workers may have moved to alternative sources of nectar, perhaps in local gardens.

*Bombus lucorum* (White-tailed Bumblebee).

This species emerges from hibernation early and the number of workers builds up throughout June and July until a large colony has been produced. The observations at MGL showed the number of workers increasing till mid-July.

*Bombus hortorum* (Garden Bumblebee).

This species has a short nesting cycle. Observations at MGL Reserve show a peak in the number of workers in early July with a rapid decline thereafter. The first two male *B.hortorum* were seen on 18 July.

*Bombus vestalis* (formerly known as *Psithyrus vestalis*). (No common name).

This is a "cuckoo" bumblebee that is parasitic in the nests of *B.terrestris*. After emerging from hibernation the female *B.vestalis* enters a well-established nest of *B.terrestris* and lays her own eggs. The host workers feed the larvae of the invader. Eventually new females and males of *B.vestalis* emerge and the nest declines due to the lack of workers. At MGL the first two male *B.vestalis* were observed in mid-July.

### **Bumblebee preferences for wildflowers**

The results of the surveys were analysed to establish which of the flowers growing on the Reserve were the most important for the bumblebees. Bumblebees are versatile feeders and forage on a wide range of flowers both in the wild and in our gardens. They also have to be ready to adapt as different plants come into full flower and then pass their peak. It was noticeable at MGL during the summer of 2006 that the types of flower that were abundant at any stage changed rapidly as the season progressed due to the hot weather.

Table 4 shows the number of each species of bumblebee seen foraging on different types of wildflowers. These are the results for all surveys combined. The bumblebees were recorded on 16 kinds of wildflower, but most were observed on just 7 species which were available during June and July.

*B. pascuorum* was found mainly on Red Clover in June and Betony and Black Knapweed in July.

*B.lapidarius* was found mainly on black knapweed in July. *B.terrestris* and *B.lucorum* were found mainly on St John's Wort in June and early July, moving on to Blackberry and Black Knapweed later in July.

*B.hortorum*, which has a very long tongue, was found on red clover in June and betony in July. Interestingly no bumblebees at all were seen on Ox-eyed Daisy and Yarrow, both of which are plentiful on the reserve. Yellow Loosestrife and Purple Loosestrife on the edge of the lake were not surveyed.

## Bumblebee nest sites

No nests were found on the Reserve during these surveys. Bumblebees often forage on flowers a few hundred metres from the nest site. Finding a nest requires a lot of patient observation and a considerable amount of luck. It is therefore not too surprising that no nests were discovered. However a nest of *B.pascuorum* was found late last autumn (2005) under a blackberry bush on the banks of the River Blackwater near Colebrook Lake South. This remained active until 12 November 2005, which is remarkably late even for this species.

## Additional reading

Benton, T. (2000). *The Bumblebees of Essex*. Lopinga Books.

Benton, T. (2006). *Bumblebees*. Collins.

Edwards, M. and Jenner, M. (2005). *Field Guide to the Bumblebees of Great Britain & Ireland*. Ocelli.

Prys-Jones, O. and Corbet, S. (1987). *Bumblebees*. Naturalists' Handbook 6, Richmond Publishing Co. Ltd.

## Societies

Bees, Wasps and Ants Recording Society. (BWARS).

Bumblebee Conservation Trust. (BBCT).

**Table 1 Number of bumblebees seen during Survey A. 21-22 June 2006**

Date(s)	Site	<i>B. pascuorum</i>	<i>B. lapidarius</i>	<i>B. pratorum</i>	<i>B. teresstris</i>	<i>B. lucorum</i>	<i>B. hortorum</i>	<i>B. vestalis</i>	Total
21/06	CLN (west)	6	2	1	6	4	21	0	40
22/06	CLN (north)	1	4	0	10	12	8	0	35
22/06	Grove (north)	3	0	0	14	4	4	0	25
21/06	Horseshoe (north)	4	1	1	1	4	0	0	11
Totals for 21-22 June		14	7	2	31	24	33	0	111

**Table 2 Number of bumblebees seen during Survey B. 2-4 July 2006**

Date(s)	Site	<i>B. pascuorum</i>	<i>B. lapidarius</i>	<i>B. pratorum</i>	<i>B. teresstris</i>	<i>B. lucorum</i>	<i>B. hortorum</i>	<i>B. vestalis</i>	Total
4/07	CLN (west)	19	3	0	4	2	29	0	57
4/07	CLN (north)	3	8	0	16	26	17	0	70
3/07	Grove (north)	3	0	0	28	0	4	0	35
2/07	Horseshoe (north)	1	4	0	4	6	1	0	16
Totals for 2-4 July		26	15	0	52	34	51	0	178

**Table 3 Number of bumblebees seen during Survey C. 17-18 July 2006**

Date(s)	Site	<i>B. pascuorum</i>	<i>B. lapidarius</i>	<i>B. pratorum</i>	<i>B. teresstris</i>	<i>B. lucorum</i>	<i>B. hortorum</i>	<i>B. vestalis</i>	Total
18/07	CLN (west)	0	9	0	9	14	0	0	32
18/07	CLN (north)	6	19	0	11	53	4	1	94
17/07	Grove (north)	13	12	0	4	13	3	0	45
17/07	Horseshoe (north)	2	7	1	3	16	0	1	30
Totals for 17-18 July		21	47	1	27	96	7	2	201

**Table 4 Number of each species of bumblebee seen foraging on different types of wildflowers**

Flower	<i>B. pascuorum</i>	<i>B. lapidarius</i>	<i>B. pratorum</i>	<i>B. teresstris</i>	<i>B. lucorum</i>	<i>B. hortorum</i>	<i>B. vestalis</i>	Total
Betony	12	0	0	0	1	32	0	45
Birdsfoot Trefoil	1	8	0	7	12	1	0	29
Blackberry	4	2	3	17	24	2	0	52
Black Knapweed	10	47	0	25	78	1	2	163
Creeping Thistle	0	1	0	5	4	1	0	11
Red Clover	25	3	0	8	3	52	0	91
St John's Wort	4	8	0	47	25	1	0	85
Other*	5	0	0	1	7	1	0	14
<b>Total</b>	<b>61</b>	<b>69</b>	<b>3</b>	<b>110</b>	<b>154</b>	<b>91</b>	<b>2</b>	<b>490</b>

\* Other includes: - Ladies Bedstraw, Lesser Trefoil, Meadow Cranesbill, Meadow Sweet, Meadow Vetchling, Ragwort, Self Heal, Umbellifera SP. and White Clover.

## APPENDIX A

### PROFILE OF THE RESERVE

The Moor Green Lakes Nature Reserve lies partly within the area administered by Wokingham District Council and partly within the Borough of Bracknell Forest. The River Blackwater, which forms the boundary between the counties of Berkshire and Hampshire, runs close to the southern boundary of the reserve. To the north is Finchampstead Ridges, an area administered by the National Trust. A map of the reserve appears at Appendix I.

The reserve covers an area of approximately 36 hectares (90 acres), the majority of which lies within the flood plain of the River Blackwater. It contains three lakes formed out of flooded gravel pits which are bordered by areas of grassland, planted coppice and wildflower meadow. Two of the lakes, Colebrook Lake North and Colebrook Lake South, are separated by an elongated island through the centre of which runs the old water course of the Colebrook Cut. The third lake, Grove Lake, lies immediately to the east separated by a narrow strip of land. Within the lakes are several gravel-capped islands and gravel beaches.

An important feature of the reserve is the presence of sluices, at the exit of the Colebrook Cut and from Colebrook Lake into the River Blackwater, which allow the level of the water in Colebrook Lakes North and South to be controlled within certain limits. By this method, muddy margins can be exposed ahead of the main spring and autumn passage of wading birds.

Overall management of the reserve is under the control of a Steering Group comprised of representatives of CEMEX Ltd., Blackwater Valley Countryside Partnership and the Moor Green Lakes Group. Practical day-to-day management and the collection, recording, assessment and dissemination of information about the reserve is undertaken by the Moor Green Lakes Group, which was established in 1993. The group committee members are listed in Appendix G. The necessary costs of the Group not covered by membership subscriptions are met by CEMEX. Membership is open to all with an interest in the reserve, its wildlife and its management,

Public access to the reserve is restricted to the viewing hides provided by CEMEX which overlook respectively Colebrook Lake North and Grove Lake (see map at Appendix I). Unfortunately, vandalism has meant that the hides cannot be left permanently open, but members of the public may use the hides whenever they are in use by members of the group (who have access at any time). The Colebrook Lake hide incorporates a viewing window for observers in wheelchairs. When the hides are locked, views over the scrapes adjacent to the hides can be obtained from the screened viewing points alongside the hides. Views across the reserve can also be obtained from viewing points along the footpath, which runs along the western and southern sides of the reserve.

The main access to the reserve is from Lower Sandhurst Road where a car park has been provided (Ordnance Survey grid reference SU805 628). The shortest access to the Grove Lake hide is from the Rambler's Car Park at the entrance to the Horseshoe Lake Water Sports Centre off Mill Lane (grid reference SU820620).

## APPENDIX B

### EVERSLEY GRAVEL PITS (INC MOOR GREEN LAKES RESERVE) ANNUAL BIRD REPORT 2006

**LITTLE GREBE** Resident and winter visitor. During the breeding season four pairs were present rearing at least seven young. A maxima of 15 were recorded on Aug.27th.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
5	2	1	2	2	4	4	15	13	5	3	2

**GREAT CRESTED GREBE** Common resident. A maxima of 21 were recorded on Nov.19th. A total of four pairs were present during the summer and successfully reared four young (two broods).

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
9	10	8	8	6	8	8	4	11	20	21	20

**CORMORANT** Common winter visitor that over-summers in small numbers. Small numbers roosted on Grove Island during the late winter.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
47	37	24	2	2	0	0	3	11	14	28	10

**LITTLE EGRET** Frequent visitor with increasing frequency. In the early year 1/3 birds were recorded on 35 dates until Apr.10th. From Nov.16th till the year end most records related to 1/3 birds on 29 dates with a site record count of 7 on Dec.30th (NS)

**GREY HERON** Common resident.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	23	2	3	1	2	1	2	2	2	2	2

**MUTE SWAN** Common resident and winter visitor. Two pairs bred rearing eight young.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
61	54	37	-	21	17	26	12	26	35	32	24

**LESSER WHITE FRONTED GOOSE** Rare vagrant with record probably due to escape from a collection. The first site record was of a bird carrying blue ring on its right leg. The bird was seen on several occasions on Sept 16th, although mobile (ML, IHB, BMA). It was considered to be of escape origin. The same bird may have been present at nearby Tundry Pond on Oct. 8th.

**GREYLAG GOOSE** Common visitor numbers increasing. A maximum of 101 roosted on Sept.21st and 24th (JMC), site record counts.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
6	1	3	3	5	10	10	5	101*	15	19	20

**SNOW GOOSE** Resident with numbers sharply declining. Both in the early and late winter periods four birds were present. Although birds were present on the site in summer there was no evidence of breeding.

**CANADA GOOSE** Abundant resident.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
250	323	52	120	-	75	200	578	395	311	223	139

**BARNACLE GOOSE** Very common resident. One pair present during the breeding season but breeding was unsuccessful. The first such year since at least 1990.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
60	20	52	6	2	2	3	2	44	51	50	51

**EGYPTIAN GOOSE** Resident in increasing numbers. Four pairs attempted breeding (cf two pairs in 2005), three successfully rearing broods of 2, 5 and 7. A fourth brood hatched and first seen on Jan.4th probably did not survive. The third consecutive year in which breeding has occurred. The count of 69 on Oct.22nd was a site record (JMC).

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
15	10	16	9	12	16	32	34	60	69*	43	62

**SHELDUCK** Regular visitor. Recorded as follows: 2, Feb. 16th 1 juvenile on most dates from Jul.20th to Aug.1st and 1 on Dec.2nd.

**MANDARIN** Common summer visitor and resident in increasing numbers. At least six pairs bred successfully including use of nest boxes. Young were seen on the Jun. 13th. A count of 25 on Dec.3rd was a site record (JMC).

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	3	4	11	4	3	1	1	0	1	3	25*

**WIGEON** Very common winter visitor. Birds were recorded up to Apr.6th and from Sept.9th. Other records were of a male on six dates between Apr.29th and May 23rd. The maximum count was of 525 on Jan.29th.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
525	151	108	20	1	0	0	0	65	158	360	364

**GADWALL** Very common winter visitor that breeds in small numbers. A minimum of eight males over summered with up to three females, with breeding successful. Three birds were successfully fledged from a brood of eight. The fifth successive year that breeding has been confirmed. The count of 262 on Feb.11th was a site record (IHB).

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
178	262*	72	10	9	9	13	25	26	61	97	96

**TEAL** Common winter visitor that occasionally summers. Breeding was not suspected. The maximum count was of 106 on Dec.2nd.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
90	102	68	9	2	2	3	13	19	52	58	106

**MALLARD** Common resident and winter visitor. Numbers are declining.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
46	32	19	-	-	-	35	30	76	119	69	83

**GARGANEY** Infrequent visitor. A pair in eclipse were present on Ju1.21st (ML, NS) with further records of singletons on Jul. 31st and Aug.1st (both eclipse male; mo). Further records were 2, Aug.21st (RG) and 1, Aug 23rd. Recorded in six years in total of which four have been in the last five.

**PINTAIL** Regular winter visitor. A very good year, recorded as follows: 2m(1 imm) 1f, Jan.1st to 21st; 3m 4f, Jan.27th; 6m 4f, Jan.29th to 31st (JMC, BMA) reducing to 4m 2f by Feb.4th; 1m 1f to Mar.4th with the male remaining till Mar.18th In the late year there was a pair on Dec.6th. The maximum often birds was a site record count.

**SHOVELER** Common winter visitor. Recorded daily until April 25th but records from all months except August. The maximum count of 117 on Mar. 16th was a site record (BMA).

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
85	104	117*	9	2	7	2	0	6	22	41	52

**RED CRESTED POCHARD** Scarce visitor. A leucistic female was present on Feb.6th (MGP),11th (IHB, BMA), 17th (ML) and Mar.4th (IHB, JMC). The bird also visited Yateley GP's. The first records since 1999.

**POCHARD** Common winter visitor, occasional in summer. Largely recorded until Mar.25th and from Jul.30th The maximum was 52 on Feb.26th and Nov.21st.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
42	52	31	0	0	0	2	2	12	41	52	47



**RING NECKED DUCK** Very rare visitor. A female was present on Nov. 19th (JMC et al) remaining during the afternoon but had gone the next day. This is the first record of this North American duck. The same bird was present for several weeks before and after this record on nearby Yateley GP's.

**TUFTED DUCK** Abundant resident and winter visitor. During the summer a minimum of ten broods totalling 34 young were raised. This constitutes the best recorded breeding success and continues an upward trend. The maximum count was of 284 on Mar.4th.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
108	269	284	50	45	62	113	59	35	93	155	103

**GOLDENEYE** Winter visitor in increasing numbers. In the early year birds were recorded until Apr.6th. First returns were from Nov.4th.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
6	6	4	1	0	0	0	0	0	0	3	5

**SMEW** Irregular winter visitor. The only record was of a pair on Dec.23rd which were also seen going to roost on Grove (JMC). The first record since 1999.

**GOOSANDER** Common winter visitor. As in recent years birds continued to roost on the site and this accounted for most of the higher counts, with daytime numbers generally low. The last early year record was on Apr.9th. First returns were from Nov.7th.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
27	23	13	2	0	0	0	0	0	0	6	20

**RUDDY DUCK** Occasional visitor of annual occurrence. The only record was of a singleton on May 12th (NS).

**RED KITE** Regular visitor, records increasing. Singletons were recorded on Mar. 19th, Apr.7th, Apr.27th, May 7th, May 13th, Nov.21st with 2 on Jun.2nd and Jul.15th.

**SPARROWHAWK** Common resident that breeds nearby.

**BUZZARD** Very frequent visitor that breeds nearby. Recorded in all months with a maxima of 5 on Apr.14th. There were records on 43 dates (cf 63 in 2005).

**OSPREY** Scarce visitor. Two records. In spring, one on Apr.3rd (RMW, NS). In autumn one on the relatively late date of Nov. 5th (GR, JR). Recorded in each of the last four years.

**KESTREL** Common resident. One pair nested in the west owl box rearing two young.

**RED FOOTED FALCON** Very rare visitor. The first site record and an unexpected find was of a first year female from at least Jul.15th to 19th (ML, IHB, CRG, NS, BMA, AW et al). The bird may well have been present from at least Jul.8th but over the course of the week gave very brief views to several observers before being finally definitively identified giving obliging views from the oaks next to the horse paddock. It remained loyal to this area and across the new workings during its stay.

**HOBBY** Common summer visitor. One to two birds were recorded between May 1st and Sept 28th  
Maximum three on Jun.21st.

**PEREGRINE** Frequent visitor of increasing occurrence. Singletons were recorded on Mar.23rd (RMW),  
Nov.25th (BMA) and Nov.28th (BMA).

**RED LEGGED PARTRIDGE** Formerly bred, with birds in suitable breeding habitat during the summer. A  
pair was seen on several dates between Apr.9th and Jul.22nd. The only other record was of a pair on  
Oct.29th.

**PHEASANT** Common resident.

**WATER RAIL** Winter visitor. Up to two were recorded until Mar.26th and from Oct.24th.

**MOORHEN** An abundant resident.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
30	31	31	-	-	-	-	-	12	36	30	15

**COOT** Abundant resident.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
167	192	110	-	-	40	79	-	120	203	259	282

**OYSTERCATCHER** Occasional visitor. Two records of singletons on Jul.26th (NS, BMA) and Aug.8th  
(BMA, NS). Recorded every year since 2001.

**LITTLE RINGED PLOVER** Summer visitor and passage migrant. Recorded from Mar.16th until Aug.15th.  
Four pairs were on the site of which three bred successfully rearing a minimum of 5 young in total. In  
autumn, passage birds were as follows; 1, Sept.2nd-3rd, 1, Sept. 17th.

**RINGED PLOVER** Summer visitor and passage migrant that formerly bred. A single recorded daily  
Mar.15th to Mar.24th; then one on 10 dates between Apr.22nd to May 27th with 4, May 2nd but breeding  
was not suspected. Two consecutive years with birds present during the breeding season after an absence  
of 5 years.

**GOLDEN PLOVER** Regular visitor. Three records probably relating to. the same group which was a site  
record count: 40, Jan.19th (MGP), Jan.20th (BMA) declining to 13 the next day (IHB).

**LAPWING** Common resident and winter visitor. Approximately ten pairs attempted to breed rearing a total  
of four young.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
750	1100	229	20	14	111	200	225	152	285	476	600

**SANDERLING** Irregular visitor. A good year with two records as follows: 1 wpl, Mar.24th (AW, BMA) was  
the earliest ever and the first March record; 2 spl, May 18th (BMA) only stayed for 10 minutes. The first  
records since 2001.

**LITTLE STINT** Irregular visitor. Five on Oct.1st (KC, BMA) lingered for less than an hour.

**DUNLIN** Regular passage migrant. A good year with records on 13 dates between Mar. 18th and May 27th all relating to singles except for 2 on May 3rd to 4th In autumn there were singletons on Jul.15th and Oct.25th.

**RUFF** Occasional visitor. The only record was of a juvenile at Fox Lane on Aug.26th (JMC). Recorded in five of the last eight years.

**COMMON SNIPE** Common passage migrant and winter visitor. Recorded until May. 19th and from Jul. 14th Consistent with 2005 numbers were low with a maximum of 15 on Dec.28th.

**BLACK TAILED GODWIT** Irregular visitor. The only record was of four flying low and east up the valley on Jul.28th (NS, BMA). Recorded in each of the last six years.

**BAR TAILED GODWIT** Scarce visitor. An exceptional year with two records both of birds that stayed for more than a day! A wpl bird was present in the vicinity of Colebrook North Apr.24th to 25th (JBS et al). The second record involved a fine spl bird from May 12th to 15th (KC et al) on the area of the new works immediately adjacent to the bridleway.

**WHIMBREL** Regular passage migrant. Three records as follows: 1, Apr.19th (BMA, RMW, NS), 1, Apr.24th (RMW), 1, May 7th (JMC).

**CURLEW** Occasional visitor. A good year with five records: 1, Mar.5th, 1, Apr.2nd, 1, Apr.29th, 1, Aug.20th and 1, Sept. 15<sup>th</sup>.

**SPOTTED REDSHANK** Scarce visitor. The first long staying bird for the site was of a juvenile present on Aug.8th to 14th (BMA, NS, CRG). It spent much of its stay in the Colebrook North scrape. The seventh site record.

**REDSHANK** Summer visitor and passage migrant. In early winter, 1, Jan.21st followed by records between Mar.21st and Jul.8th. Up to three pairs were present on the reserve and the new workings. One pair bred successfully rearing three young. The only other record was 1, Jul.21st.

**GREENSHANK** Regular passage migrant. A good year with records of singletons as follows: Apr.25th, May 15th, Jul 15th, Jul.31st, Aug.4th to 7th and Aug.15th.

**GREEN SANDPIPER** Winter visitor and very common passage migrant. Recorded on 131 dates throughout the year. Up to two birds were present in the early winter period. Recorded until Apr.21st and from Jun.9th. Notable counts for number and date were a maxima of 12, Aug.9th (site record) and 8, Oct.14th. In late winter 1/2 birds were recorded.

**WOOD SANDPIPER** Occasional visitor of annual occurrence. One was present on Jul.23rd (AW, BMA, NS, ML). Recorded in 11 of the last 14 years.

**COMMON SANDPIPER** Common passage migrant. In spring there were records of 1 to 2 birds on 24 dates between Apr.9th and May 24th. Returns were of 1 to 2 birds on 26 dates from Jul.8th to Oct. 15th.

**TURNSTONE** Infrequent visitor. One record of a singleton on May 17th (BMA, ML). Only the second record in the last nine years.

**MEDITERRANEAN GULL** Occasional visitor. One spl adult was present intermittently on 25th to 26th March in the gull colony (IHB et al).

**LITTLE GULL** Irregular visitor. Two records: 2 adults, 2 first summers on Mar.28th (AW, BMA) and 1 spl adult on Apr.21st (RMW, NS).

**BLACK HEADED GULL**

Very common visitor and breeding species. Approximately 188 pairs (cf 122 in 2005) attempted to breed with occupied nests up to Jun.24th when there was complete desertion of the colony presumably as a result of predator attack. Several dead gulls were on Tern Island and mink were suspected. At least 70 young had reached the flying stage by this time and survived. Birds roosted principally on Grove in the late winter period.

Monthly maxima:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
59	85	138	450	260	180	182	-	-	80	150	150

**COMMON GULL** Common winter visitor. The maximum count was of 45 on Dec.9th.

**LESSER BLACK BACKED GULL** Very common visitor. Recorded in all months. Large numbers roosted at Fox Lane during September to October and also on Grove during early and late winter. Monthly maxima (principally at roost):

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
160	20	-	-	-	-	88	253	892	755	500	510

**HERRING GULL** Winter visitor regular in summer, but in reduced numbers. Maximum at roost 20, Sept.24th and Dec.24th.

**YELLOW LEGGED HERRING GULL** Regular visitor. Recorded as follows: 1, Jul.14th, 1, Jul.29th, 1, Sept.21st, 4, Sept.24th, 2, Sept.26th, 2, Oct.8th, 1, Oct.19th, 1, Nov.12th, 1, Nov.14th, 4, Nov.19th, 1, Dec.3rd and 1, Dec. 15th. Many of these records relate to birds at roost.

**GREAT BLACK BACKED GULL** Formerly frequent winter visitor with numbers of records declining sharply. Only two records: 1 fw on Oct.14th (BMA); 1 ad, Nov.25th (IHB). Consistent with recent years all records required again for next year.

**COMMON TERN** Summer visitor and passage migrant. Recorded from Mar.30th. Up to 32 pairs (but possibly as few as 16) may have attempted to breed (cf 24 in 2005) on Tern Island but as with Black Headed Gull, predator attack was noted on or soon after Jun.24th. At this time 1 juvenile had been seen but not reached the flying stage so presumably perished. A site record count at dusk was of 94 on May 13th (JMC). Some birds lingered in the area until Aug.8th.

**ARCTIC TERN** Irregular visitor. A good year with three records all in spring: Two were briefly present on Colebrook Lake north on Apr.23rd (CRG et al); 1, May 1st (PBT) and 2, May 3rd (RMW).

**LITTLE TERN** Rare visitor. One was present briefly after a thunderstorm on May 8th (BMA). Only the third site record, the last was in 1994. This species is much prized inland.

**BLACK TERN** Occasional visitor mainly in spring. One was present on Grove/Horseshoe lakes on May 12th (NS et al).

**STOCK DOVE** Common resident. Maxima 31 on Mar.13th.

**WOOD PIGEON** Abundant resident. Maxima 750 on Dec.24th.

**COLLARED DOVE** Common resident breeding nearby.

**CUCKOO** Summer visitor in declining numbers. A singing male recorded on four dates between May 5th and 27th.

**BARN OWL** Regular visitor that formerly bred. Up to two birds were using the boxes from Jan.1st to Jun.13<sup>th</sup>. Breeding was not suspected. Generally, elsewhere breeding was poor due to prey availability. Clutches of eggs are only laid at times when prey is plentiful.

**LITTLE OWL** Moderately common resident. Birds present in at least four territories.

**TAWNY OWL** Resident. Breeding was successful with birds present in at least 2 territories.

**SHORT EARED OWL** Rare visitor. One was seen moving over east on May 12<sup>th</sup> (CJ). Almost a year to the day since the last record. The fourth site record.

**NIGHTJAR** Rare visitor. One flushed from near Grove Lake on May 23<sup>rd</sup> (KBB) was only the third site record and the first in spring.

**SWIFT** Numerous summer visitor. Recorded from Apr.25<sup>th</sup> but there were no records from August onwards logged! A maxima of 100 on May 21<sup>st</sup>.

**KINGFISHER** Moderately common resident. Two pairs bred successfully.

**GREEN WOODPECKER** Common resident.

**GREAT SPOTTED WOODPECKER** Common resident.

**LESSER SPOTTED WOODPECKER** Occasional visitor that may breed. One record of a singleton near Grove on Dec. 16<sup>th</sup> (ML).

**SKYLARK** Resident and winter visitor. Five singing males held territory. Maximum winter count was 10 on Feb.13<sup>th</sup>.

**SAND MARTIN** Common summer visitor. Recorded from Mar. 16<sup>th</sup> to Oct.6<sup>th</sup>. No counts exceeded 30. Nest holes (approx 7) were excavated on a gravel heap on the new works in Berkshire and breeding may have been attempted but there was no evidence that any young were fledged.

**SWALLOW** Common summer visitor. Recorded between Mar.27<sup>th</sup> and Oct.16<sup>th</sup>.

**HOUSE MARTIN** Abundant summer visitor. Recorded between Apr.8<sup>th</sup> and Oct.9<sup>th</sup>. Maxima 150 on Oct.7<sup>th</sup>.

**MEADOW PIPIT** Moderately common winter visitor and passage migrant that has summered.

**YELLOW WAGTAIL** Regular passage migrant that has bred. A poor year with the only three records of 2, Apr.23<sup>rd</sup>, 1, Jul. 15<sup>th</sup> and 1, Sept.8<sup>th</sup>

**GREY WAGTAIL** Moderately common resident. At least one pair bred successfully.

**PIED WAGTAIL** Common resident and winter visitor.

**WHITE WAGTAIL** Occasional visitor. One on Apr. 19<sup>th</sup> (RMW, NS). Only recorded in two of the last eight years in contrast to annually during the preceding decade.

**WREN** Abundant resident.

**DUNNOCK** Common resident.

**ROBIN** Very common resident.

**COMMON REDSTART** Infrequent visitor. One male was present in the area of oaks on the new workings to the west of the bridleway on at least two dates (not logged) in late April (KBB). In autumn, 1, Aug.23rd to 26th (NS, IHB).

**WHINCHAT** Regular passage migrant. Records as follows: 1, May 11th, 1, Aug.27th, 1, Sept. 18th to 19th.

**STONECHAT** Irregular resident and passage migrant. In the early year: 1, Mar.9th and 27th. In the late year: 1, Jul.10th, then 1/2 on 11 dates between Oct.6th and Dec.31st.

**WHEATEAR** Moderately common passage migrant. A very good year. Records in spring largely involved 1/4 birds on 19 dates between Apr.11th and May 3rd. Other counts were of 9, Apr.21st (a site record, BMA, GR); 7, Apr.22nd and 6, Apr.23rd. In autumn there were singletons on Aug.22nd, 26th 27th and 29th.

**BLACKBIRD** Common resident.

**FIELDFARE** Common winter visitor. Recorded until Apr.4th and from Nov.8th. The maximum count was of 75 on Dec.23rd.

**SONG THRUSH** Common resident.

**REDWING** Very common winter visitor. Recorded until Apr.5th and from Oct.29th. The maxima was 120 on Mar.18th.

**MISTLE THRUSH** Common resident.

**GRASSHOPPER WARBLER** Infrequent visitor. One was singing in the vicinity of Grove Island on Apr.25 & 26th (NS, ML). Recorded in each of the last three years.

**SEDGE WARBLER** Moderately common summer visitor. Recorded between Apr 15th and Aug.12th. Six singing males held territory (cf 4 in 2005).

**REED WARBLER** Moderately common summer visitor. Recorded between Apr.24th and Sept. 17th. Five singing males held territory (cf 2 in 2005).

**LESSER WHITETHROAT** Summer visitor. Two singing males briefly in song on territory during May.

**WHITETHROAT** Very common summer visitor. Recorded from Apr. 13th till Sept.2nd. A minimum of 15 singing males held territory (cf 11 in 2005).

**GARDEN WARBLER** Very common summer visitor. Recorded between Apr.21st and Aug.21st. At least 10 singing males held territory (cf 13 in 2005).

**BLACKCAP** Very common summer visitor and occasional winter visitor. Recorded between Apr. 1st and Sept.30th. At least 10 singing males held territory (cf 6 in 2005).

**CHIFFCHAFF** Very common summer visitor and regular winter visitor. Recorded as follows; 1, Jan 8th, Feb.11th then from Mar.25th to Oct.20th and in late winter singletons on Nov.2nd, Nov.11th, Nov.25th and Dec.30th. Approx eight singing males held territory (cf 8 in 2005).

**WILLOW WARBLER** Common summer visitor. Recorded from Mar.28th until Sept.13th. Three singing males held territory (cf 3 in 2005).

**GOLDCREST** Common winter visitor and passage migrant with small numbers breeding. At least two singing males were present during the summer.

**SPOTTED FLYCATCHER** Regular passage migrant that breeds nearby. Records as follows; 2, Aug.30th to Sept.4th.

**LONG TAILED TIT** Abundant resident.

**COAL TIT** Uncommon visitor. The only records were of 1, Oct.15th and 1, Dec. 19th.

**BLUE TIT** Abundant resident.

**GREAT TIT** Abundant resident.

**NUTHATCH** Resident in small numbers. Successfully bred.

**TREECREEPER** Moderately common resident. Successfully bred.

**JAY** Common resident.

**MAGPIE** Very common resident.

**JACKDAW** Very common resident.

**ROOK** Regular visitor.

**CARRION CROW** Common resident. Maxima 30 on Oct.7th.

**STARLING** Common resident. Maxima 35 on Dec.9th.

**HOUSE SPARROW** Resident nearby.

**CHAFFINCH** Abundant resident and winter visitor. Maximum of 80 on Dec.9th.

**BRAMBLING** Regular winter visitor usually in small numbers. Recorded until Apr.29th with a maxima of 50 on several dates. In the late year recorded as follows; 1, Oct. 15th, 1, Nov.5th, 1, Nov. 12th and 1, Nov.25th.

**GREENFINCH** Moderately common resident and winter visitor.

**GOLDFINCH** Very common resident and winter visitor. A maxima of 40 on Aug.6th.

**SISKIN** Very common winter visitor. The maximum count was 150 on Jan. 1st. Smaller numbers were recorded in the late winter period.

**LINNET** Moderately common resident and winter visitor. Maxima 75 on Jan.10th.

**LESSER REDPOLL** Moderately common winter visitor. The maximum count was 25 on Feb.3rd.

**BULLFINCH** Moderately common resident.

**YELLOWHAMMER** Resident in small numbers. One/two singing males held territory (cf 4 in 2005), breeding successful. The maximum count was 12 on Jan.12th.

**REED BUNTING** Moderately common resident. Approximately five singing males held territory. Breeding successful.

## **OTHER RECORDS**

### **BLACK SWAN**

One on Sept.12th.

### **OBSERVERS**

B.M.Archer	J.A.Bailey	Dr K.B.Briggs	Dr I.H.Brown
K.Carter	J.M.Clark	Dr .N.Clifford	K.Crick
R.G.Davies	S.F.Farmer	T.Fuller	C.R.Gent
N.R.Godden	R.J.Godden	C.Jones	S.Kemmsy
Mrs D.M.Lincoln	M.Lenney	K.Littler	M.G.Philpott
C.Proudley	G.Randall	J.Reed	Mrs C.Rose
P.Scott	J.B.Sheridan	N. Silver	R.Smethurst
J.C.Tanner	Mrs L.D.M.Tanner	C.D.Taylor	M.Walford
J.J.Walling	R.M.Warden	J.E.Warren	S. Weeks
J.Westmacott	Mrs R.Westmacott	G.Woods	A.Worgan

Other observers only known by initials to recorder: KAB, AC, PJD, RD, JG, DH, MH, JSH, RCM, DN, JN, MM, FS, SRS, WTS & LW



## APPENDIX C

**EVERSLEY GRAVEL PITS (inc. MOOR GREEN LAKES)**  
**BIRD SPECIES LIST 1990-2007**

## Abbreviations: -

R - Resident

B - Breeding

S - Summer Visitor

W - Winter Visitor

P - Passage Migrant

V - Recorded on 3 or less occasions

CODE	SPECIES	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06
2	Grebe, Little	RB	RB	RB	RB	RB	RB	RB?	RB	RB	RB	RB	RB	RB	RB	RB?	RB	RB
2	Grebe, Great-Crested	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
1*	Grebe, Red-Necked						V											
1*	Grebe, Black-necked								V						V		V	
1*	Grebe, Slavonian															V		
2	Cormorant,	W	W	W	W	W	W	W	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS
1	Little Egret									V		WS	V	V	WS	R	R	R
1*	Shag		V															
1*	Bittern							V					V	W				
2	Heron, Grey	R	R	R	R	R	R	R	RB	R	R	R	R	R	R	R	R	R
2	Swan, Mute	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW
1*	Lesser White-Fr Goose																	V
1*	Swan, Bewick's			V				V										
1*	Goose, Taiga-Bean							V										
1*	Goose, Pink-Footed			V														
1*	Goose, White-Fronted	V																
1	Goose, Greylag		V	V	V	V	V	V	P	P	P	P	P	P	R	R	R	R
2	Goose, Snow	R	R	R	R	RB	RB	RB	RB	R	R	R	R	R	R	R	R	R

CODE	SPECIES	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06
2	Goose, Canada	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
2	Goose, Barnacle	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
1*	Goose, Brent													V		V		
1	Goose, Egyptian	V		V					P	V	V		WS	R	WS	RB	RB	RB
1*	Shelduck, Ruddy	V						V										
1	Shelduck		V	V	S	S	P	P	SP	SP		V	V	V	V	V	V	S
1	Wood Duck			V	V						V							
1	Duck, Mandarin	V	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	RB	RB	RB	RB	RB
2	Wigeon	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
2	Gadwall	RW	RW	RW	RW	RW	RW	RW	RW	RW	RW	RW	RW	RBW	RBW	RBW	RBW	RBW
2	Teal	W	W	W	W	W	W	RBW	RW	W	W	RW	RW	RW	RW	W	W	W
1*	Teal Green Winged												W	W				
2	Mallard	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW
1*	Garganey					V								V	V		V	S
1	Pintail		V		V	V	W	V	V	V		PW	V	V	V	W	W	W
2	Shoveler	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
1*	Pochard, Red-Crested	V								V	V							W
2	Pochard	W	W	W	W	W	W	W	W	W	W	W	W	W	WS	WP	WP	WP
1*	Ring Necked Duck																	V
2	Tufted Duck	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW
1*	Scaup		V		V					V		V						
1*	Duck, Long-Tailed			V														
1*	Scoter, Common		V	V		V												
2	Goldeneye	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
1	Smew		V		V	W		W	W	W	W							V
1*	Merganser, Red-Breasted		V		V				V							V		
2	Goosander	W	W	W	W	W	W	WS	W	W	W	W	W	W	W	W	W	W
1	Duck, Ruddy		W	V	V	V	V	W	W	PW		PW	V	PW	V	V	PW	V
1*	Buzzard, Honey			V						V		V						
1*	Kite, Red							V		V		V			V	V	P	P
1*	Harrier Hen												V		V			
1*	Harrier Marsh									V								

CODE	SPECIES	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06
1*	Goshawk				V													
3	Sparrowhawk	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
1	Buzzard							V	V	V	V	V	V	P	R	R	R	R
1*	Osprey				P	V		V		V		P				P	V	V
3	Kestrel	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
1*	Red Footed Falcon																	V
1*	Merlin							V						V				
1	Hobby	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
1	Peregrine	V			V			V		V	V	V	V	V	S	V	V	V
1	Partridge, Red-Legged	RB	RB	RB	RB?	V		V						R	R	RB?	RB?	RB?
1	Partridge, Grey	RB	RB	RB	RB	R?									V			
	Pheasant.	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
1	Water Rail	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
2	Moorhen	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
2	Coot, Common	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW
1*	Oystercatcher	V	V	V		V	V					V		V	V	P	P	V
1*	Avocet			V														
2	Plover, Little-Ringed	SB	SB	SB	SB	SB	SB	SB	SBP	SBP	SBP	SBP	SB	SB	SB	SB	SB	SBP
2	Plover, Ringed	SBP	SBP	SB	SB	SB	SB	SB	SB	SP	SBP	SP	SP	p	V	P	SP	SP
1	Plover, Golden	V			V	V	W	V	W	W	V		V				W	V
1*	Plover, Grey		V			V	V	V		V	V							
2	Lapwing	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW	RBW
1*	Knot			V														
1*	Sanderling				V		V	V	V				V					V
1*	Stint, Little			V	V			P	V	P				V				V
1*	Stint, Temminck's		V	V	V								V					
1*	Sandpiper, Pectoral														V			
1*	Sandpiper, Curlew						V		V				V					
1	Dunlin	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1*	Ruff			V		V	V	P	V	W	V	V	V			V		V
1*	Snipe, Jack	W	W				V	V		W	W				V	V	V	
2	Snipe, Common	WP	WP	WP	WP	WP	WP	WP	WP	WP	WP	WP	WP	WP	WP	WP	WP	RW

CODE	SPECIES	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06
1	Woodcock				S	S	S											
1*	Godwit, Black-tailed		V	V	V				V		V		V	V	V	V	P	V
1*	Godwit, Bar-Tailed				V											V		V
1	Whimbrel	P		V	V	P		V		V		V			V	V	P	V
1	Curlew	V	V		V		V	WP	WP	V				V			V	p
1*	Redshank, Spotted		V				V		V							V		V
2	Redshank	P	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP
1*	Lesser Yellowlegs												V					
1	Greenshank	P	P	P	P	P	P	P	P	P	P	P	P	V	V	V	P	P
1	Sandpiper, Green	WP	WP	WP	WP	WP	WP	WP	WP	WP	WP	WP	WP	WP	WP	WP	WP	WP
1	Sandpiper, Wood	V	V	V	V	V		V	V	V		V		V	V	V	V	V
1	Sandpiper, Common	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1*	Turnstone	V		V	V	V	V		V				V					V
1*	Red Necked Phalarope											V						
1*	Skua, Great										V							
1*	Gull, Mediterranean		V	V				V	V			V	V	V				P
1*	Gull, Little	V			V	V			V		V						P	V
2	Gull, Black-Headed	R	R	R	R	R	R	R	R	R	R	R	R	R	R	RB	RB	RB
1*	Gull, Ring Billed								V									
2	Gull, Common	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
2	Gull, Lesser Black-Back	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
2	Gull, Herring	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
1	Gull, Yellow-legged	V	V	V	V	V	V	P	WP	V	V	V	SP	V	WP	WP	WP	WP
1*	Gull Caspian												V				V	
1*	Gull, Glaucous								V									
1	Gull, Great Black-Back	W	W	W	W	W	W	W	W	W	W	W	V	V	V	V	V	V
1*	Kittiwake											V						
1*	Tern, Sandwich		V															V
2	Tern, Common	P	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP
1*	Tern, Arctic				V	P	V		V									V
1*	Tern, Whiskered																	V
1*	Tern, Little				V	V												V

CODE	SPECIES	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06
1	Tern, Black	V	V	V	P	P			V	V		V	V		V		V	V
2	Dove, Stock	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
3	Pigeon, wood	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
1	Dove, Collared		R	R	R	R	R	R	R	RB	RB	RB	RB	RB	RB	RB	RB	RB
1	Dove, Turtle	S	S		V	V	V	V	V		V	V	V	V				
1*	Ringed Necked Parakeet												V					
1	Cuckoo	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB?	SB?	SB?	SB?	SB?	SB?
1	Owl, Barn			RB	RB	RB	RB	RB	RB			V	V	V		V	W	R
3	Owl, Little	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
3	Owl, Tawny	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
1*	Owl, Short Eared																V	V
1*	Nightjar									V						V		V
2	Kingfisher	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
1*	Hoopoe						V	V										
1*	Wryneck							V										
3	Woodpecker, Green	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
3	Woodpecker, Gt-Spotted	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
1	Woodpecker, L-Spotted	R	R	R	R	R	R	R	R	R	R		V	V	V	RB?	RB?	V
1*	Woodlark	V						S	P	SB	SB	SB	SB	V				
2	Swift	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP
2	Skylark	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RBW	RBW	RB	RB	RB	RB	RB
1*	Shore Lark									V								
2	Martin, Sand	SP	SBP	SB?P	SB?P	SB?P	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SP	SP
2	Swallow	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP
2	Martin, House	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP	SBP
1	Pipit, Tree	V		V	V		P	V	V					V				
2	Pipit, Meadow	WP	WP	WP	WSP	WSP	WSP	WP	WSP	WP	WP	WP	WP	WP	WP	WP	WSP	WP
1*	Pipit, Rock							V	V									
1*	Pipit, Water			V			V								V			
1	Wagtail, Yellow	P	P	P	P	P	P	P	P	P	P	P	P	V	V	P	V	V
2	Wagtail, Grey	RB	RB		RB?	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
2	Wagtail, Pied	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB

CODE	SPECIES	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06
1*	Wagtail White	P	V	V	P	P	P	V	P	V						V		V
1*	Waxwing							V										
	Wren	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
	Dunnock	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
	Robin	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
1*	Nightingale					S												
1*	Redstart, Black						V											
1	Redstart, Common	V	V			V	V		V	P					V			V
1	Whinchat	P	P	P	P	P	P	P	P	P	P	V	V	P	V		P	P
1	Stonechat	P	V	WP	WP	WP	RBP	RBP	WP	RBP	RBP	WP	RB?P	WP	WP	WP	WP	WP
1	Wheatear	P	P	P	P	P	P	P	P	P	P	P	V	P	P	P	P	P
1*	Ring Ouzel	V								V	V							
	Blackbird	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
2	Fieldfare	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
3	Thrush, Song	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
2	Redwing	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
2	Thrush, Mistle	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
1*	Warbler, Grasshopper						V		V		V					V	V	V
2	Warbler, Sedge	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB
2	Warbler, Reed	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB
1*	Warbler, Dartford									W								
2	Whitethroat, Lesser	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB?	V	V	SB
2	Whitethroat	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB
2	Warbler, Garden	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB
2	Blackcap	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SWB	SB	SB
1*	Warbler, Wood									V								
2	Chiffchaff	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	SB	SB	SB	WSB	WSB	WSB	WSB
2	Warbler, Willow	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB
2	Goldcrest	W	W	W	W	WP	WP	WP	WP	WP	RP	RP	RBP	RBP	RBP	RBP	RBP	RBP
1*	Firecrest					V		V	V						V			
1	Flycatcher, Spotted	P	P	P	V	S	SB?	V	V	V	SP	SP	V	V	SP	P	SP	S
1*	Tit, Marsh								V									

CODE	SPECIES	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06
	Tit, Long-Tailed	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
1	Tit, Coal	RB	RB	RB	RB	RB	RB?	RB?	RB?	RB?	RB?		V	V	V	V	V	V
	Tit, Blue	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
	Tit, Great	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
3	Nuthatch	R	R	R	R	R	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
3	Treecreeper	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
1*	Shrike, Great Grey				V													
2	Jay	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
2	Magpie	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
2	Jackdaw	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
2	Rook	W	W	W	W	W	W	W	W	R	R	R	p	R	R	R	R	R
2	Crow, Carrion	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
	Starling	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	R	RB
	Sparrow, House	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
1*	Sparrow, Tree	V				V												
2	Chaffinch	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RBW
1	Brambling	W	W	W	W	W	W	W	W	W	W		W	W	V	V	W	W
2	Greenfinch	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
2	Goldfinch	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
2	Siskin	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
2	Linnet	R	R	R	R	R	R	RB	RB	RB	RB	RBW	RBW	RBW	RBW	RBW	RBW	RBW
2	Redpoll, Lesser	R	R	R	R	R	R	R	W	W	W	W	W	W	W	W	W	W
1*	Crossbill, Common					V		V	V	V	V							
3	Bullfinch	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
2	Yellowhammer	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RBW	RB	RB	RBW	RBW	RBW
2	Bunting, Reed	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB

	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06
<b>Total species breeding</b>	<b>59</b>	<b>63</b>	<b>62</b>	<b>63</b>	<b>63</b>	<b>65</b>	<b>67</b>	<b>66</b>	<b>65</b>	<b>66</b>	<b>65</b>	<b>66</b>	<b>66</b>	<b>66</b>	<b>65</b>	<b>66</b>	<b>67</b>
<b>Total species recorded</b>	<b>124</b>	<b>129</b>	<b>130</b>	<b>137</b>	<b>137</b>	<b>127</b>	<b>140</b>	<b>141</b>	<b>139</b>	<b>122</b>	<b>125</b>	<b>127</b>	<b>128</b>	<b>129</b>	<b>132</b>	<b>132</b>	<b>142</b>

The following additional species were all recorded prior to 1990:

Black-throated Diver (1977)	Willow Tit (1985)?>
Ferruginous Duck (1985)	Kentish Plover (1986)
Sabine's Gull (1987)	

Total number of species recorded:	208
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## APPENDIX D

### NOTES AND GUIDELINES ON BIRD RECORDING

Following the creation of Moor Green Lakes (part of the Eversley Gravel Pit complex) as a nature reserve, it is necessary to maintain a detailed log of birds using the site in order to monitor bird populations, with particular reference to conservation management carried out on the site by the Moor Green Lakes Group and RMC. These guidelines are designed to assist any persons visiting the site who wish to submit their records. The collection of such data is an important function of the group and all contributions, no matter how small are welcomed.

#### Recording Area

The boundaries of the site for recording purposes are defined as:

- a) South of the Lower Sandhurst Road
- b) West of Mill Lane
- c) East of Longwater Road
- d) North of the golf course access track running from the Reading Road to Mill Lane.

#### Information required

Ideally records should be submitted on Eversley Gravel Pit recording forms available from the recorder (please enclose an SAE). Records should be submitted every 3-4 months (or more frequently!) so that the log can be kept as up to date as possible. Less frequent visitors may wish to submit their records annually.

Where possible the following information should be provided:

- 1) Name of species (include age/sex if known)
- 2) Number of individuals (accurate counts particularly useful)
- 3) Date of observation (and time if a fly over only sighting or short stay record)
- 4) Site location
- 5) Other observations such as unusual behaviour or direction off flight of birds flying over, etc.
- 6) Observer(s) initials. Records not submitted on forms should also include name and address
- 7) Accompanying field notes if required.

The species list for the site at Appendix C includes a code number in the left-hand column. This refers to the type of records required for that species. The full details are:

- 1\* = All records required. Please submit notes on the sighting with the record. These notes should include details of the diagnostic identification features which were observed at the time, other species nearby, the duration and distance of the observation, weather conditions, optical aids used and previous experience of the species.
- 1 = All records required.
- 2 = Whole site counts, reserve area counts, breeding summary (number of pairs and young, singing males), early/late dates for summer and winter visitors, movements, unusual dates and interesting behaviour.
- 3 = Breeding summary only.
- 4 = Only unusual records for the species e.g. high counts, early breeding records.

## APPENDIX E

### NOTES AND GUIDELINES ON DRAGONFLY RECORDING

Any person visiting the site who wishes to submit dragonfly/damselfly records may do so. Any attributable records are gratefully received. Observers may add their records to the monthly dragonfly posted in both Grove and Colebrook hides.

Alternatively records of a more detailed nature may be submitted at any time direct to the recorder but for preference before the end of October. If submitted after the end of October, the data will be logged on to the Reserve's database but may be too late for inclusion in the Annual Report.

Records can be presented in any form that best suits the observer but should include:

Observer's name and address

Date/Time/Weather

Site location, i.e.:

Colebrook Lake North (CLN)

Colebrook Lake South (CLS)

Colebrook Cut (CC)

Grove Lake (GL)

Horseshoe Lake

River Blackwater and path (BR)

Name(s) of species observed

For each species observed at each site an estimate of the number of:

Adults

Copulating pairs

Ovipositing females

# APPENDIX F

## WATER ANALYSIS

*K. A. Crick*

What remains of the northern most scrape in front of Grove hide stubbornly continues to register a pH of 2.7, a level of acidity considerably higher than the highest levels generally quoted in textbooks (Macan 1974). The improvement in the recently bunded off section of this scrape and its attraction to two species of dragonfly is covered in the dragonfly section of this report.

In June this year the opportunity presented itself to measure the pH in all the scrapes on Long Island. One vegetation free scrape was found to have a pH of 2.6 and was devoid of invertebrates. The other scrapes' pH varied from 4.7 to 6.6. At the same time Des Sussex and Tim Mockridge were netting for invertebrates and the species count was significantly higher in those scrapes registering as mildly acidic, eight species at pH 4.7 and 13 species at pH 6.6.

In the River Blackwater adjacent to the reserve, the pH varied over the course of the year from 5.9 to 6.8 with nitrate levels ranging from 3.8 to 7.9 mg/l. These levels were significantly higher than those recorded on the reserve, which were usually zero, but with one excursion at the input to Grove reaching 1.2mg/l and returning to zero on the next visit.

The area of Colebrook Lake North reported on last year as having cow slurry solids in suspension and subsequently a high phosphate reading, showed a significant reduction in dissolved oxygen by April, as the breakdown of organic matter consumed the available oxygen locally. The normal environmental range for dissolved oxygen is from 3mg/l to 9mg/l. (Corbet 1999). The April figure for dissolved oxygen was 3.6 mg/l and this with the spring at this location clearly visible and up welling. The July figure for the same site was again 3.6mg/l with the spring visible and flowing. By the 20th of Sept. with the spring no longer visible the dissolved oxygen level had recovered to 5.6 mg/l and 5.8 mg/l by mid-December.

From the Moor Green data collected over several years it would appear that dissolved oxygen levels in the River Blackwater drop when the flow rate and depth of water are low. The December reading for the water in the cut adjacent to Colebrook Hide, near the sluice, had dropped to 4.3mg/l from an average of 6mg/l. With little or no flow in the cut and the build-up of rotting organic matter beneath the water, oxygen levels appear to be dropping but this is only one low reading, and it will be interesting to see what value arises from April 2007's sampling exercise.

### References

Corbet. Dragonflies behaviour and ecology of Odonata. Harley Books. 1999.

Mackereth, Heron & Talling. Water Analysis. Freshwater Biological Association. 1978.

Macan & Worthington. Life in lakes & rivers. Collins New Naturalist. 1974.

C200 Series Instructional Manual Hanna Instruments. 2003

## APPENDIX G

### MOOR GREEN LAKES GROUP COMMITTEE MEMBERS

2006-2007

<b>Officer</b>	<b>Committee Post / Responsibilities</b>
Peter Scott*	Chairman / Report Editor / Recorder for Reptiles
Dr. Delphine Hoyle	Vice-Chairman / Recorder for Plants
Robert Godden	Committee Secretary
Sue Dent	Blackwater Valley Countryside Partnership Representative
Dr. Bruce Archer	Treasurer
Keith Littler	Membership Secretary
Cohn Wilson	Newsletter Editor
Simon Weeks	Site Liaison Officer
Dr. Kevin Briggs*	Reserve Consultant
Dr. Ian Brown	Recorder for Birds
Ken Crick	Recorder for Dragonflies and Damselflies
Ian White	Recorder for Mammals
Sue Proudley	Recorder for Butterflies
Irene Draper	Postal Secretary
Peter Standley*	

\* Represents Moor Green Lakes Group on the Steering Group

## APPENDIX H

### Moor Green Lakes Nature Reserve Reference Library

The contents of the library so far collected are listed below.

#### Site Survey Data

Anon. 1993.	Plant list for Moor Green Lakes. (Farnborough College student report)
Briggs, K. 2001	Moor Green Lakes Nature Reserve; ornithological monitoring 2000
Brown, I. 1993	Eversley Gravel Pits Bird Species List
BVRCMS 2000.	Survey Data. (Includes a number of minor surveys with Moor Green records)
Crick, K. 1999	Green Lakes Odonata Population Survey, benchmark Report 1997-99
Gannaway, H. 1997	The Distribution of Small Mammals at Moor Green Lakes (Farnborough College student report)
Hall C, 1991	Botanical Survey.
Hearn, R. 1993	The Management of Disused Mineral Workings as Habitat for Waterbirds (Farnborough College student report)
Lovesey, E. 1997	Spider Survey
Matthes, G. 1997	Hoverfly Surveys 1995 -1997
Smith, M. 2001	Bracknell Forest Borough Council Invertebrate Survey 2000
Tomlinson D. 1995	A Live Trapping Investigation of Small Mammal Populations at Moor Green Lakes Nature Reserve. (Farnborough College student report)
Hall C, 2001	A Survey of Aquatic and Wetland Plants, August — September 2001
Bailey.J.S 2002	Bat Assessment of Moor Green Lakes Nature Reserve
Hall.C 2002	Moor Green Lakes Nature Reserve. A Survey of Aquatic and Wetland Plants
Williams.D 2005	Mammal Survey for Moor Green Lakes Reserve, Yateley
Briggs. K 2006	Moor Green Lakes Nature Reserve Ornithological Monitoring 2006
Crick.K 2004	Moor Green Lakes Odonata Population Survey 1997-2004

#### Site Management

Fourt D, 2000	Moor Green Lakes pH & liming records
McAll, G. Undated	Management Plan for Moor Green Lakes (draft plan for BBONT, never adopted)

#### Group Administration

Annual reports:	A complete set from the 1st report in 1994
Moor Green News	A full set of the Group Newsletters
Moor Green Lakes Group Management Committee --	A complete set of minutes

# APPENDIX I

## Map of the Reserve

