



MOOR GREEN LAKES  
NATURE RESERVE

FIFTEENTH ANNUAL REPORT  
2007

# MOOR GREEN LAKES NATURE RESERVE

## FIFTEENTH ANNUAL REPORT: 2007

### CONTENTS

- Chapter 1 [Introduction to the Fifteenth Report of the Moor Green Lakes Group](#)
- Chapter 2 [Site Management Report, April 2007 - March 2008](#)
- Chapter 3 [Report on Birds for 2007](#)
- Chapter 4 [Moor Green Lakes Ringing Project, 2007 Report](#)
- Chapter 5 [Botanical Survey 2007](#)
- Chapter 6 [Report on Butterflies for 2007](#)
- Chapter 7 [Report on Dragonflies and Damselflies for 2007](#)
- Chapter 8 [Reptile Report for 2007](#)
- Chapter 9 [Report on Nest Boxes 2007](#)
- Chapter 10 [Bumblebee Surveys During 2007](#)
- Chapter 11 [Report on Moths for 2007](#)

### APPENDICES

- Appendix A [Profile of the Reserve](#)
- Appendix B [Annual Bird Report for 2007](#)
- Appendix C [Check List of Bird Species 1990 – 2007](#)
- Appendix D [Notes and Guidelines on Bird Recording](#)
- Appendix E [Notes and Guidelines on Dragonfly Recording](#)
- Appendix F [Water Analysis](#)
- Appendix G [Moor Green Lakes Group Committee Members](#)
- Appendix H [Moor Green Lakes Nature Reserve Reference Library](#)
- Appendix I [Map of the Reserve](#)

## CHAPTER 1

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

*Peter Scott*

Welcome to our annual report on the wildlife found on the reserve and the maintenance work carried out there during the last year. Again, the numbers of species seen was generally good: even reptiles returned to their usual numbers after the disappointing picture in 2006. The main exception was dragonflies, for which the poor summer weather was a factor in their reduced numbers.

For the first time since 1995, moths have been surveyed. As Colin Proudley reports in chapter 11, the numbers found are very encouraging. Colin intends to continue his observations, and we are grateful to him for joining our team of recorders to fill an important gap in our knowledge.

Another new contribution is a chapter on the ringing of birds on Tern Island by Tim Ball, Paul James and Karen Tucker of the Reading and Basingstoke Ringing Group. Their efforts in doing this and in producing this report are greatly appreciated, as are those of Bruce Archer in arranging the work.

Having contributed an initial set of bumblebee data last year, Steve Farmer has repeated the exercise in 2007, as reported in chapter 10. He and his wife Shelia have also supplied a report on flowers found along the riverside footpath beside Manor Farm, included here as an addition to the chapter on botanical surveying. As the restoration of Manor Farm continues, we may wish to extend most of our surveys to cover it, though this would be a considerable increase in workload in some cases. Ian Brown's bird reports have always included it, of course, and several of the nest boxes examined regularly by Bruce Archer are located on Manor Farm.

On the administrative front, two members of our committee resigned their posts at our AGM in February 2007. Robert Godden relinquished the role of committee secretary and Keith Littler withdrew from that of membership secretary. They have been replaced by Roger Murfitt and David Bishop respectively. We are very grateful to Robert and Keith for their past services and to Roger and Dave for stepping into the vacancies.

## CHAPTER 2

### Moor Green Lakes Nature Reserve SITE MANAGEMENT REPORT APRIL 2007 TO MARCH 2008

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

*General Site Management 2007/2008*

#### **Islands and scrapes**

**Long Island** is beginning to show real signs of improvement now that the pontoon is available to get volunteers and equipment across to the island. The increased management is gradually reducing the cover of scrub and bramble and encouraging a shorter grass sward.

On **Tern Island** the control of bramble and perennial vegetation has gradually become more difficult over the years. As an experiment the island was sprayed this summer with a general herbicide, and this certainly made it much easier to clear the island in the winter work programme. The impact on the re-growth next summer will be monitored to see how well it works. The fenced enclosure on Tern Island is beginning to deteriorate and was reinforced with sandbags to stop predators getting underneath. Some shelters for the terns to nest under were also put out over the winter and these will hopefully give them some protection from the gulls.

**Plover and Sandpiper Islands** were also cleared of vegetation. If the spraying of Tern Island is successful it may be extended to Plover next year.

#### **Grassland**

Controlling scrub on the grassland is an on-going commitment and is mostly done by volunteers both by hand and with the help of some machines. As usual the meadows have been grazed this year. We have changed to a grazer who can provide native breeds of cattle, which should be more suitable to the type of poor grazing we have at Moor Green and may be more likely to graze the scrub and bramble. This year we have had Irish Moiles and a group of Belted Galloways which seem to have settled in well and we hope to use them again next year. The FMD outbreak meant that grazing started later than planned, but we were very lucky to be able to go ahead at all.

#### **Plantations to southern edge of Reserve.**

The rotational cutting of the plantation has continued, as well as thinning of some blocks that are to remain as wooded areas. It is hoped that this will encourage a diverse ground flora to develop.

#### **Other reserve matters**

**Path to Colebrook Hide.** MGLG successfully applied for a grant to resurface the path to Colebrook Hide from SC Johnson and the Blackwater Valley Countryside Trust.

The **path from Lower Sandhurst Road** car park was repaired after it was damaged in the storms last summer which turned it briefly into a stream and left some large gullies in the surface.

A new **Map Board** has been installed close to the bridge across the River Blackwater in collaboration with BVCP and Bracknell Forest BC. It shows the main circular walks around the area, including Horseshoe Lakes.

#### **Conservation Volunteers**

Conservation volunteers make an enormous contribution to the management of the reserve. The tasks are made up of Sundays by the MGLG and a regular monthly Tuesday from the BVCP volunteers.

The **Moor Green Lakes Group** have been out for 7 Sundays from September to March and several extra tasks to pick up special jobs such as transporting sandbags to Tern Island. Overall, they have done over 80 days of practical work, with an average of 11 people out on the Sunday Tasks. Special thanks to Peter Scott, Simon Weeks, Tony Elston and Tim Mockridge who have led the Moor Green Lakes Group tasks this year. There have also been two special tasks, including a BBQ, aimed at encouraging newcomers and in total 13 new volunteers came along this season.

This has been backed up by the **Blackwater Valley Tuesday** group who have done 9 tasks and 178 days, with an average of 19 volunteers per task. This has included two days working on the new Manor Farm workings. Altogether this adds up to a minimum of 256 volunteer days or over £14 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 BVCP Tuesday group has started to carry out work on the new Manor Farm site. This year they have carried out more trial planting for the new reedbed. The results from the planting done last year have been mixed, but the most successful method seems to be simple root/rhizome cuttings. To date there have been sufficient reeds on Moor Green to provide material for transplanting.

The Tuesday volunteers and a BTCV-run group have also been thinning the established plantations adjacent to Lower Sandhurst Road and managing some newer planting.

## CHAPTER 3

### REPORT ON BIRDS 2007

*Recorder: Ian Brown*

During the year 136 species were recorded of which 67 were present in suitable breeding habitat in the summer. The latter maintains last year's equal highest annual recorded total. Barn Owl was gained as a breeding species, but Barnacle Goose lost. The number of species recorded was boosted by an exceptional year (the best on record; see article by Bruce Archer in newsletter) for waders, with 24 species recorded (cf. previous high, 21 in 2006). These figures overall partly reflect habitat improvement and increased habitat diversity but especially the fact that large areas of the Manor farm workings were maintained in drained state for most of the year. One new species was added to the site list, Mealy Redpoll, bringing the total number of species recorded to 209.

In the early winter period waterfowl numbers were generally good despite relatively mild weather. Wigeon numbers continue to increase year on year and 2007 was no exception with a site record count of 597 in January. A male Peregrine remained faithful to the pylon by Mill Lane and two male Ruddy Ducks graced Horseshoe Lake for several weeks. Little Egret's were again regular visitors and a handful of Golden Plover were recorded. Dunlin and Oystercatcher were particularly noteworthy in February.

Returning waders began to appear in mid-March with Ringed Plover, Redshank and Little Ringed Plover recorded before the months end. Also in March were Barn Owls taking up residence in the west owl box. Arrivals of passerines was much later this year with for example House and Sand Martins not being recorded until the latter half of April. Nevertheless, there were plenty other birds in the early part of April with another Oystercatcher, a good passage of Yellow Wagtails, five Little Gulls, two Greenshank, only the second site record of Avocet and Spotted Redshank. This however only proved to be the appetizer for May that proved to be an outstanding month especially for waders. It began on 1st with a Little Stint, 2 Wood Sandpipers together and a Whimbrel! These were followed mid-month by a party of 11 Dunlin, another Spotted Redshank, good numbers of Ringed Plover, Oystercatcher, the third site record of Knot and a party of 7 Sanderling, comfortably the largest group of this species recorded. These birds were interspersed with an Arctic Tern, the first site record of Syke's Wagtail (race of Yellow) and of course all the returning breeding birds.

Overall, it was another successful breeding season. Waders fared with mixed success with Redshank and Lapwing successfully fledging young but Little Ringed Plovers had a poor year despite good numbers of birds present only one young was definitely reared. Amongst waterfowl Tufted Duck and Mandarin did moderately well as did both species of breeding grebe and Gadwall successfully reared two broods, now a firmly established breeding species. Egyptian Geese go from strength to strength and despite early broods in January not surviving, still reared at least one brood. Black Headed Gull and Common Tern largely failed for the second year in succession with Tern Island again being abandoned prematurely, Mink? The major successes were the first confirmed breeding in the recording area of Greylag Goose and of course successful occupancy of the west owl box by Barn Owls rearing four young and providing good viewing opportunities for all as the adults feverishly hunted for prey. Other species that had a good breeding season either on the reserve or nearby were Little Owl, Hobby, Kingfisher, Grey Wagtail and Skylark. Breeding may have been attempted by Grey Heron for only the second time.

The flow of notable wader records continued in July (which can often be a quieter month) with three records of Black Tailed Godwit, up to three Turnstone, four Whimbrel, a Curlew and another Oystercatcher. August continued in the same vein with five Greenshank, a party of eight Black Tailed Godwits, plus a Little Stint and a Ruff both of which lingered for several days. Other records during the month included a Garganey on three dates, Red Kite (scarcer this year) and Peregrine. September began with probably the highlight of the year which unfortunately was only witnessed by one lucky observer who saw a single group of 28 Black Tailed Godwits on the Manor Farm site. This will be a county record if accepted by Berkshire! However, for those who missed out there was plenty of additional fare with another long staying Ruff, three Curlew Sandpipers, another Little Stint, a Grasshopper Warbler, more Curlew, Whinchat and a Rock Pipit. Wader species number 24 occurred in late October with a Jack Snipe. Other notable autumn records included the customary good geese counts with site records for Greylag (103) and Egyptian Geese (108) at roost.

The year ended with another site record, a remarkable influx of Golden Plover to the Lapwing flock on the works. Good numbers were seen over a period of several days finally peaking at 630, approximately 15 times higher than the previous best! The year ended with returning Little Egrets, Goosander, a Caspian Gull, Brent Goose and Peregrine. Finally, but not least the only addition to the site list during the year was Mealy Redpoll, when one of this former subspecies was sharply detected in the alders near Longwater sewage works.

Again, my thanks go to the growing band of observers who submit records especially including those who provide observers names on the log sheet (it is helpful if there is a need to follow up on any record). I would thank again the small band of stalwarts covering the site on a daily basis irrespective of weather!

## CHAPTER 4

### MOOR GREEN LAKES RINGING PROJECT 2007 REPORT

*Tim Ball, Paul James, Karen Tucker  
(Reading and Basingstoke Ringing Group)*

#### **Black-headed Gull**

Black-headed Gulls have been nesting at Moor Green Lakes since 2003. All the chicks which fledged in the first year were ringed by Kevin Briggs. In 2007 the Moor Green Lakes Group asked us to ring the Gulls and any Terns that nested on Tern Island on Colebrook Lake North. No Terns nested this year and only Gulls were ringed.

In the last couple of years most of the Gulls have nested inside the fenced area of the island and only a few have nested on the unprotected areas. Since birds first bred here in 2003 the colony has grown significantly - however productivity has dropped:

2003 - 8 pairs raised 21 young

2004 - Approx 80 pairs reared more than 130 young

2005 - Approx 122 pairs reared more than 125 young

2006 - Approx 180 pairs reared only about 100 young - a predator of some kind got inside the fence and killed a lot of young

The first ringing trip in 2007 was carried out on 4 June and 52 chicks were ringed. There were many nests with eggs still being incubated and about 20 or 30 young that were too young to ring. Unfortunately, it was also clear that the very wet weather at the end of May had taken a significant toll and there were between 20 and 30 dead small young present. A complete nest count located 124 nests.

A second trip on 15 June proved how disastrous the bad weather over the Bank Holiday weekend had been - it was clear that all the un-hatched eggs have failed, although some adults were still attempting to incubate the dead eggs. No new young had hatched since the first trip and we ringed all the remaining young - there were another 27 making 79 ringed in all. But the continuing unsettled weather had led to more young dying - including 4 of those ringed on 4 June. A further dead bird was found during maintenance work on 30 August - this had probably died at around the time it would have fledged. The final productivity of 74 birds from 124 nests is well below normal Black-headed Gull productivity.

There have been no subsequent recoveries of the ringed birds.

#### **Little Ringed Plover**

Little Ringed Plovers at Moor Green were monitored with assistance from Chris Gent and Bruce Archer as part of a wider project across a number of sites in Berkshire and Hampshire. All approaches to nests and breeding birds were carried out by Tim Ball under the appropriate Schedule 1 license. The results were submitted to the BTO's Little Ringed & Ringed Plover Breeding Survey.

#### **Colebrook Lake**

One pair apparently attempted to breed but probably failed before any young hatched.

#### **New Workings**

Three pairs bred with a fourth possibly present

Pair A: Pair seen changing over on a nest on 9 May. 1 young was first seen on 29 May and was still present on 15 June when it was very well grown and may have already fledged. Generally occupying the northern central part of the New Workings.



Pair B: 4 young first seen on 5 June, only 3 young were seen on 8 June and were still present on 15 June when 2 were ringed and had primary feathers sprouting about 3 or 4 mm out of the pin so were 10 to 14 days old. Generally occupying the western part of the New Workings.

Pair C: 3 young first seen on 9 June, reduced to 2 young on 10, 12 & 14 June. The parents were behaving as if they still had young on 15 June. Generally occupying the northeastern part of the New Workings.

One adult seen occasionally at the extreme west end of the New Workings may represent an extra pair.

Adults seen occasionally on the restored part of the New Workings were thought to be birds from the main New Workings pit.

There were very few records of young after 16 June and it is thought unlikely that more than 2 fledged successfully – one from pair A and one from pair B or C.

## CHAPTER 5

### BOTANICAL SURVEY 2007

*Peter Scott*

Quantitative surveys of the meadow areas on the north and west sides of Colebrook Lake North have been undertaken since 1997. The method used is based on the National Vegetation Classification. Ten one-metre-square quadrats are identified, five on each side of the lake. In 2007 two visits were made, in May and July. All ten quadrats were surveyed each time.

In each of the sample squares the species present were identified and quantified by the area of the quadrat they covered –

|   |                          |  |    |         |
|---|--------------------------|--|----|---------|
| 1 | <4 % few individuals     |  | 6  | 26-33 % |
| 2 | <4 % several individuals |  | 7  | 34-50 % |
| 3 | <4 % many individuals    |  | 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 forty-five species other than grasses (which were not surveyed) found in the quadrats. This is more than in any previous year. However, previously each quadrat has been surveyed once only, so the increase is probably a result of more intensive surveying and is therefore more apparent than real.

Table B lists, in column B1, other species noted in the immediately surrounding areas. Two other sites were also surveyed. These were the Colebrook Cut Wood and the Corner Wood (near the river). The additional species found at these two sites are given in columns B2 and B3. Species listed in Table A are repeated in Table B only if they were found in one or both of the two woods.

The most frequent and/or abundant species were mostly the same as in 2006: Black Knapweed, Lady's Bedstraw, Cut-leaved Crane's-bill, Oxeye Daisy, Lesser Stitchwort, Ribwort Plantain, Clover (both Red and White) and Smooth Tare. The north side of the lake seems to have a more diverse flora than the west side. The north bank, of course, receives more direct sunshine and this, together with the steeper slope to the lake and the fact that the soil is rather thin in places, creates rather dry conditions. This makes it more difficult for species which become dominant in 'richer', damper soils to thrive.

When the reserve was created, the meadow area was planted with a wildflower mix of 24 species. In 2007 seventeen of the original sown species were found in the quadrats and a further three were noticed nearby.

This indicates that the botanical diversity of the reserve is being maintained. However, a full list of species present on the reserve, for comparison with the surveys carried out up to 1994, is overdue and will be attempted in the next couple of years.

I am grateful to Pauline Crick, Irene Draper, Doreen Dye, Steve and Sheila Farmer and Delphine Hoyle for their help with the survey.

**Table A. Quadrat Surveys**

|   | Species                       | Common name                | Shore     |           |
|---|-------------------------------|----------------------------|-----------|-----------|
|   |                               |                            | North     | West      |
| S | <i>Achillea millefolium</i>   | Yarrow                     | I (3)     | 0         |
|   | <i>Agrimonia eupatoria</i>    | Agrimony                   | IV (1-2)  | 0         |
|   | <i>Bellis perennis</i>        | Daisy                      | I (1)     | 0         |
| S | <i>Centaurea nigra</i>        | Black Knapweed             | IV (4-7)  | V (4-5)   |
|   | <i>Centaureum erythraea</i>   | Common Centaury            | I (1)     | 0         |
|   | <i>Cerastium fontanum</i>     | Common Mouse-ear           | II (1)    | III (1-3) |
|   | <i>Cirsium arvense</i>        | Creeping Thistle           | I (1)     | 0         |
|   | <i>Crepis capillaris</i>      | Smooth Hawk's-beard        | III (1-4) | 0         |
|   | <i>Crepis versicaria</i>      | Beaked Hawk's-beard        | I (1)     | 0         |
| S | <i>Daucus carota</i>          | Wild Carrot                | IV (1)    | 0         |
|   | <i>Galium aparine</i>         | Cleavers                   | I (2)     | I (1)     |
|   | <i>Galium sp.</i>             | Bedstraw (unidentified)    | 0         | I (1)     |
| S | <i>Galium verum</i>           | Lady's Bedstraw            | V (1-8)   | III (2-6) |
|   | <i>Geranium dissectum</i>     | Cut-leaved Crane's-bill    | IV (1-4)  | V (1-7)   |
| S | <i>Geranium pratense</i>      | Meadow Crane's-bill        | II (1-6)  | 0         |
| S | <i>Hypericum perforatum</i>   | Perforate St. John's-wort  | IV (2-4)  | 0         |
| S | <i>Hypochaeris radicata</i>   | Cat's-ear                  | III (1)   | 0         |
|   | <i>Lathyrus pratensis</i>     | Meadow Vetchling           | III (1-4) | III (2-6) |
| S | <i>Leucanthemum vulgare</i>   | Oxeye Daisy                | V (1-8)   | IV (1-3)  |
| S | <i>Lotus corniculatus</i>     | Common Bird's-foot-trefoil | III (2-7) | III (1-8) |
|   | <i>Lychnis flos-cuculi</i>    | Ragged-Robin               | I (1)     | 0         |
| S | <i>Medicago lupulina</i>      | Black Medick               | I (1)     | I (1)     |
|   | <i>Myosotis discolor</i>      | Changing Forget-me-not     | I (1)     | 0         |
| S | <i>Plantago lanceolata</i>    | Ribwort Plantain           | V (4-7)   | V (3-8)   |
| S | <i>Prunella vulgaris</i>      | Selfheal                   | III (1-4) | I (1)     |
|   | <i>Quercus robur</i>          | Pedunculate Oak            | III (1)   | 0         |
| S | <i>Ranunculus acris</i>       | Meadow Buttercup           | I (2)     | V (1-2)   |
|   | <i>Ranunculus repens</i>      | Creeping Buttercup         | II (1-8)  | IV (4-5)  |
|   | <i>Rubus fruticosus</i>       | Bramble                    | I (2)     | 0         |
| S | <i>Rumex acetosa</i>          | Common Sorrel              | III (1-2) | V (1-3)   |
|   | <i>Rumex acetosella</i>       | Sheep's Sorrel             | III (1-3) | 0         |
|   | <i>Rumex sp.</i>              | Dock (unidentified)        | 0         | I (1)     |
|   | <i>Senecio jacobaea</i>       | Ragwort                    | III (1)   | 0         |
|   | <i>Stellaria graminea</i>     | Lesser Stitchwort          | IV (1-5)  | IV (1-5)  |
| S | <i>Taraxacum officinale</i>   | Dandelion                  | III (1-2) | II (1)    |
|   | <i>Trifolium arvense</i>      | Hare's-foot Clover         | I (4)     | 0         |
|   | <i>Trifolium dubium</i>       | Lesser Trefoil             | V (1-3)   | 0         |
|   | <i>Trifolium pratense</i>     | Red Clover                 | III (3-5) | V (4-8)   |
|   | <i>Trifolium repens</i>       | White Clover               | IV (1-5)  | III (1-4) |
|   | <i>Urtica dioica</i>          | Stinging Nettle            | I (1)     | 0         |
|   | <i>Veronica hederifolia</i>   | Ivy-leaved Speedwell       | I (1)     | 0         |
|   | <i>Veronica serpyllifolia</i> | Thyme-leaved Speedwell     | I (1)     | 0         |
| S | <i>Vicia sativa</i>           | Common Vetch               | II (1-2)  | I (1)     |
|   | <i>Vicia sp.</i>              | Vetch (unidentified)       | III (1)   | IV (1-2)  |
| S | <i>Vicia tetrasperma</i>      | Smooth Tare                | IV (1-5)  | V (1-3)   |

**Note: S = Sown species**

**Table B. Plants Recorded in other locations****B1 - Outside recorded squares, B2 - Colebrook Cut wood, B3 - Corner wood**

| <b>Species</b>               | <b>Common name</b>       | <b>B1</b> | <b>B2</b> | <b>B3</b> |
|------------------------------|--------------------------|-----------|-----------|-----------|
| <i>Anthriscus sylvestris</i> | Cow Parsley              |           | X         | X         |
| <i>Arctium minus</i>         | Lesser Burdock           | X         |           |           |
| <i>Artemisia vulgaris</i>    | Mugwort                  | X         |           |           |
| <i>Bryonia dioica</i>        | White Bryony             | X         |           |           |
| <i>Cardamine pratensis</i>   | Cuckooflower             | X         |           |           |
| <i>Cirsium palustre</i>      | Marsh Thistle            |           | X         | X         |
| <i>Cirsium vulgare</i>       | Spear Thistle            | X         | X         |           |
| <i>Clinopodium vulgare</i>   | Wild Basil               |           | X         |           |
| <i>Conyza canadensis</i>     | Canadian Fleabane        |           | X         |           |
| <i>Daucus carota</i>         | Wild Carrot              |           | X         |           |
| <i>Digitalis purpurea</i>    | Foxglove                 |           | X         | X         |
| <i>Epilobium parviflorum</i> | Hoary Willowherb         |           |           | X         |
| <i>Filago vulgaris</i>       | Common Cudweed           | X         |           |           |
| <i>Galium aparine</i>        | Cleavers                 | X         | X         | X         |
| <i>Geum urbanum</i>          | Wood Avens               |           | X         |           |
| <i>Heracleum sphondylium</i> | Hogweed                  | X         |           | X         |
| <i>Humulus lupulus</i>       | Hop                      | X         |           |           |
| <i>Hypericum perforatum</i>  | Perforate St.John's-wort | X         | X         | X         |
| <i>Iris pseudacorus</i>      | Yellow Iris              | X         |           |           |
| <i>Knautia arvensis</i>      | Field Scabious           | X         |           |           |
| <i>Lactuca serriola</i>      | Prickly Lettuce          | X         |           |           |
| <i>Lapsana communis</i>      | Nipplewort               | X         | X         | X         |
| <i>Leucanthemum vulgare</i>  | Oxeye Daisy              |           | X         |           |
| <i>Lychnis flos-cuculi</i>   | Ragged-Robin             | X         | X         |           |
| <i>Lycopus europaeus</i>     | Gipsywort                | X         |           | X         |
| <i>Lysimachia vulgaris</i>   | Yellow Loosestrife       | X         |           |           |
| <i>Mentha aquatica</i>       | Water Mint               |           |           | X         |
| <i>Myosoton aquaticum</i>    | Water Chickweed          |           | X         |           |
| <i>Oenanthe crocata</i>      | Hemlock Water-dropwort   | X         |           | X         |
| <i>Polygonum aviculare</i>   | Knotgrass                | X         |           |           |
| <i>Primula veris</i>         | Cowslip                  | X         |           |           |
| <i>Pulicaria dysenterica</i> | Common Fleabane          | X         |           |           |
| <i>Ranunculus acris</i>      | Meadow Buttercup         | X         | X         |           |
| <i>Ranunculus repens</i>     | Creeping Buttercup       | X         |           | X         |
| <i>Rubus fruticosus</i>      | Bramble                  | X         | X         | X         |
| <i>Rumex crispus</i>         | Curled Dock              | X         |           |           |
| <i>Rumex obtusifolius</i>    | Broad-leaved Dock        | X         | X         |           |
| <i>Rumex sanguineus</i>      | Wood Dock                |           |           | X         |
| <i>Scrophularia nodosa</i>   | Common Figwort           | X         |           |           |
| <i>Senecio jacobea</i>       | Ragwort                  | X         | X         | X         |
| <i>Silene latifolia</i>      | White Campion            | X         |           |           |
| <i>Sonchus asper</i>         | Prickly Sow-thistle      | X         |           |           |
| <i>Stachys officinalis</i>   | Betony                   | X         |           |           |
| <i>Stachys sylvatica</i>     | Hedge Woundwort          |           | X         | X         |
| <i>Taraxacum officinale</i>  | Dandelion                | X         |           | X         |
| <i>Torilis japonica</i>      | Upright Hedge-parsley    |           | X         | X         |
| <i>Ulex europaeus</i>        | Gorse                    | X         |           |           |
| <i>Urtica dioica</i>         | Stinging Nettle          |           | X         | X         |
| <i>Veronica chamaedrys</i>   | Germander Speedwell      | X         | X         |           |
| <i>Veronica montana</i>      | Wood Speedwell           |           |           | X         |

## MANOR FARM RIVERSIDE PATH BOTANICAL SURVEY

*Steve and Sheila Farmer*

A botanical survey was conducted on 12 June 2007 along the public footpath on the southern boundary of the Manor Farm Gravel Quarry. This part of the Blackwater Valley path was established about 7 years ago along the edge of fields that existed at that time on the northern bank of the River Blackwater. It stretches from the small footbridge at the southwest corner of Colebrook South Lake (SU805621) to Longwater Road just north of the Sewage Farm near Finchampstead Bridge (SU795624). The total length is approximately 1300 metres. Plants growing on either side of the path were recorded, but not those on the riverbank.

The path was surveyed for flowering plants including all annuals and herbaceous perennials. Woody shrubs and climbers were included, but saplings and trees were excluded. Two non-flowering plants, namely horsetail and bracken, were also included as these formed a significant part of the vegetation along the sides of the path in some places.

The path was divided into five sections of approximately 250 metres each and then the results were combined to give an overall frequency of occurrence of each species. The frequency was assessed according to the following table.

| Number of individual plants | Percentage of path length along which plant occurs. | Frequency class |
|-----------------------------|---|-----------------|
| few plants (1-5)            |   | 1               |
| several plants (6-10)       |   | 2               |
| many plants (11-20)         |   | 3               |
|                             | <1%   | 4               |
|                             | 1-2%  | 5               |
|                             | 3-5%  | 6               |
|                             | 6-10%   | 7               |
|                             | 11-20%  | 8               |
|                             | 21-40%  | 9               |
|                             | 41-100%   | 10              |

The overall frequency of each species is given in Table A.

This initial survey revealed the surprisingly high number (74) of different kinds of flowering plants. This may reflect the variety of habitat along the path. Some parts have become rather overgrown with trees and saplings during the last 7 years, while others remain fairly open. Coarse vegetation such as Bramble, Broom, Stinging Nettle, Mugwort and Hogweed were dominant along some stretches. However, other parts had much lower-growing subjects such as Greater and Lesser Stitchwort. An area of disturbed ground near the abstraction sump, which was installed by Cemex during the winter 2006/7, had several low-growing subjects such as Corn Spurrey, Field Pansy and Shepherd's-purse. These are often found as weeds of cultivation on arable land. Sand Spurrey was found among the gravel of the path at several places towards the western end of the path. Dog-rose, Honeysuckle and Hop were also found mostly along this section of the path.

**Table A**

| SPECIES                        | COMMON NAME      | FREQUENCY | CLASS |
|--------------------------------|------------------|-----------|-------|
| <i>Achillea millefolium</i>    | Yarrow           | 5%        | 6     |
| <i>Alliaria petiolata</i>      | Garlic Mustard   | few       | 1     |
| <i>Artemisia vulgaris</i>      | Mugwort          | 5%        | 6     |
| <i>Bellis perennis</i>         | Daisy            | few       | 1     |
| <i>Calystegia sepium</i>       | Hedge Bindweed   | <1%       | 4     |
| <i>Capsella bursa-pastoris</i> | Shepherd's-purse | few       | 1     |
| <i>Centaurea nigra</i>         | Black Knapweed   | few       | 1     |
| <i>Cerastium fontanum</i>      | Common Mouse-ear | <1%       | 4     |
| <i>Chaerophyllum temulum</i>   | Rough Chervil    | 5%        | 6     |

|                               |                                 |         |   |
|-------------------------------|---------------------------------|---------|---|
| <i>Chenopodium album</i>      | Fat-hen                         | few     | 1 |
| <i>Cirsium arvense</i>        | Creeping Thistle                | <1%     | 4 |
| <i>Cirsium spp</i>            | Thistle (species)               | few     | 1 |
| <i>Crepis capillaris</i>      | Smooth Hawk's-beard             | 1%      | 5 |
| <i>Crepis vesicaria</i>       | Beaked Hawk's-beard             | several | 2 |
| <i>Cytisus scoparius</i>      | Broom                           | 15%     | 8 |
| <i>Digitalis purpurea</i>     | Foxglove                        | several | 2 |
| <i>Epilobium hirsutum</i>     | Great Willowherb                | several | 2 |
| <i>Epilobium montanum</i>     | Broad-leaved Willowherb         | few     | 1 |
| <i>Galium aparine</i>         | Cleavers                        | 5%      | 6 |
| <i>Geranium dissectum</i>     | Cut-leaved Crane's-bill         | 1%      | 5 |
| <i>Geranium molle</i>         | Dove's-foot Crane's-bill        | many    | 3 |
| <i>Glechoma hederacea</i>     | Ground-ivy                      | 1%      | 5 |
| <i>Heracleum sphondylium</i>  | Hogweed                         | 10%     | 7 |
| <i>Humulus lupulus</i>        | Hop                             | 1%      | 5 |
| <i>Hypericum perforatum</i>   | Perforate St.John's-wort        | several | 2 |
| <i>Hypochaeris radicata</i>   | Common Cat's-ear                | 2%      | 5 |
| <i>Impatiens glandulifera</i> | Indian Balsam                   | <1%     | 4 |
| <i>Lamium album</i>           | White Dead-nettle               | many    | 3 |
| <i>Lapsana communis</i>       | Nipplewort                      | many    | 3 |
| <i>Leucanthemum vulgare</i>   | Oxeye Daisy                     | several | 2 |
| <i>Linaria vulgaris</i>       | Common Toadflax                 | many    | 3 |
| <i>Lonicera periclymenum</i>  | Honeysuckle                     | several | 2 |
| <i>Lotus corniculatus</i>     | Common Bird's-foot-trefoil      | few     | 1 |
| <i>Matricaria discoidea</i>   | Pineappleweed                   | many    | 3 |
| <i>Myosotis arvensis</i>      | Field Forget-me-not             | few     | 1 |
| <i>Oenanthe cracata</i>       | Hemlock Water-dropwort          | <1%     | 4 |
| <i>Oenothera glazioviana</i>  | Large-flowered Evening-primrose | few     | 1 |
| <i>Plantago lanceolata</i>    | Ribwort Plantain                | 2%      | 5 |
| <i>Plantago major</i>         | Greater Plantain                | 1%      | 5 |
| <i>Polygonum aviculare</i>    | Knotgrass                       | few     | 1 |
| <i>Prunella vulgaris</i>      | Selfheal                        | few     | 1 |
| <i>Ranunculus acris</i>       | Meadow Buttercup                | <1%     | 4 |
| <i>Ranunculus repens</i>      | Creeping Buttercup              | <1%     | 4 |
| <i>Rosa canina</i>            | Dog-rose                        | several | 2 |
| <i>Rubus caesius</i>          | Dewberry                        | 5%      | 6 |
| <i>Rubus fruticosus</i>       | Bramble                         | 25%     | 9 |
| <i>Rumex acetosella</i>       | Sheep's Sorrel                  | <1%     | 4 |
| <i>Rumex obtusifolius</i>     | Broad-leaved Dock               | 1%      | 5 |
| <i>Senecio jacobaea</i>       | Ragwort                         | many    | 3 |
| <i>Senecio vulgaris</i>       | Groundsel                       | few     | 1 |
| <i>Sisymbrium officinale</i>  | Hedge Mustard                   | several | 2 |
| <i>Solanum dulcamara</i>      | Bittersweet                     | few     | 1 |
| <i>Sonchus asper</i>          | Prickly Sow-thistle             | many    | 3 |
| <i>Sonchus oleraceus</i>      | Smooth Sow-thistle              | many    | 3 |
| <i>Spergula arvensis</i>      | Corn Spurrey                    | many    | 3 |
| <i>Spergularia rubra</i>      | Sand Spurrey                    | 1%      | 5 |
| <i>Stellaria graminea</i>     | Lesser Stitchwort               | 1%      | 5 |
| <i>Stellaria holostea</i>     | Greater Stitchwort              | 1%      | 5 |
| <i>Stellaria media</i>        | Common Chickweed                | many    | 3 |

|                                  |                        |         |   |
|----------------------------------|------------------------|---------|---|
| <i>Stellaria nemorum</i>         | Wood Stitchwort        | many    | 3 |
| <i>Taraxacum officinale</i>      | Dandelion              | many    | 3 |
| <i>Trifolium dubium</i>          | Lesser Trefoil         | <1%     | 4 |
| <i>Trifolium pratense</i>        | Red Clover             | many    | 3 |
| <i>Trifolium repens</i>          | White Clover           | many    | 3 |
| <i>Tripleurospermum inodorum</i> | Scentless Mayweed      | few     | 1 |
| <i>Tussilago farfara</i>         | Colt's-foot            | few     | 1 |
| <i>Ulex europaeus</i>            | Gorse                  | several | 2 |
| <i>Urtica dioica</i>             | Stinging Nettle        | 20%     | 8 |
| <i>Veronica chamaedrys</i>       | Germander Speedwell    | few     | 1 |
| <i>Veronica serpyllifolia</i>    | Thyme-leaved Speedwell | few     | 1 |
| <i>Vicia cracca</i>              | Tufted Vetch           | 2%      | 5 |
| <i>Vicia hirsuta</i>             | Hairy Tare             | few     | 1 |
| <i>Vicia sativa</i>              | Common Vetch           | <1%     | 4 |
| <i>Viola arvensis</i>            | Field Pansy            | several | 2 |
|                                  |                        |         |   |
| NON-FLOWERING PLANTS             |                        |         |   |
| <i>Equisetum arvense</i>         | Field Horsetail        | <1%     | 4 |
| <i>Pteridium aquilinum</i>       | Bracken                | 1%      | 5 |
|                                  |                        |         |   |

## CHAPTER 6

### REPORT ON BUTTERFLIES FOR 2007

*Recorder Sue Proudley*

Although no butterflies were recorded at Moor Green during February 2007 the warm spring brought out several butterflies in March and April. The first butterflies to be recorded were 6 Brimstones, 4 Peacocks, a Small Tortoiseshell, Red Admiral and Comma on 8th March.

In April Brimstone numbers swelled to 23, 20 Orange Tips, 16 Peacocks, 10 Speckled Woods, 7 Commas, 6 Red Admirals as well as 2 Holly Blues and a Green Hairstreak promised a better butterfly year.

In May 19 Brimstones were recorded but other butterfly sightings were disappointing. There were 6 Peacocks and Commas, 4 Whites and a single Holly Blue and Green Hairstreak.

The summer months showed a sharp decline in the normally common grassland butterflies. Meadow Brown numbers recorded only 30, Gatekeepers 32 and Ringlets 9. Speckled Woods fared better with 25 recorded in July 28 in August 18 in September and 16 in October.

A few Small, Essex and Large Skippers were recorded in June, July and August.

2 Common Blues were seen in June, but no Small Coppers or Small Heaths were sighted.

Red Admirals and Commas were seen throughout the season

3 Marbled Whites were found in July and a single Grayling in September.

One Painted Lady visited in July and was not recorded again. There were no sightings of Clouded Yellows or any other unusual visitors.

The last butterfly recorded was a Red Admiral on 23rd October.

The list of species observed on the reserve in 2007 is as follows:

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

Number of species 23

K and P Crick

R Horland

B and R McCartney

A B

A Moreton

M Mitchell

M N C

J G and D B

J E Warren

C Wolfe

J and R Westmacott

D J B

S A and S F Farmer

I H Brown

C Rose



## MOOR GREEN BUTTERFLIES

2007

| Recorded numbers Mar - Oct 2007                | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT |
|--|-----|-----|-----|-----|-----|-----|------|-----|
| Small Skipper ( <i>Thymelicus sylvestris</i> ) |     |     |     | 7   | 3   | 1   |      |     |
| Essex Skipper ( <i>Thymelicus lineola</i> )    |     |     |     | 5   | 3   | 3   |      |     |
| Large Skipper ( <i>Ochisodes venata</i> )      |     |     |     | 1   | 4   |     |      |     |
| Clouded Yellow ( <i>Colias crocea</i> )        |     |     |     |     |     |     |      |     |
| Brimstone ( <i>Gonepteryx rhamni</i> )         | 6   | 23  | 19  | 1   | 1   | 1   |      | 2   |
| Large White ( <i>Pieris brassicae</i> )        |     | 1   | 1   | 5   | 9   |     | 2    | 1   |
| Small White ( <i>Pieris rapae</i> )            |     | 2   | 2   |     | 5   | 1   | 2    |     |
| Green-veined White ( <i>Pieris napi</i> )      |     |     | 1   |     | 4   | 4   | 2    |     |
| Orange tip ( <i>Anthocharis cardamines</i> )   |     | 20  |     |     |     |     |      |     |
| Green Hairstreak ( <i>Callophrys rubi</i> )    |     | 1   | 1   |     |     |     |      |     |
| Purple Hairstreak ( <i>Quercusia quercus</i> ) |     |     |     |     | 2   |     |      |     |
| Small Copper ( <i>Lycaena phlaeas</i> )        |     |     |     |     |     |     |      |     |
| Common Blue ( <i>Polyommatus icarus</i> )      |     |     |     | 2   |     |     |      |     |
| Holly Blue ( <i>Celastrina argiolus</i> )      |     | 2   | 1   |     | 2   | 2   |      |     |
| Red Admiral ( <i>Vanessa atalanta</i> )        | 1   | 6   |     | 10  | 14  | 1   | 2    | 1   |
| Painted Lady ( <i>Cynthia cardui</i> )         |     |     |     |     | 1   |     |      |     |
| Small Tortoiseshell ( <i>Aglais urticae</i> )  | 1   | 1   |     |     | 2   |     |      |     |
| Peacock ( <i>Inachis io</i> )                  | 4   | 16  | 6   |     | 2   |     | 1    |     |
| Comma ( <i>Polygonia c-album</i> )             | 1   | 7   |     | 3   | 10  | 1   | 1    |     |
| Speckled Wood ( <i>Pararge aegeria</i> )       |     | 10  | 6   | 2   | 25  | 28  | 18   | 16  |
| Grayling ( <i>Hipparchia semele</i> )          |     |     |     |     |     |     | 1    |     |
| Gatekeeper ( <i>Pyonia tithonus</i> )          |     |     |     |     | 32  | 15  |      |     |
| Meadow Brown ( <i>Maniola jurtina</i> )        |     |     |     | 30  | 10  | 4   | 2    |     |
| Small Heath ( <i>Coenonympha pamphilus</i> )   |     |     |     |     |     |     |      |     |
| Marbled White ( <i>Melanargia galathea</i> )   |     |     |     |     | 3   |     |      |     |
| Ringlet ( <i>Aphantopus hyperantus</i> )       |     |     |     | 3   | 9   |     |      |     |

## CHAPTER 7

### REPORT ON DRAGONFLIES AND DAMSELFLIES FOR 2007

*Ken Crick*

The data collection protocol employed over the last two years was adhered to for the 2007 season. The winter was mild, and the spring season started early. The first species to show was the Large Red Damselfly about 1.5 miles from the reserve on the 15th of April. I found one exuvia for this species on the reserve on the 18th of April and by the 28th copulating pairs was observed over Colebrook Lake North. The same day produced 38 Common Blue Damselflies, 15 Blue-tailed Damselflies and 88 Banded Demoiselles, with the exuvia of three Red – eyed Damselflies found in the emergent vegetation of the northern corner of Colebrook Lake North.

The unsettled conditions of May and June, with some local flooding in June, made the collection of exuvia extremely problematic. Numbers on the wing were low across all the species of both Dragonfly and Damselfly. Weather conditions were generally poor for observing Odonata and exuvia numbers were also low.

The absence of any shallow open water in the scrapes, in front of Grove hide, now completely covered by dense vegetation, undoubtedly contributed to the failure of last year's new arrivals Keeled Skimmer & Black Darter to show.

Data for this year was collected over 15 site visits resulting in records for only 14 species. Two of these records were from the sighting of single individuals; a further record resulted from only two sightings. Despite the poor showing on the wing and overall numbers of exuvia being down, 9 species of exuvia were recovered from a very limited area of marginal vegetation, one more species than last year.

I was grateful for the digital image sent in by Christine Wolfe of a Brown Hawker with only three wings, seen by her at Colebrook Lake North on the 19 June. A digital image always adds credence to unusual observations.

#### ODONATA CHECKLIST 2007

##### DAMSELFLIES *Zygoptera*

| Species   | Date of maximum count | Max count | Life cycle confirmation Exuvia | Observed Flight period  |
|---|-----------------------|-----------|--------------------------------|-------------------------|
| Large Red<br><i>Pyrhosorna nymphala</i>         | 28 April and 22 May   | 12        | Yes                            | 18 April - 20 June      |
| Azure<br><i>Coenagrion puellao</i>              | 22 May                | 18        | Yes                            | 22 May - 19 July        |
| Common Blue<br><i>Enallagama cyathigerum</i>    | 1 June                | 815       | Yes                            | 28 April - 23 October   |
| Banded Demoiselle<br><i>Caloperyx splendens</i> | 22 May                | 119       | No*                            | 28 April - 13 September |
| Blue-tailed<br><i>Ischnura elegans</i>          | 19 July               | 59        | Yes                            | 28 April - 17 August    |
| Red-eyed<br><i>Erythromma najas</i>             | 8 August              | 39        | Yes                            | 28 April - 13 September |

DRAGONFLIES *Anisoptera*

| Species  | Date of maximum count  | Max count | Life cycle confirmation Exuvia | Observed Flight period |
|--|------------------------|-----------|--------------------------------|------------------------|
| Downey Emerald<br><i>Cordulia aenea</i>                | 22 May                 | 1         | No                             | 22 May                 |
| Black-tailed Skimmer<br><i>Orthetrum cancellatum</i>   | 22 May                 | 39        | Yes                            | 3 June - 10 Sept.      |
| Four-spotted Chaser<br><i>Libellula quadrimaculata</i> | 22 May                 | 5         | Yes                            | 13 May - 19 July       |
| Emperor<br><i>Anax Imperator</i>                       | 22 May and 20 June     | 2         | No                             | 13 June - 15 July      |
| Golden-ringed<br><i>Cordulegaster boltonii</i>         | Not observed this year |           |                                |                        |
| Common Darter<br><i>Sympetrum striolatum</i>           | 13 September           | 30        | Yes                            | 19 July - 10 Sept      |
| Southern Hawker<br><i>Aeshna cyanea</i>                | Not observed this year |           |                                |                        |
| Brown Hawker<br><i>Aeshna grandis</i>                  | 19 July and 8 August   | 14        | No                             | 19 July                |
| Migrant Hawker<br><i>Aeshna mixta</i>                  | 13 September           | 23        | Yes                            | 19 July - 10 Sept      |
| Ruddy Darter<br><i>Sympetrum sanguineum</i>            | 4 July                 | 3         | No                             | 8 Aug -10 Sept         |
| Keeled Skimmer<br><i>Orthetrum coerulescens</i>        | Not observed this year |           |                                |                        |
| Black Darter<br><i>Sympetrum danae</i>                 | Not observed this year |           |                                |                        |
| Broad-bodied Chaser<br><i>Libellula Depressa</i>       | Not observed this year |           |                                |                        |

## CHAPTER 8

### REPTILE REPORT FOR 2007

*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*

Twelve sheet-inspection visits were made between April and September. All seven sheets were checked each time. Once again, most of the visits produced no sightings. The remainder found individual snakes under various tins. The results are summarised in the following table:

#### **Summary of Surveys of Reptile Basking Tins**

|                                    | <b>2002</b> | <b>2003</b> | <b>2004</b> | <b>2005</b> | <b>2006</b> | <b>2007</b> |
|------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Site visits made                   | 11          | 14          | 15          | 16          | 14          | 12          |
| Total tin-inspections              | 93          | 140         | 150         | 144         | 126         | 84          |
| Total grass snakes (or skins) seen | 6           | 14          | 15          | 13          | 7           | 7           |
| Total adders seen                  | 0           | 0           | 3           | 4           | 0           | 3           |
| Snake sightings per tin-inspection | 0.06        | 0.10        | 0.12        | 0.12        | 0.06        | 0.12        |

The overall 'sighting rate' is back to the level typical of 2003-2005, an increase from the poor showing of 2006. However, the loss of two sheets on the north shore of Grove Lake means that the year-to-year comparison is not on a strictly 'like-for-like' basis. The missing sheets rarely had snakes anyway, so their loss decreases the denominator of the 'sighting rate' while having a smaller effect on the numerator. Nevertheless, it is pleasing to see adders again after the zero count in 2006. These were all seen very close to the hibernaculum (as, indeed, were most of the grass snakes). This indicates that the barn owl box was probably not responsible for the low number of sightings in 2006, as had been feared.

#### **Casual reports**

Only five reptiles (all grass snakes) were reported, similar to the four reported in 2006.

#### **Summary**

The number of reptiles seen in 2007 indicates a partial recovery from the very low 2006 figure. In 2008 more sheets will be installed, to make up for those lost over the past couple of years.

I am grateful to those (Bruce Archer, Ken Crick and MLP) who reported seeing reptiles. Please take the trouble to note your sightings on the forms in the hides.

## CHAPTER 9

### 2007 REPORT ON NEST BOXES

*Bruce Archer*

Forty-eight nest boxes were monitored between 13th March and 23rd May this year; 6 of these are on the Manor Farm site (new workings), the remaining 42 being on the Reserve and along the bridleway. 31 are Woodcrete tit boxes, of which 29 were occupied, 15 are large wooden boxes, of which 9 were used by nesting birds – Grey Squirrels occupy some of these, and 2 are open-fronted boxes neither of which were used this year. The attached table shows data for each nest and the static analysis of the results with the survival rates for each species.

The mild April, followed by cooler and wet weather from May had an impact on the survival of young, so overall it was not a particularly good year. A total of 308 eggs were laid in the boxes being monitored and 213 birds left the nests.

#### **Blue Tit**

The mild and dry April meant that Tits got off to a good start. Eleven boxes were occupied by Blue Tits: first egg date was between 3rd and 23rd of April. The clutch sizes were between 3 and 11 eggs - a total of 98 in all. 77 young hatched, with one clutch being predated during laying, probably by Grey Squirrels. 10 broods of between 5 and 9 young were successfully hatched. Food supplies must have been good, because 100% of young appear to have fledged this year. First fledging was on 16th May with 5 of the 11 nests fledging on 22nd May. The productivity was 6.9 young per nest, with 78% of eggs laid surviving to fledged young. One Blue Tit laid an egg in a Great Tit nest which was fostered and fledged successfully – it was seen in the nest with 8 young Great Tits a few days before fledging. Another box that seemed to have been initially occupied by Blue Tits was taken over by Great Tits suggesting that there was competition for nest boxes. Blue Tits also occupied at least 2 bat boxes and built a nest in one of the lifebelts stands around Horseshoe Lake.

#### **Great Tit**

Seventeen boxes were used by Great Tits, the first egg date was between the 4th and 19th April, with a total of 155 eggs being laid with clutch sizes between 4 and 13. Two clutches failed: one of 4 eggs appeared to have been predated by Squirrels during laying and a clutch of 11 eggs was deserted during incubation – probably because of death of the parent. 110 young hatched between 27th April and 6th May, of these 97 fledged; one clutch of 8 was deserted. All fledging was during an 8-day period between 15th and 22nd May. One pair of Great Tits chose to nest and raise young in the leaflet holder on Grove Hide!

#### **Mandarin Duck**

Five of the large wooden boxes were used by Mandarin Ducks this year to lay 41 eggs and produced 36 young. Because, like all ducks, Mandarin young leave the nest upon hatching, there is no means of knowing how many survive to fledge. First egg dates were between 19th March and 22nd April. Hatching of 36 young was confirmed from 4 boxes between 24th April and 24th May; one was probably taken over by Squirrels. Many of the large boxes not used by birds showed signs of Squirrel occupation. One box was contested by Stock Doves; the initial Stock Dove clutch of 2 eggs disappeared, probably taken by Squirrels. Mandarin then started to lay; Stock Doves then laid another 2 eggs with the Mandarin eggs, but these eggs disappeared, and the Mandarin hatched 9 eggs. There is an additional large wooden box on one of the five Oaks on the spit in the new lake on the Manor Farm site, which was not monitored, but a late brood of 7 young Mandarin were seen in that area with a female on 30th July. The number of Mandarin eggs recorded this year is considerably lower than in previous years, but the total count of young is not too different.

#### **Stock Dove**

Stock Doves lay only two eggs in a nest, but can nest from February until October; so the monitoring through spring was inevitably incomplete. Seven nesting attempts in 6 different boxes were monitored. The laying date was between 26th February and 18th April for the 5 nests where a date could be determined.

Seven of the 14 eggs laid hatched and just 3 young fledged – all on 22nd May. Four eggs were lost because of competition with Mandarins, and 3 were taken, probably by Squirrels. Four young were deserted and found dead in the nest, 2 being half grown. A pair of Stock Doves nested in the Barn Owl box north of Colebrook Lake – 2 eggs were present on 6th June.

**Barn Owl**

The Barn Owl boxes were checked on 6th June by a licensed inspector. The box by Colebrook Lake was in use by Stock Doves with 2 eggs. The Manor Farm (new workings) box was occupied by a pair of Barn Owls with 4 young. A visit to ring the young in early July found only 3 well grown young. Because it was a “vole year” with plentiful food supplies, many cases of second broods later in the summer occurred, but a check of the boxes in September confirmed that there were no second broods at Moor Green Lakes. This is the first breeding on the site since 1997.

**Kestrel**

Kestrels attempted to breed in the top section of the Barn Owl box on the Manor Farm site. One deserted egg was found on the 6th of June visit, and the remains of two more eggs under the box.

| Box No. | Species            | Eggs      |        | Hatched      |         | Fledged    |        |
|---------|--------------------|-----------|--------|--------------|---------|------------|--------|
|         |                    | First     | Max    | First        | Max     | First      | Max    |
|         | 2 Blue Tit         | 03-Apr-07 | 9      | 27-Apr-07    | 9       | 16-May-07  | 9      |
|         | 3 Blue Tit         | 08-Apr-07 | 11     | 02-May-07    | 8       | 21-May-07  | 8      |
|         | 5 Blue Tit         | 14-Apr-07 | 10     | 07-May-07    | 9       | 22-May-07  | 9      |
|         | 6 Blue Tit         | 18-Apr-07 | 9      | 05-May-07    | 8       | 23-May-07  | 8      |
|         | 12 Blue Tit        | 13-Apr-07 | 8      | 02-May-07    | 5       | 21-May-07  | 5      |
|         | 34 Blue Tit        | 12-Apr-07 | 10     | 08-May-07    | 7       | 22-May-07  | 7      |
|         | 38 Blue Tit        | 23-Apr-07 | 3      |              |         |            |        |
|         | 43 Blue Tit        | 05-Apr-07 | 9      | 27-Apr-07    | 5       | 16-May-07  | 5      |
|         | 45 Blue Tit        | 19-Apr-07 | 9      | 07-May-07    | 9       | 22-May-07  | 9      |
|         | 46 Blue Tit        | 16-Apr-07 | 8      | 07-May-07    | 8       | 22-May-07  | 8      |
|         | 47 Blue Tit        | 10-Apr-07 | 11     | 03-May-07    | 8       | 22-May-07  | 8      |
| 26*     | Blue Tit           |           | 1      | 06-May-07    | 1       | 22-May-07  | 1      |
|         | Average            | 12-Apr-07 | 8.8    | 03-May-07    | 7.6     | 20-May-07  | 7.6    |
|         | Standard Deviation |           | 5.8    | 2.1          | 3.9     | 1.4        | 2.4    |
| 11      | Total              |           | 98     |              | 77      |            | 77     |
|         | Survival           | Egg/Pulli | 78.60% | Pulli/Fledge | 100.00% | Egg/Fledge | 78.60% |

| Box No.       | Species            | Eggs      |        | Hatched   |      | Fledged |     |
|---------------|--------------------|-----------|--------|-----------|------|---------|-----|
|               |                    | First     | Max    | First     | Max  | First   | Max |
| 15            | Mandarin Duck      | 26-Mar-07 | 9      | 24-Apr-07 | 7    |         |     |
| 17            | Mandarin Duck      | 20-Mar-07 | 2      |           |      |         |     |
| 20            | Mandarin Duck      | 22-Apr-07 | 9      | 24-May-07 | 9    |         |     |
| 21            | Mandarin Duck      | 19-Mar-07 | 11     | 05-May-07 | 11   |         |     |
| 39            | Mandarin Duck      | 22-Mar-07 | 10     | 09-May-07 | 9    |         |     |
| Mandarin Duck | Average            | 28-Mar-07 | 8.2    | 08-May-07 | 9    |         |     |
|               | Standard Deviation |           | 12.7   | 3.2       | 10.7 | 1.4     |     |
| 5             | Total              |           | 41     |           | 36   |         |     |
|               | Survival           | Egg/Pulli | 87.80% |           |      |         |     |

| Box No.   | Species   | Eggs      |        | Hatched      |        | Fledged    |        |
|-----------|-----------|-----------|--------|--------------|--------|------------|--------|
|           |           | First     | Max    | First        | Max    | First      | Max    |
| 1         | Great Tit | 13-Apr-07 | 8      | 01-May-07    | 8      |            |        |
| 4         | Great Tit | 16-Apr-07 | 13     | 06-May-07    | 8      | 22-May-07  | 8      |
| 7         | Great Tit | 12-Apr-07 | 11     | 01-May-07    | 8      | 18-May-07  | 8      |
| 8         | Great Tit | 15-Apr-07 | 4      |              |        |            |        |
| 9         | Great Tit | 14-Apr-07 | 7      | 01-May-07    | 6      | 19-May-07  | 6      |
| 10        | Great Tit | 09-Apr-07 | 10     | 01-May-07    | 8      | 19-May-07  | 8      |
| 13        | Great Tit | 15-Apr-07 | 8      | 01-May-07    | 8      | 19-May-07  | 8      |
| 16        | Great Tit | 07-Apr-07 | 7      | 27-Apr-07    | 7      | 15-May-07  | 7      |
| 24        | Great Tit | 17-Apr-07 | 10     | 06-May-07    | 7      | 22-May-07  | 7      |
| 25        | Great Tit | 11-Apr-07 | 7      | 01-May-07    | 5      | 19-May-07  | 5      |
| 26        | Great Tit | 11-Apr-07 | 9      | 06-May-07    | 8      | 22-May-07  | 8      |
| 27        | Great Tit | 13-Apr-07 | 12     | 06-May-07    | 9      | 22-May-07  | 9      |
| 29        | Great Tit | 19-Apr-07 | 8      | 06-May-07    | 3      | 22-May-07  | 3      |
| 31        | Great Tit | 16-Apr-07 | 12     | 06-May-07    | 9      | 22-May-07  | 4      |
| 33        | Great Tit | 14-Apr-07 | 9      | 03-May-07    | 9      | 21-May-07  | 9      |
| 36        | Great Tit | 11-Apr-07 | 9      | 03-May-07    | 7      | 21-May-07  | 7      |
| 40        | Great Tit | 04-Apr-07 | 11     |              |        |            |        |
| Great Tit | Average   | 12-Apr-07 | 9.1    | 03-May-07    | 7.3    | 20-May-07  | 6.9    |
|           | Standard  |           |        |              |        |            |        |
|           | Deviation |           | 3.6    | 2.2          | 2.8    | 1.6        | 2      |
| 17        | Total     |           | 155    |              | 110    |            | 97     |
|           | Survival  | Egg/Pulli | 71.00% | Pulli/Fledge | 88.20% | Egg/Fledge | 62.60% |

| Box No.    | Species    | Eggs      |        | Hatched      |        | Fledged    |        |
|------------|------------|-----------|--------|--------------|--------|------------|--------|
|            |            | First     | Max    | First        | Max    | First      | Max    |
| 11         | Stock Dove | 06-Apr-07 | 2      | 28-Apr-07    | 1      | 22-May-07  | 1      |
| 20         | Stock Dove | 07-Apr-07 | 2      |              |        |            |        |
| 20         | Stock Dove |           | 2      |              |        |            |        |
|            |            | 26-Feb-07 |        |              |        |            |        |
| 23         | Stock Dove |           | 2      | 20-Mar-07    | 2      |            |        |
| 23         | Stock Dove | 16-Apr-07 | 2      | 10-May-07    | 2      | 22-May-07  | 2      |
| 48         | Stock Dove |           | 2      |              |        |            |        |
| 50         | Stock Dove | 12-Apr-07 | 2      | 04-May-07    | 2      |            |        |
| Stock Dove | Average    | 01-Apr-07 | 2      | 22-Apr-07    | 1.8    | 22-May-07  | 1.5    |
|            | Standard   |           |        |              |        |            |        |
|            | Deviation  |           | 17.7   | 0            | 19.9   | 0.4        | 0      |
| 7          | Total      |           | 14     |              | 7      |            | 3      |
|            | Survival   | Egg/Pulli | 50.00% | Pulli/Fledge | 42.90% | Egg/Fledge | 21.40% |

**Overall totals**

|    |          |           |        |              |        |            |        |
|----|----------|-----------|--------|--------------|--------|------------|--------|
| 40 | Totals   |           | 308    |              | 230    |            | 177    |
|    | Survival | Egg/Pulli | 74.70% | Pulli/Fledge | 77.00% | Egg/Fledge | 57.50% |

## CHAPTER 10

### BUMBLEBEE SURVEYS DURING 2007

*Steve Farmer*

Surveys of bumblebees were conducted on Manor Farm, Moor Green Lakes and Horseshoe Lake during 2007. These were designed to establish the species present on these sites and their relative importance for foraging bumblebees.

The sites surveyed were (a) the Manor Farm river path from Longwater Road eastwards; the wildflower meadows on (b) the west side and (c) the north side of Colebrook Lake North; the small wildflower meadow on (d) the north west side of Grove Lake near Grove Island and (e) the north east corner of Grove Lake; (f) the west side, (g) the north side and (h) the east side of Horseshoe Lake.

**TABLE A**  
**Number of bumblebees seen during the surveys**

| Date 2007                           | Site          | <i>Bombus pascuorum</i> | <i>Bombus lapidarius</i> | <i>Bombus pratorum</i> | <i>Bombus terrestris</i> | <i>Bombus lucorum</i> | <i>Bombus hortorum</i> | <i>Bombus vestalis</i> | Total |
|-------------------------------------|---------------|-------------------------|--------------------------|------------------------|--------------------------|-----------------------|------------------------|------------------------|-------|
| 20/05                               | Manor Farm    | 6                       |                          | 6                      | 2                        | 4                     |                        |                        | 18    |
| 07/06                               | Manor Farm    | 6                       |                          | 3                      | 11                       | 18                    | 4                      |                        | 42    |
| 04/07                               | Manor Farm    |                         |                          |                        |                          | 11                    | 2                      |                        | 13    |
| 18/07                               | Manor Farm    | 1                       |                          |                        | 3                        | 9                     |                        |                        | 13    |
| 01/08                               | Manor Farm    | 9                       |                          |                        |                          | 2                     | 1                      |                        | 12    |
| 07/08                               | CLN (West)    | 45                      |                          |                        | 1                        |                       | 1                      |                        | 47    |
| 07/08                               | CLN (North)   | 30                      | 14                       |                        | 4                        |                       | 1                      |                        | 49    |
| 07/08                               | Grove (NW)    | 28                      |                          |                        |                          | 1                     | 1                      |                        | 30    |
| 07/08                               | Grove (NE)    | 16                      |                          |                        | 1                        |                       | 1                      |                        | 18    |
| 19/07                               | Horseshoe (W) | 18                      |                          |                        |                          |                       |                        |                        | 18    |
| 19/07                               | Horseshoe (N) | 4                       |                          |                        |                          | 1                     |                        |                        | 5     |
| 19/07                               | Horseshoe (E) | 39                      | 3                        |                        | 2                        | 1                     | 1                      |                        | 46    |
| 05/08                               | Horseshoe (W) | 40                      |                          |                        | 2                        |                       |                        |                        | 42    |
| 05/08                               | Horseshoe (N) | 5                       |                          |                        |                          |                       |                        |                        | 5     |
| 05/08                               | Horseshoe (E) | 28                      | 1                        |                        | 2                        | 3                     | 1                      |                        | 35    |
| Totals for 20 May to 7 August 2007. |               | 275                     | 18                       | 9                      | 28                       | 49                    | 14                     | 0                      | 393   |

The main surveys were conducted between 1 and 7 August, which was towards the end of the nesting season. Some partial surveys were carried out on earlier dates. The results of most of these surveys are given in Table A. There were some additional casual observations on other dates.

Bumblebees had rather mixed fortunes during 2007. Most queens emerged from hibernation early and successfully established nests in response to a fine, dry, warm April. However wet and cool weather during the early summer resulted in some of these nests being flooded out and many foraging workers being killed in heavy rain. Continued cool and damp conditions caused many of the remaining nests to finish early. There was a rapid decline in the number of workers by mid-August.

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

**Bombus pascuorum.** (Common carder bumblebee).

*B.pascuorum* has a long nesting cycle and the number of workers only builds up slowly. It was by far the most common bumblebee seen during these surveys and was still present in good numbers in early August.

**Bombus lapidarius.** (Red-tailed bumblebee).

Fourteen males were seen on CLN (north) on 7 August all feeding on black knapweed. There was probably a mature nest in the vicinity.

**Bombus pratorum.** (Early nesting bumblebee).



This species builds its nest early and has a short nesting cycle. Two males were seen on Manor Farm on 20 May and a new queen on 7 June. However, two workers were seen feeding on white bryony on CLN (west) 18 July and two more on 19 August. These were probably from a second-generation nest.

**Bombus terrestris.** (Buff-tailed bumblebee).

This species was one of the first to emerge from hibernation. One queen was seen near Colebrook Hide and another near Grove Hide on 11 March. It usually has a long period of activity, even having a second complete nesting cycle in some summers. However, it was seen in only fairly small numbers from July onwards. A new queen was seen on Grove (NE) on 7 August.

**Bombus lucorum.** (White-tailed bumblebee).

This species emerges from hibernation early and the number of workers normally builds up throughout June and July until a large colony has been produced. The observations showed good numbers of workers on Manor Farm till mid-July but only small numbers thereafter

**Bombus hortorum.** (Garden bumblebee).

This species has a short nesting cycle, and the size of nest is usually small. This year it was only seen in small numbers. A few workers were seen in August.

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

This is a "cuckoo" bumblebee that is parasitic in the nests of *B.terrestris*. One queen was seen on Manor Farm on 14 April. Others were seen in the local area during the spring.

**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. Table B 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 17 kinds of wildflower, but most were observed on just 8 species which were available between May and early August.

**TABLE B**

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

| Flower             | <i>Bombus pascuorum</i> | <i>Bombus lapidarius</i> | <i>Bombus pratorum</i> | <i>Bombus terrestris</i> | <i>Bombus lucorum</i> | <i>Bombus hortorum</i> | <i>Bombus vestalis</i> | Total |
|--------------------|-------------------------|--------------------------|------------------------|--------------------------|-----------------------|------------------------|------------------------|-------|
| Birdsfoot Trefoil  | 47                      | 3                        |                        | 1                        |                       |                        |                        | 51    |
| Black knapweed     | 31                      | 15                       |                        | 3                        | 1                     | 1                      |                        | 51    |
| Bramble            | 15                      |                          | 9                      | 12                       | 31                    | 6                      |                        | 73    |
| Common Hemp Nettle | 8                       |                          |                        |                          |                       | 1                      |                        | 9     |
| Himalayan Balsam   | 2                       |                          |                        | 3                        | 9                     | 1                      |                        | 15    |
| Meadow Vetchling   | 9                       |                          |                        |                          |                       |                        |                        | 9     |
| Red Clover         | 8                       |                          |                        |                          |                       | 1                      |                        | 9     |
| Tufted Vetch       | 143                     |                          |                        | 5                        | 4                     | 1                      |                        | 153   |
| Other *            | 12                      |                          |                        | 4                        | 4                     | 3                      |                        | 23    |
| Total              | 275                     | 18                       | 9                      | 28                       | 49                    | 14                     | 0                      | 393   |

\*Other includes: - betony, broom, creeping thistle, hairy tare, meadow cranesbill, spear thistle, St John's wort, toadflax, and white clover.

*B. pascuorum* was found mainly on birdsfoot trefoil, black knapweed and especially tufted vetch. *B.lapidarius* was found mainly on black knapweed. The few *B.pratorum* were found on bramble early in the season. *B.terrestris* and *B.lucorum* were also found mainly on bramble but also on Himalayan balsam. The few *B.hortorum* were found on bramble mainly. The most interesting change from the previous year was the large number of *B.pascuorum* found on tufted vetch, which was abundant this year. Himalayan balsam, which did not feature in the previous survey, proved to be an important flower for bumblebees to forage on.

**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). <http://www.bwars.com>

Bumblebee Conservation Trust. (BBCT). <http://www.bumblebeeconservationtrust.co.uk>

# CHAPTER 11

## REPORT ON MOTHS FOR 2007

*Recorder Colin Proudley*

The first moth recording took place at Moor Green Lakes in 1995. Des Sussex ran a single trap on two evenings, once in June and again in July. The total species caught was 62. The trap was located on the Northwest corner of the reserve.

In 2007, after a gap of twelve years, I ran two Skinner traps, the first in March with Steve Bailey, and again in April, May, July and October, this time with Richard Eagling, a fellow moth enthusiast. Once again, the location was on the Northwest corner of the reserve. One trap was located under the Oaks that border Moor Green Farm boundary fence at Colebrook North. The second trap was located on the perimeter path at the entrance gate to Colebrook North. I had intended to do more, but Richard and I were defeated by the atrocious summer weather.

The total moth species count for 2007 was 78, comprising 62 Macro moths plus 16 Micro moths. The total moth species identified at Moor Green Lakes reserve to date is 119. Of this total there were no rare or Red Data Book species but there are 13 species which qualify as Local. (This means moths only recorded from 101- 300 10km squares in Great Britain since 1st January 1960.)

The complete list of moths follows this report.

The number in the first column is the one allocated by Bradley (2000). The Check List of Lepidoptera Recorded from the British Isles. The third column shows rarity Status again as allocated by Bradley.

Richard and I intend to continue trapping in 2008 and onwards. This will enable us to get a true picture of the moths at Moor Green Lakes.

All moths caught were released after being identified.

### Moor Green Moths

| Ref. No. | Species                  | Status | 1995 | 2007 | 2008 |
|----------|--------------------------|--------|------|------|------|
| 14       | Ghost Moth               |        | X    |      |      |
| 17       | Common Swift             |        |      | X    |      |
| 937      | Agapeta hamana           |        |      | X    |      |
| 998      | Epiphyas postvittana     |        |      | X    |      |
| 1033     | Green Oak Tortrix        |        |      | X    |      |
| 1113     | Eudemis profundana       |        |      | X    |      |
| 1174     | Epiblema cynosbatella    |        |      | X    |      |
| 1205     | Spilonata ocellana       |        |      | X    |      |
| 1260     | Cydia splendana          |        |      | X    |      |
| 1293     | Chrysoteuchia culmella   |        |      | X    |      |
| 1334     | Scoparia ambigualis      |        |      | X    |      |
| 1348     | Ringed China Mark        |        |      | X    |      |
| 1376     | Small Magpie             |        |      | X    |      |
| 1392     | Udea olivalis            |        |      | X    |      |
| 1405     | Mother of Pearl          |        | X    | X    |      |
| 1413     | Gold Triangle            |        |      | X    |      |
| 1424     | Endotricha flammealis    |        |      | X    |      |
| 1452     | Phycita roborella        |        |      | X    |      |
| 1513     | Pterophorus pentadactyla |        |      | X    |      |
| 1640     | Drinker                  |        | X    | X    |      |
| 1646     | Oak Hook Tip             |        | X    |      |      |
| 1653     | Buff Arches              |        | X    |      |      |
| 1654     | Figure of Eighty         |        | X    |      |      |

|      |                                 |       |   |   |  |
|------|---------------------------------|-------|---|---|--|
| 1666 | Large Emerald                   |       | X |   |  |
| 1667 | Blotched Emerald                | Local | X |   |  |
| 1690 | Small Blood Vein                |       | X |   |  |
| 1711 | Treble Brown Spot               | Local | X |   |  |
| 1713 | Riband Wave                     |       |   |   |  |
| 1732 | Shaded Broad Bar                |       | X |   |  |
| 1738 | Common Carpet                   |       | X |   |  |
| 1742 | Yellow Shell                    |       | X |   |  |
| 1745 | Mallow                          |       |   |   |  |
| 1754 | Phoenix                         |       | X |   |  |
| 1758 | Barred Straw                    |       |   |   |  |
| 1760 | Red Green Carpet                |       |   |   |  |
| 1764 | Common Marbled Carpet           |       |   |   |  |
| 1768 | Grey Pine Carpet                |       |   |   |  |
| 1776 | Green Carpet                    |       |   |   |  |
| 1794 | Sharp Angled Carpet             | Local | X |   |  |
| 1853 | Oak Tree Pug                    |       |   |   |  |
| 1862 | Double Striped Pug              |       |   |   |  |
| 1882 | Small Seraphim                  | Local |   |   |  |
| 1887 | Clouded Border                  |       | X |   |  |
| 1904 | Scorched Wing                   | Local |   |   |  |
| 1906 | Brimstone Moth                  |       | X |   |  |
| 1907 | Bordered Beauty                 |       |   |   |  |
| 1915 | September Thorn                 |       |   |   |  |
| 1917 | Early Thorn                     |       |   |   |  |
| 1922 | Swallowtail Moth                |       | X |   |  |
| 1931 | Peppered Moth                   |       |   |   |  |
| 1937 | Willow Beauty                   |       | X |   |  |
| 1941 | Mottled Beauty                  |       | X |   |  |
| 1956 | Common Wave                     |       | X | X |  |
| 1961 | Light Emerald                   |       | X | X |  |
| 1979 | Lime Hawkmoth                   |       | X |   |  |
| 1981 | Poplar Hawkmoth                 |       | X | X |  |
| 1991 | Elephant Hawkmoth               |       | X | X |  |
| 1992 | Small Elephant Hawkmoth         | Local |   | X |  |
| 1994 | Bug Tip                         |       | X |   |  |
| 1997 | Sallow Kitten                   |       | X |   |  |
| 2009 | Maple Prominent                 | Local |   | X |  |
| 2011 | Pale Prominent                  |       |   | X |  |
| 2014 | Marbled Brown                   | Local | X | X |  |
| 2015 | Lunar Marbled Brown             |       |   | X |  |
| 2028 | Pale Tussock                    |       |   | X |  |
| 2030 | Yellow Tail                     |       | X |   |  |
| 2037 | Rosy Footman                    | Local | X |   |  |
| 2043 | Orange Footman                  | Local |   | X |  |
| 2047 | Scarce Footman                  | Local |   | X |  |
| 2050 | Common Footman                  |       | X | X |  |
| 2061 | Buff Ermine                     |       | X |   |  |
| 2064 | Ruby Tiger                      |       | X | X |  |
| 2087 | Turnip Moth                     |       |   | X |  |
| 2088 | Heart and Club                  |       | X |   |  |
| 2089 | Heart and Dart                  |       | X |   |  |
| 2098 | The Flame                       |       | X | X |  |
| 2102 | Flame Shoulder                  |       | X | X |  |
| 2107 | Large Yellow Underwing          |       | X | X |  |
| 2109 | Lesser Yellow Underwing         |       |   | X |  |
| 2110 | Broad Bordered Yellow Underwing |       | X | X |  |
| 2118 | True Lovers Knot                |       |   |   |  |
| 2126 | Setaceous Hebrew Character      |       | X | X |  |

|       |                     |       |   |   |  |
|-------|---------------------|-------|---|---|--|
| 2128  | Double Square Spot  |       |   |   |  |
| 2134  | Square Spot Rustic  |       |   | X |  |
| 2155  | Dot Moth            |       | X |   |  |
| 2157  | Light Brocade       | Local |   | X |  |
| 2182  | Small Quaker        |       |   | X |  |
| 2190. | Hebrew Character    |       |   | X |  |
| 2193  | The Clay            |       | X |   |  |
| 2198  | Smokey Wainscot     |       | X |   |  |
| 2199  | Common Wainscot     |       |   | X |  |
| 2231  | Deep Brown Dart     |       |   | X |  |
| 2232  | Black Rustic        |       |   | X |  |
| 2247  | Merveille Du Jour   |       |   | X |  |
| 2248  | Brindled Green      |       |   | X |  |
| 2258  | Chestnut            |       |   | X |  |
| 2259  | Dark Chestnut       |       |   | X |  |
| 2270  | Lunar Underwing     |       |   |   |  |
| 2272  | Barred Sallow       |       |   | X |  |
| 2279  | Sycamore            | Local | X | X |  |
| 2284  | Grey Dagger         |       | X |   |  |
| 2305  | Small Angle Shades  |       | X |   |  |
| 2306  | Angle Shades        |       | X |   |  |
| 2318  | Dunbar              |       | X |   |  |
| 2321  | Dark Arches         |       | X | X |  |
| 2322  | Light Arches        |       | X |   |  |
| 2335  | Slender Brindle     |       | X |   |  |
| 2339  | Tawny Marbled Minor |       |   | X |  |
| 2340  | Middle Barred Minor |       | X |   |  |
| 2343  | Common Rustic       |       |   | X |  |
| 2360  | Ear Moth            |       | X |   |  |
| 2380  | Treble Lines        |       |   | X |  |
| 2381  | The Uncertain       |       | X |   |  |
| 2410  | Marbled White Spot  |       |   | X |  |
| 2442  | Beautiful Golden Y  |       | X |   |  |
| 2443  | Plain Golden Y      |       | X |   |  |
| 2474  | Straw Dot           |       |   | X |  |
| 2477  | The Snout           |       | X | X |  |
| 2489  | Fan Foot            |       | X |   |  |

## **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 2007

**LITTLE GREBE** Resident and winter visitor. During the breeding season four pairs were present rearing at least four young.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2   | 2   | 1   | 4   | 3   | 2   | 2   | 5   | 8   | 4   | 4   | 3   |

**GREAT CRESTED GREBE** Common resident. A maxima of 17 were recorded on Feb.18th. A total of four pairs were present during the summer and successfully reared three young (two broods).

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 13  | 17  | 8   | 8   | 8   | 8   | 9   | 14  | 12  | 9   | 15  | 12  |

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

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 43  | 7   | 15  | 6   | 3   | 3   | 0   | 2   | 8   | 19  | 25  | 35  |

**LITTLE EGRET** Frequent visitor with increasing frequency. In the early year 1/3 birds were recorded on 28 dates until Mar.31st. Summer records were 1, May 13th and 1, Jun.28th (first site records for these months). From Nov.8th till the year end 1/3 birds were recorded on 24 dates.

**GREY HERON** Common resident. A report of a bird on a nest on the ground in the Grove area was received but breeding could not be confirmed.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 4   | 2   | 3   | 3   | 3   | 5   | 3   | 3   | 3   | 2   | 2   | 3   |

**MUTE SWAN** Common resident and winter visitor. One pair bred rearing four young.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 40  | 43  | 24  | -   | 14  | 22  | 26  | 14  | 17  | 12  | 30  | 22  |

**GREYLAG GOOSE** Common visitor numbers increasing, new breeder. A maximum of 103 roosted on Sept.16th (JMC) a site record count\* for the second successive year. One pair bred with one young seen in June (IHB), final success unknown. The first confirmed breeding within the recording boundary.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep  | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|
| 20  | 12  | 6   | 6   | 5   | 5   | 9   | 4   | 103* | 4   | 23  | 24  |

**SNOW GOOSE** Resident with numbers sharply declining. Present in all months but there was no evidence of breeding. In the early year four birds were present, but this declined to three in the late winter period. How many more years will they grace the site?

**CANADA GOOSE** Abundant resident.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 158 | 189 | 156 | 39  | 63  | 72  | -   | 320 | 560 | 97  | 227 | 300 |

**BARNACLE GOOSE** Common resident. Breeding was not attempted for the first time since at least 1989.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 52  | 24  | 2   | 2   | 2   | 0   | 0   | 34  | 39  | 0   | 37  | 37  |

**BRENT GOOSE** Scarce visitor. One was briefly on Grove on Dec.15th (IHB). The fourth site record.

**EGYPTIAN GOOSE** Resident in increasing numbers. Four pairs attempted breeding. First brood seen on Jan.6th. One brood of five definitely survived. Roosting on the new workings area occurred in the winter and a maximum count of 108 was recorded on Oct.13th (JMC). A new site record for the third successive year.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct  | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|
| 36  | 9   | 27  | 20  | 8   | 20  | 31  | 70  | 85  | 108* | 103 | 107 |

**SHELDUCK** Regular visitor. 1/2 birds were recorded on five dates between Apr.7th and May 1st. Other records were of 2, May 26th and Jun.1st and 3 immatures, Aug.25th.

**MANDARIN**

Common summer visitor. Resident in small numbers. At least six pairs bred successfully including use of nest boxes (four broods totalling 36 from five boxes). Young were seen from Jul.30th.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5   | 8   | 7   | 5   | 9   | 3   | 8   | 12  | 15  | 1   | 4   | 0   |

**WIGEON** Very common winter visitor. Birds were recorded up to Apr.1st and from Sept.7th. One was present on Jun.18th. The maximum count was of 597 on Jan.20th (JMC) a site record.

Monthly maxima:

| Jan  | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 597* | 303 | 224 | 3   | 0   | 1   | 0   | 0   | 35  | 201 | 264 | 478 |

**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, a second brood was seen but success was unknown.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 184 | 183 | 80  | 11  | 8   | 9   | 8   | 13  | 20  | 23  | 38  | 148 |

**TEAL** Common winter visitor that occasionally summers. Breeding was not suspected. The maximum count was of 80 on Jan.20th.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 80  | 32  | 15  | 10  | 0   | 0   | 3   | 22  | 25  | 18  | 70  | 60  |

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

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 86  | 66  | 19  | -   | 30  | 54  | -   | 60  | 35  | 48  | 36  | 46  |

**GARGANEY** Infrequent visitor. One female was present on Aug.11th and 16th (ML, IHB, BMA et al). The recent trend of increased records is maintained. The ninth and tenth records.

**PINTAIL** Regular winter visitor. A good year recorded as follows: 1/2 birds generally recorded on 18 dates between Jan.1st and Feb.25th involving up to 2m and 1f.

**SHOVELER** Common winter visitor. Recorded until April 19th and from Jul.17th. The maximum count was 81 on Jan.27th .

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 81  | 12  | 68  | 32  | 0   | 0   | 8   | 4   | 22  | 12  | 21  | 48  |



**POCHARD** Common winter visitor, occasional in summer. Recorded until Apr.5th and from Jun.27th. The maximum was 176 on Sept.16th.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 57  | 41  | 29  | 3   | 0   | 1   | 4   | 4   | 176 | 63  | 52  | 91  |

**TUFTED DUCK** Abundant resident and winter visitor. During the summer a minimum of eight broods totalling a minimum of 26 young were raised. Another successful breeding season and continues an upward trend. The maximum count was of 216 on Dec.14th.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 210 | 160 | 190 | 88  | 28  | 26  | 55  | 185 | 176 | 117 | 109 | 216 |

**GOLDENEYE** Winter visitor in increasing numbers. In the early year birds were recorded until Apr 5th First returns were from Nov.7th.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5   | 6   | 4   | 2   | 0   | 0   | 0   | 0   | 0   | 0   | 2   | 3   |

**GOOSANDER** Common winter visitor. Birds continued to roost on the site. The last early year record was on Apr.17th. First returns were from the relatively early date of Oct.29th.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 30  | 24  | 22  | 4   | 0   | 0   | 0   | 0   | 0   | 7   | 15  | 43  |

**RUDDY DUCK** Occasional visitor of annual occurrence. A good year. Two males (one adult, one imm) were present on Horseshoe Lake from Jan.17th to Feb.17th, with one remaining till Mar.31st. A third bird unsexed/aged was present on Feb.10th. The only other record was of a male on May 24th.

**RED KITE** Regular visitor, records increasing. Only two records of singletons on Apr.10th (BMA) and Aug.9th (IHB).

**SPARROWHAWK** Common resident. Breeding strongly suspected.

**BUZZARD** Very frequent visitor that breeds nearby. Recorded in all months except June with a maxima of 4 on Sept.24th. There were records on 43 dates (exactly the same as in 2006!). On Nov.9th one was seen to take a Moorhen.

**KESTREL** Common resident. One pair bred rearing two young. Another or the same failed in an attempt to nest in the 'upper apartment' of the west owl box.

**HOBBY** Common summer visitor. One to three birds were recorded between Apr.24th and Sept 15th.

**PEREGRINE** Frequent visitor of increasing occurrence. A male was recorded on 14 dates to May 2nd and the same or another male was present on 8 dates from Aug.19th to the year end. Recorded in all months except April, June, July and October.

**RED LEGGED PARTRIDGE** Formerly bred, with birds in suitable breeding habitat during the summer. Breeding possible with a pair seen on several dates in April and May. There were further records from Aug.18th till mid Sept with three birds on two dates.

**PHEASANT** Common resident.

**WATER RAIL** Winter visitor. Up to two were recorded until Mar.22nd and from Oct.26th.

**MOORHEN** An abundant resident.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 20  | 30  | 10  | -   | -   | -   | -   | 5   | 16  | 23  | 37  | 26  |

**COOT** Abundant resident.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 211 | 156 | 80  | -   | -   | 44  | -   | 124 | 153 | 166 | 190 | 226 |

**OYSTERCATCHER**

Regular visitor. Four records of singletons, the first on the early date of Feb.21st (DC), followed by Apr.9th (GR, BMA), May 12th (IHB) and Jul.24th (BMA). A typical year showing.

**AVOCET** Very rare visitor. One on Apr.20th was present on the reed bed trial area of the new workings from at least 07.00 to 07.45 (NS, BMA, RG). Only the second site record the first being in 1992.

**LITTLE RINGED PLOVER** Summer visitor and passage migrant. Recorded from Mar.16th until Jun.28th. Five pairs were on the site all of which attempted breeding. Several young broods were seen during late May and June but only one bird is thought to have survived. The only other record was of a passage bird on Aug.5th.

**RINGED PLOVER** Summer visitor and passage migrant that formerly bred. Breeding considered unlikely. A single was recorded intermittently from Mar.12th to May 1st with 3, on Mar.19th. One to two birds were recorded (on 9 dates) from May 13th to Jun.8th. Eight were present on May 27th, six remaining till the following day. In autumn records as follows, 1, Aug.7th, 2, Aug.17th, 1, Aug.24th and 2, Sept.28th.

**GOLDEN PLOVER** Regular visitor. In the early winter: 8, Feb.17th and 20, Feb.20th. In late winter there was a remarkable influx of birds most probably originating from a large flock wintering in the Theale area. Records as follows: 1, Sept.5th, 2, Oct.25th, 5, Oct.27th, 70, Nov.30th, 159, Dec.1st, 100, Dec.3rd, 400, Dec.8th, 630, Dec.9th (CRG) and 480, Dec.10th. The count on Dec.9th was easily a site record (cf 40 in 2006!).

**LAPWING** Common resident and winter visitor. Approximately eleven pairs attempted to breed rearing a total of three young from two broods.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 550 | 900 | 50  | 16  | 22  | 50  | 196 | 235 | 400 | 343 | 300 | 400 |

**KNOT** Very rare visitor. One in partial summer plumage was located on the works at 09.50 (initially in poor visibility) and remained until at least mid-afternoon (IHB et al). The third site record, the first being in 1987.

**SANDERLING** Irregular visitor. A very good year with records as follows: 7, May 27th (JBS) and 4, May 28th (NS, BMA et al). The group on May 27th was the largest recorded for the site. The twelfth and thirteenth site records.

**LITTLE STINT** Irregular visitor. Recorded as follows: 1, May 1st (NS, BMA et al) and 1, Aug.11th to 16th (IHB et al).

**CURLEW SANDPIPER** Scarce visitor. The only record was of three juveniles on the new workings on Sept.23rd (BMA, JMC et al). The fifth site record and the first since 2001.

**DUNLIN** Regular passage migrant. An exceptional year, the best on record. In the early winter period: 1, Feb.24th. Then in spring recorded on 16 dates between Mar.19th and May 27th with a maxima of 11 on May 11th. In autumn recorded on 33 dates (66 bird days) between Jul.17th and Sept.30th, with a maxima of 4, Sept.3rd. The only other record was of 1, Nov.24th. Habitat availability on the new workings was the major factor and several small groups lingered for days and even weeks.

**RUFF** Occasional visitor. A good year with records of two birds both of which stayed for more than one day. A juvenile male was present Aug.16th to 17th (RMW et al) and a juvenile female from Sept.10th to 25th (BMA et al). The latter is the site record for the longest duration of stay for the species. Recorded in 11 of the last 16 years.

**COMMON SNIPE** Common passage migrant and winter visitor. Recorded until May.9th and from Aug.7th. A maxima of 32 on Mar.4th.

**JACK SNIPE** Regular winter visitor and passage migrant. The only record was of 1, Oct.27th (IHB).

**BLACK TAILED GODWIT** Irregular visitor of increasing occurrence. An exceptional year with four records totalling 44 birds. Seven spl birds were present on Colebrook Lake North for 15 minutes on Jul.10th (NS, BMA et al). Eight spl birds were on the new workings on Aug.7th (RMW, NS, BMA). A remarkable record of 28 (mostly spl) on the new workings (eastern end) on Sept.2nd (MM) will if accepted by Berkshire be the largest flock recorded in the county. Finally, 1, Sept.10th (GR). A continuing trend in records especially with respect to July. Recorded in each of the last seven years.

**WHIMBREL** Regular passage migrant. Two records as follows: 1, May 1st (BMA) and 4, Jul.27th (BMA, KM, RS). Recorded in each of the last five years.

**CURLEW** Occasional visitor. A good year with four records: 1, Jul.9th (ML, BMA), 1, Jul.13th (ML), 2, Sept.28th (NS) and 1, Sept 29th (NS).

**SPOTTED REDSHANK** Scarce visitor. A very good year with two records: 1, Apr.16th on the new workings (MGP) and 1, May 10th (DS, MP). The eighth and ninth site records.

**REDSHANK** Summer visitor and passage migrant. First returns from Mar.12th. Up to four pairs were present on the reserve and the new workings. Two pairs bred successfully rearing two young. Summering birds recorded until Jul.18th. In autumn passage records as follows: 1, Aug.20th, 1, Sept.23rd and 1, Oct.1st. Breeding has at least been attempted in each of the last 17 years!

**GREENSHANK** Regular passage migrant. A very good year. In spring records of singletons on eight dates between Apr.10th and May 29th. In autumn, 1/2 birds recorded on 24 dates (38 bird days) between Jul.20th and Sept.7th. Four birds were present on Aug.11th and five on Aug.12th.

**GREEN SANDPIPER** Winter visitor and very common passage migrant. Recorded on 139 dates throughout the year. Only singletons were recorded intermittently in the early winter period. Recorded until May 4th (23 bird days) and from Jun.16th. The maximum count was 8, Aug.26th and Sept.1st. In late winter 1/3 birds were recorded (total bird days since Jun.16th, 298).

**WOOD SANDPIPER** Occasional visitor of annual occurrence. Two were present on May 1st (NS, BMA, GR, CRG). Only the second multiple occurrence the last also of two in August 1997. Recorded in 12 of the last 15 years and the nineteenth site record of which ten have been in spring.

**COMMON SANDPIPER** Common passage migrant. In spring records were mainly of 1 to 2 birds on 24 dates between Apr.17th and May 21st (max 3, Apr.20th). Returns were of 1 to 5 birds on 40 dates (71 bird days) from Jul.4th to Sept.8th.

**TURNSTONE** Infrequent visitor. A very good year with records on four dates, all on the new workings: 2, Jul.20th (BMA), 3, Jul.27th, with one remaining till Jul.29th (BMA, NS) when it was seen to fly into Hampshire. Fourteenth and fifteenth site records.

**LITTLE GULL** Irregular visitor. Four records: 1, 2nd winter, Apr.12th (JMC), 4, Apr.13th (NS), 3, Apr.19th (CRG) and 1 adult wpl, Apr.24th (BMA).

**BLACK HEADED GULL** Very common visitor and breeding species. Approximately 163 pairs (cf 188 in 2006) attempted to breed with occupied nests. A census from Jun.4th revealed 124 nests with a total of 79 young ringed. However final success was poor with very few young birds becoming fully fledged and birds

dispersed the site relatively early. Disturbance to the colony by predators likely for the second successive year. Birds roosted principally on Grove in the late winter period.

Monthly maxima:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 100 | 200 | 200 | 245 | 220 | 124 | 140 | -   | 30  | 100 | 150 | 113 |

**COMMON GULL** Common winter visitor. The maximum count was of 60 on Jan.12th. Roosted occasionally in small numbers.

**LESSER BLACK BACKED GULL** Very common visitor. Recorded in all months. Birds continued to roost in large numbers especially during September to December.

Monthly maxima (principally at roost)

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 130 | -   | -   | -   | -   | -   | 35  | 510 | 991 | 693 | 512 | 320 |

**HERRING GULL** Winter visitor regular in summer, but in reduced numbers. Roosted in small numbers.

**YELLOW LEGGED HERRING GULL** Regular visitor. Recorded as follows: 1/4 birds on four dates between Jan.14th and Jan.29th (at roost); 1/2 birds on 24 dates between Jul.6th and Dec.28th with 3, Jul.15th.

**CASPIAN GULL** Scarce visitor. The only record was of 1, first winter on Nov.17th (IHB). The fifth site record.

**GREAT BLACK BACKED GULL** Formerly frequent winter visitor with numbers of records declining sharply. Four records: 1 ad Jan.10th (BMA), 1 ad, Jan.12th (BMA), 1 ad, Jan.14th (BMA) and 1, Oct.26th (NS). Consistent with recent years all records required again for next year!

**COMMON TERN** Summer visitor and passage migrant. Recorded from Apr.11th. Up to 31 birds were present in May and June but only two pairs showed serious intent to breed. 1/2 nests were seen but deserted after a few days (cf Black Headed Gull). Recorded until Aug.20th.

**ARCTIC TERN** Irregular visitor. The only record was of one on CLN/Horseshoe lakes on May 4th (BMA). Recorded in each of the last three years after an absence of seven years.

**STOCK DOVE** Common resident. Four nestboxes were occupied, but only three young were successfully fledged. Maxima 31 on Dec.1st.

**WOOD PIGEON** Abundant resident. Maxima 700 on Jan.20th.

**COLLARED DOVE** Common resident breeding nearby.

**CUCKOO** Summer visitor in declining numbers. A singing male recorded on eight dates between May 1st and Jun.1st.

**BARN OWL** Resident breeder. Recorded from Mar.16th till Nov.17th. One pair bred successfully in the west box rearing four young. The first successful breeding since 1997.

**LITTLE OWL** Moderately common resident. Birds present in four/five territories.

**TAWNY OWL** Resident. Birds present in at least 2 territories.

**SWIFT** Numerous summer visitor. Recorded from Apr.21st till Aug.18th. A maxima of 150 on May 11th and 19th.

**KINGFISHER** Moderately common resident. Two pairs bred successfully. Recorded in all months.

**GREEN WOODPECKER** Common resident.

**GREAT SPOTTED WOODPECKER** Common resident.

**SKYLARK** Resident and winter visitor. Eight singing males held territory (cf 5 in 2006). Maximum count was 12 on Mar.24th.

**SAND MARTIN** Common summer visitor. Recorded from Apr.24th (very late) to Sept.23rd . No counts exceeded 50. Nest holes (approx 10) were excavated in Berkshire and breeding may have been attempted but success was unknown.

**SWALLOW** Common summer visitor. Recorded between Apr.7th and Oct.2nd. Maxima 300, Aug.21st.

**HOUSE MARTIN** Common summer visitor. Recorded between Apr.27th (late date) and Oct.2nd. Maxima 350, May 14th.

**MEADOW PIPIT** Moderately common winter visitor and passage migrant that has summered. Recorded until Apr.7th and from Sept.29th. Maxima 40, Oct.13th.

**ROCK PIPIT** Scarce visitor. One, Fox lane area, Hampshire on Oct.29th (JMC). The sixth site record. The first record since 1997. Two of the previous five records have also been in October.

**YELLOW WAGTAIL** Regular passage migrant that has bred. A very good year. In spring singletons on six dates between Apr.9th and May 12th. In autumn recorded on 13 dates between Aug.24th and Sept.29th, all involving singles apart from 4, Aug.25th and 3, Aug.30th. A bird showing characteristics of Blue Headed Wagtail, a race of Yellow Wagtail was present on the new workings on May 25th (CRG). It was considered by the observer to most closely resemble the 'Sykes' (*Motacilla flava beema*) race. The first site record of an extra limital UK race of Yellow Wagtail.

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

**PIED WAGTAIL** Common resident and winter visitor. Maxima 70, Aug.21st.

**WREN** Abundant resident.

**DUNNOCK** Common resident.

**ROBIN** Very common resident.

**WHINCHAT** Regular passage migrant. The only record was of 1, Sept.29th to 30th (BMA, GR).

**STONECHAT** Irregular winter visitor and passage migrant. In the early year: pair present till Feb.21st, 1, Mar.18th. In the late year: 1/2 on 24 dates between Aug.30th and Dec.31st with three birds (1m 2f) present from Nov.29th.

**WHEATEAR** Moderately common passage migrant. In spring singletons recorded on 7 dates between Apr.9th and May 5th. In autumn: 1, Aug.9th, 2, Aug.12th, 1, Aug.27th, 1, Sept.9th, 1, Sept.15th and 2, Sept.23rd.

**BLACKBIRD** Common resident.

**FIELDFARE** Common winter visitor. Recorded until Apr.12th and from Oct.23rd. The maximum count was of 35 on Dec.8th.

**SONG THRUSH** Common resident.

**REDWING** Very common winter visitor. Recorded until Apr.5th and from Sept.29th. The maxima was 200 on Jan.13th.

**MISTLE THRUSH** Common resident.

**GRASSHOPPER WARBLER** Infrequent visitor. The only record was of 1, Sept.2nd (CRG).

**SEDGE WARBLER** Moderately common summer visitor. Recorded from Apr14th. Five singing males held territory (cf 6 in 2006).

**REED WARBLER** Moderately common summer visitor. Recorded from Apr.26th. Five singing males held territory (cf 5 in 2006).

**LESSER WHITETHROAT** Summer visitor. Recorded from Apr.26th. Two singing males briefly in song.

**WHITETHROAT** Very common summer visitor. Recorded from Apr.16th. A minimum of 16 singing males held territory (cf 15 in 2006).

**GARDEN WARBLER** Very common summer visitor. Recorded from Apr.22nd . At least 12 singing males held territory (cf 10 in 2006).

**BLACKCAP** Very common summer visitor and occasional winter visitor. Recorded from Mar.31st . At least 7 singing males held territory (cf 10 in 2006).

**CHIFFCHAFF** Very common summer visitor and regular winter visitor. Recorded between Mar.14th and Oct.18th. Approx six singing males held territory (cf 8 in 2006).

**WILLOW WARBLER** Common summer visitor. Recorded from Apr.9th until Sept.8th. Three singing males held territory (cf 3 in 2006).

**GOLDCREST** Common winter visitor and passage migrant with small numbers breeding. At least one singing male was present during the summer.

**LONG TAILED TIT** Abundant resident.

**COAL TIT** Regular visitor. Seven records mainly of singletons on peanut feeders!

**BLUE TIT** Abundant resident.

**GREAT TIT** Abundant resident.

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

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

**JAY** Common resident. Maxima 10, Dec.15th.

**MAGPIE** Very common resident.

**JACKDAW** Very common resident. Maxima 30, Sept.22nd.

**ROOK** Regular visitor. Maxima 15, Oct.6th.

**CARRION CROW** Common resident.

**STARLING** Common resident. Maxima 150 on Mar.21st.

**HOUSE SPARROW** Resident nearby.

**CHAFFINCH** Abundant resident and winter visitor.

**BRAMBLING** Regular winter visitor usually in small numbers. Recorded as follows; 1, Oct.20th, 2, Nov.7th, 1, Nov.8th and 1, Nov.17th.

**GREENFINCH** Moderately common resident and winter visitor. Maxima 45 at roost Jan.13th.

**GOLDFINCH** Very common resident and winter visitor. A maxima of 35 on Nov.3rd.

**SISKIN** Very common winter visitor. The maximum count was 100 on Dec.24th and 27th. Smaller numbers were recorded in the early winter period. Two on Jul.4th was an atypical date.

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

**LESSER REDPOLL** Moderately common winter visitor. No count exceeded 10.

**MEALY REDPOLL** Very rare visitor. One was present with Lesser Redpolls in alders near the Longwater bridge on Dec.12th (CRG). The first site record of this full species originally considered a subspecies.

**BULLFINCH** Moderately common resident.

**YELLOWHAMMER** Resident in small numbers. Two singing males held territory (cf 2 in 2006), breeding successful. The maximum count was 12 on Jan.20th.

**REED BUNTING** Moderately common resident. Approximately five singing males held territory (cf 5 in 2006). Breeding successful.

## LIST OF OBSERVERS

|              |              |                  |              |
|--------------|--------------|------------------|--------------|
| B.M.Archer   | P.Burden     | Dr I.H.Brown     | K.Carter     |
| R.Cheeseman  | J.M.Clark    | Dr M.N.Clifford  | K.Crick      |
| R.G.Davies   | S.F.Farmer   | C.R.Gent         | R.J.Godden   |
| M.Lenney     | M.Mitchell   | K.Moor           | R.Murfitt    |
| D.Nash       | M.Parkes     | M.G.Philpott     | S.Proudley   |
| R.Purchell   | G.Randall    | J.Reed           | Mrs C.Rose   |
| J.B.Sheridan | N.Silver     | G.Smethurst      | R.Stansfield |
| D.Steven     | J.C.Tanner   | Mrs L.D.M.Tanner | C.D.Taylor   |
| M.Walford    | J.J.Walling  | R.M.Warden       | J.E.Warren   |
| L.J.Warren   | J.Westmacott | Mrs R.Westmacott | C.D.Williams |
| L.Woods      | A.Worgan     |                  |              |

Other observers only known by initials to recorder: DJB, KAB, DC, CMD, TD, GFE, KAH, CEK, BM, RCM, APN, DN, MP, DSS, FS.

## 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  | 07  |
|------|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2    | Grebe, Little         | RB  | 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  | 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  | WS  |
| 1    | Little Egret          |     |     |     |     |     |     |     |     | V   |     | WS  | V   | V   | WS  | R   | 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   | RB? |
| 2    | Swan, Mute            | RBW | 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   | RB  |
| 2    | Goose, Snow           | R   | R   | R   | R   | RB  | RB  | RB  | RB  | R   | 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  | 07  |
|------|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2    | Goose, Canada           | RB  | 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  | R   |
| 1*   | Goose, Brent            |     |     |     |     |     |     |     |     |     |     |     |     | V   |     | V   |     |     | V   |
| 1    | Goose, Egyptian         | V   |     | V   |     |     |     |     | P   | V   | V   |     | WS  | R   | WS  | RB  | 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   | SP  |
| 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  | RB  |
| 2    | Wigeon                  | W   | W   | W   | W   | W   | W   | W   | W   | W   | W   | W   | W   | W   | W   | W   | W   | W   | WS  |
| 2    | Gadwall                 | RW  | RW  | RW  | RW  | RW  | RW  | RW  | RW  | RW  | RW  | RW  | RW  | RBW | RBW | RBW | RBW | RBW | RBW |
| 2    | Teal                    | W   | W   | W   | W   | W   | W   | RBW | RW  | W   | W   | RW  | RW  | RW  | RW  | W   | 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 | RBW |
| 1*   | Garganey                |     |     |     |     | V   |     |     |     |     |     |     |     | V   | V   |     | V   | S   | V   |
| 1    | Pintail                 |     | V   |     | V   | V   | W   | V   | V   | V   |     | PW  | V   | V   | V   | W   | W   | W   | W   |
| 2    | Shoveler                | W   | 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  | 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 | 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   | 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   | W   |
| 1    | Duck, Ruddy             |     | W   | V   | V   | V   | V   | W   | W   | PW  |     | PW  | V   | PW  | V   | V   | PW  | V   | WP  |
| 1*   | Buzzard, Honey          |     |     | V   |     |     |     |     |     | V   |     | V   |     |     |     |     |     |     |     |
| 1*   | Kite, Red               |     |     |     |     |     |     | V   |     | V   |     | V   |     |     | V   | V   | P   | P   | V   |
| 1*   | Harrier Hen             |     |     |     |     |     |     |     |     |     |     |     | V   |     | V   |     |     |     |     |
| 1*   | Harrier Marsh           |     |     |     |     |     |     |     | V   |     |     |     |     |     |     |     |     |     |     |
| 1*   | Goshawk                 |     |     |     | V   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 3    | Sparrowhawk             | R   | 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   | R   |
| 1*   | Osprey                  |     |     |     | P   | V   |     | V   |     | V   |     | P   |     |     | P   | V   | V   | V   |     |
| 3    | Kestrel                 | RB  | RB  | RB  | RB  | RB  | RB  | RB  | RB  | RB  | RB  | RB  | RB  | RB  | RB  | RB  | RB  | RB  | RB  |
| 1*   | Red Footed Falcon       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | V   |

| CODE | SPECIES               | 90  | 91  | 92  | 93  | 94  | 95  | 96  | 97  | 98  | 99  | 00  | 01  | 02  | 03  | 04  | 05  | 06  | 07  |
|------|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1*   | Merlin                |     |     |     |     |     |     | V   |     |     |     |     |     | V   |     |     |     |     |     |
| 1    | Hobby                 | S   | 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   | R   |
| 1    | Partridge, Red-Legged | RB  | RB  | RB  | RB? | V   |     | V   |     |     |     |     |     | R   | R   | RB? | 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  | RB  |
| 1    | Water Rail            | W   | 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  | RB  |
| 2    | Coot, Common          | RBW | 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   | V   |
| 1*   | Avocet                |     |     | V   |     |     |     |     |     |     |     |     |     |     |     |     |     |     | V   |
| 2    | Plover, Little-Ringed | SB  | SB  | SB  | SB  | SB  | SB  | SB  | SBP | SBP | SBP | SBP | SB  | SB  | SB  | SB  | SB  | SBP | SBP |
| 2    | Plover, Ringed        | SBP | SBP | SB  | SB  | SB  | SB  | SB  | SB  | SP  | SBP | SP  | SP  | p   | V   | P   | SP  | SP  | SP  |
| 1    | Plover, Golden        | V   |     |     | V   | V   | W   | V   | W   | W   | V   |     | V   |     |     |     | W   | V   | WP  |
| 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 | RBW |
| 1*   | Knot                  |     |     | V   |     |     |     |     |     |     |     |     |     |     |     |     |     |     | V   |
| 1*   | Sanderling            |     |     |     | V   |     | V   | V   | V   |     |     |     | V   |     |     |     |     | V   | V   |
| 1*   | Stint, Little         |     |     | V   | V   |     |     | P   | V   | P   |     |     |     | V   |     |     |     | V   | V   |
| 1*   | Stint, Temminck's     |     | V   | V   | V   |     |     |     |     |     |     |     | V   |     |     |     |     |     |     |
| 1*   | Sandpiper, Pectoral   |     |     |     |     |     |     |     |     |     |     |     |     |     | V   |     |     |     |     |
| 1*   | Sandpiper, Curlew     |     |     |     |     |     | V   |     | V   |     |     |     | V   |     |     |     |     |     | V   |
| 1    | Dunlin                | P   | 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   | V   |
| 1*   | Snipe, Jack           | W   | W   |     |     |     | V   | V   |     | W   | W   |     |     |     | V   | V   | V   |     | V   |
| 2    | Snipe, Common         | WP  | WP  | WP  | WP  | WP  | WP  | WP  | WP  | WP  | WP  | WP  | WP  | WP  | WP  | WP  | WP  | RW  | RW  |
| 1    | Woodcock              |     |     |     | S   | S   | S   |     |     |     |     |     |     |     |     |     |     |     |     |
| 1*   | Godwit, Black-tailed  |     | V   | V   | V   |     |     |     | V   |     | V   |     | V   | V   | V   | V   | P   | V   | P   |
| 1*   | Godwit, Bar-Tailed    |     |     |     | V   |     |     |     |     |     |     |     |     |     |     | V   |     | V   |     |
| 1    | Whimbrel              | P   |     | V   | V   | P   |     | V   |     | V   |     | V   |     |     | V   | V   | P   | V   | V   |
| 1    | Curlew                | V   | V   |     | V   |     | V   | WP  | WP  | V   |     |     |     | V   |     |     | V   | P   | P   |
| 1*   | Redshank, Spotted     |     | V   |     |     |     | V   |     | V   |     |     |     |     |     |     | V   |     | V   | V   |
| 2    | Redshank              | P   | SBP | 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   | P   |
| 1    | Sandpiper, Green      | WP  | 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   | V   |
| 1    | Sandpiper, Common     | P   | P   | P   | P   | P   | P   | P   | P   | P   | P   | P   | P   | P   | P   | P   | P   | P   | P   |

| CODE | SPECIES                 | 90 | 91  | 92  | 93  | 94  | 95  | 96  | 97  | 98  | 99  | 00  | 01  | 02  | 03  | 04  | 05  | 06  | 07  |
|------|-------------------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1*   | Turnstone               | V  |     | 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   | V   |     |
| 1*   | Gull, Little            | V  |     |     | V   | V   |     |     | V   |     | V   |     |     |     |     | P   | V   | V   | P   |
| 2    | Gull, Black-Headed      | R  | R   | R   | R   | R   | R   | R   | R   | R   | R   | R   | R   | R   | RB  | RB  | 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   | W   |
| 2    | Gull, Lesser Black-Back | R  | 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   | W   |
| 1    | Gull, Yellow-legged     | V  | V   | V   | V   | V   | V   | P   | WP  | V   | V   | V   | SP  | V   | WP  | WP  | WP  | WP  | WP  |
| 1*   | Gull Caspian            |    |     |     |     |     |     |     |     |     |     |     | V   |     |     | 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   | 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 | SBP |
| 1*   | Tern, Arctic            |    |     |     | V   | P   | V   |     | V   |     |     |     |     |     |     |     | V   | V   | V   |
| 1*   | Tern, Whiskered         |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     | V   |     |     |
| 1*   | Tern, Little            |    |     |     | V   | V   |     |     |     |     |     |     |     |     |     |     |     | V   |     |
| 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  | RB  |
| 3    | Pigeon, wood            | RB | 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  | 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? | SB? |
| 1    | Owl, Barn               |    |     | RB  | RB  | RB  | RB  | RB  | RB  |     |     | V   | V   | V   |     | V   | W   | R   | RB  |
| 3    | Owl, Little             | RB | 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  | 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  | 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  | RB  |
| 3    | Woodpecker, Gt-Spotted  | RB | 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   |     |

| CODE | SPECIES              | 90  | 91  | 92   | 93   | 94   | 95  | 96  | 97  | 98  | 99  | 00  | 01   | 02  | 03  | 04  | 05  | 06   | 07   |
|------|----------------------|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|------|------|
| 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   | SP   |
| 2    | Skylark              | RB  | RB  | RB   | RB   | RB   | RB  | RB  | RB  | RB  | RB  | RBW | RBW  | RB  | 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 | SP  | SP  | SB?P | SB?P |
| 2    | Swallow              | SBP | 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  | 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   | WP   |
| 1*   | Pipit, Rock          |     |     |      |      |      |     | V   | 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    | P    |
| 2    | Wagtail, Grey        | RB  | 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   | RB   |
| 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   | RB   |
|      | Dunnock              | RB  | 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   | 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    | V    |
| 1    | Stonechat            | P   | V   | WP   | WP   | WP   | RBP | RBP | WP  | RBP | RBP | WP  | RB?P | WP  | WP  | WP  | WP  | WP   | WP   |
| 1    | Wheatear             | P   | P   | P    | P    | P    | P   | P   | P   | P   | P   | P   | V    | P   | 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   | RB   |
| 2    | Fieldfare            | W   | 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   | RB   |
| 2    | Redwing              | W   | 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   | RB   |
| 1*   | Warbler, Grasshopper |     |     |      |      |      | V   |     | 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   | SB   |
| 2    | Warbler, Reed        | SB  | 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   | SB   |
| 2    | Whitethroat          | SB  | 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   | SB   |

| CODE | SPECIES             | 90 | 91 | 92 | 93 | 94 | 95  | 96  | 97  | 98  | 99  | 00  | 01  | 02  | 03  | 04  | 05  | 06  | 07  |
|------|---------------------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2    | Blackcap            | SB | SB | SB | SB | SB | SB  | SB  | SB  | SB  | SB  | SB  | SB  | SB  | SB  | SWB | SB  | 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 | SB  |
| 2    | Warbler, Willow     | SB | 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 | 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   |     |     |     |     |     |     |     |     |     |
|      | Tit, Long-Tailed    | RB | 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   | V   |
|      | Tit, Blue           | RB | 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  | RB  |
| 3    | Nuthatch            | R  | R  | R  | R  | R  | RB  | 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  | 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  | RB  |
| 2    | Magpie              | RB | 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  | RB  |
| 2    | Rook                | W  | W  | W  | W  | W  | W   | W   | W   | R   | R   | R   | P   | R   | 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  | RB  |
|      | Starling            | RB | RB | RB | RB | RB | RB  | RB  | RB  | RB  | RB  | RB  | RB  | RB  | RB  | R   | RB  | RB  | RB  |
|      | Sparrow, House      | RB | 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  | RBW | RBW | RBW |
| 1    | Brambling           | W  | W  | W  | W  | W  | W   | W   | W   | W   | W   |     | W   | W   | V   | V   | W   | W   | W   |
| 2    | Greenfinch          | RB | 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  | RB  |
| 2    | Siskin              | W  | 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 | RBW |
| 2    | Redpoll, Lesser     | R  | R  | R  | R  | R  | R   | R   | W   | W   | W   | W   | W   | W   | W   | W   | W   | W   | W   |
| 1*   | Redpoll, Mealy      |    |    |    |    |    |     |     |     |     |     |     |     | V   |     |     |     |     | V   |
| 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  | RB  |
| 2    | Yellowhammer        | RB | RB | RB | RB | RB | RB  | RB  | RB  | RB  | RB  | RB  | RBW | RB  | RB  | RBW | RBW | RBW | RBW |
| 2    | Bunting, Reed       | RB | 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  | 07  |
|-------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <b>Total species breeding</b> | 59  | 63  | 62  | 63  | 63  | 65  | 67  | 66  | 65  | 66  | 65  | 66  | 66  | 66  | 65  | 66  | 67  | 67  |
| <b>Total species recorded</b> | 124 | 129 | 130 | 137 | 137 | 127 | 140 | 141 | 139 | 122 | 125 | 127 | 128 | 129 | 132 | 132 | 142 | 136 |

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: | 209 |
|-----------------------------------|-----|

## 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*

The northern-most scrape in front of Grove hide continues to register a pH lower than 3. High water levels across the site and occasional on shore winds have failed to flush the acidity out of this scrape. The acidity is a function of the scrape's underlying geology; in such circumstances the application of solid chalk has been recommended.

The contained flushing of the southern section (recently bunded) of the same scrape has produced an abundance of vegetation and the marsh-like transitional phase that attracted Black Darter and Keeled Skimmer Dragonflies has gone.

The scrapes on Long Island were again assessed for pH both in January and October 2007. With minimal improvement registered during the January assessment it was decided to open up both ends of each southern shoreline scrape. That same day Mr John Coupland set to, deepening the existing openings to the main body of water and creating new ones. The success of his efforts can be seen in the results for October reproduced below.

| Long Island Scrape Reference | Date      |      |           |      |           |      |
|------------------------------|-----------|------|-----------|------|-----------|------|
|                              | 03-Jun-06 |      | 23-Jan-07 |      | 23-Oct-07 |      |
|                              | pH        | Temp | pH        | Temp | pH        | Temp |
| 0623N                        | 4.7       | 24.1 | 4.7       | 2.6  | 6.3       | 10.2 |
| 723                          | 5.5       | 24.0 | 5.3       | 2.0  | 6.5       | 9.3  |
| 823                          | 2.6       | 24.3 | 3.1       | 5.0  | 6.9       | 8.8  |
| 822                          |           |      | 5.4       | 4.8  | 6.5       | 12.9 |
| 622                          | 6.6       | 31.0 | 4.6       | 3.4  | 7.0       | 7.7  |
| 0623S                        | 6.6       | 23.3 | 6.7       | 3.2  | 6.7       | 12.8 |

Last year's report commented on the declining dissolved oxygen level in Colebrook Cut. The build-up of a matt of Duckweed *Lemna spp.*, is symptomatic of this decline. Dissolved oxygen levels remained low throughout the spring, summer and autumn assessments averaging 4.6mFl.

The main reason for carrying out the water analysis is to check on the stability of the ecosystem that is the reserve's water body. We have seen significant localized increases in acidity when our conservation activities have substantially disturbed the substrate. Also, phosphate levels increased in one area of damselfly interest after the cattle had repeatedly entered the water at the measuring station and defecated material had entered the system. We also know from our results that we can correct these problems.

As the data set builds, one is left speculating what if anything else can be inferred from the data. The data could be used to infer trophic status (a measure of nutrient value mainly in terms of phosphates and nitrates.) and how we compare with other still water bodies in the South of England.

We currently lack the skills to read very much into our data but were lucky to stumble upon a European Diatom Database on the web at Newcastle University. This database presented data for 26 South Eastern England, relatively small, shallow, lowland, artificial water bodies. From the data set we have extracted those variables we measure at MGL and equalised the units of measurement to produce the comparative charts below.

**Summary of water analysis data for Moor Green Lakes Nature Reserve 2004 to 2007**

| Variable         | Sampling Station       | N  | Min  | Max  | Mean  |
|------------------|------------------------|----|------|------|-------|
| Nitrate/Nitrogen | SU 80578 62663 (CLN)   | 17 | 0    | 0.6  | 0.13  |
|                  | SU 80555 62399 (Cut)   | 17 | 0    | 0.7  | 0.16  |
|                  | SU 81528 62265 (Grove) | 17 | 0    | 1.2  | 0.29  |
|                  | SU 81117 62156 (River) | 16 | 3.8  | 29.6 | 8.87  |
|                  | Southeast England      | 26 | 0.69 | 5.58 | 1.864 |

Units except for pH are all in mg/l.

N is the number of samples of data analysed to date for a given location and for southeast England the number of sites sampled.

| Variable | Sampling Station       | N  | Min  | Max  | Mean |
|----------|------------------------|----|------|------|------|
| pH       | SU 80578 62663 (CLN)   | 17 | 5.5  | 7.1  | 6.55 |
|          | SU 80555 62399 (Cut)   | 17 | 5.9  | 7.0  | 6.58 |
|          | SU 81528 62265 (Grove) | 17 | 5.8  | 6.9  | 6.60 |
|          | SU 81117 62156 (River) | 16 | 5.9  | 7.3  | 6.53 |
|          | Southeast England      | 26 | 6.83 | 8.59 | 7.70 |

| Variable   | Sampling Station       | N  | Min   | Max   | Mean  |
|------------|------------------------|----|-------|-------|-------|
| Phosphorus | SU 80578 62663 (CLN)   | 17 | 0     | 0.851 | 0.219 |
|            | SU 80555 62399 (Cut)   | 17 | 0.026 | 0.394 | 0.146 |
|            | SU 81528 62265 (Grove) | 17 | 0.036 | 0.391 | 0.146 |
|            | SU 81117 62156 (River) | 16 | 0.196 | 0.616 | 0.325 |
|            | Southeast England      | 26 | 0.025 | 0.646 | 0.182 |

| Variable         | Sampling Station       | N  | Min     | Max | Mean |
|------------------|------------------------|----|---------|-----|------|
| Dissolved Oxygen | SU 80578 62663 (CLN)   | 16 | 3.6     | 8.0 | 5.9  |
|                  | SU 80555 62399 (Cut)   | 16 | 4.1     | 8.0 | 5.7  |
|                  | SU 81528 62265 (Grove) | 16 | 5.0     | 7.6 | 6.3  |
|                  | SU 81117 62156 (River) | 16 | 4.4     | 7.6 | 5.6  |
|                  | Southeast England      |    | No Data |     |      |

On the English-nature web site a 'classification of different standing freshwater types according to nitrogen and phosphorous content' is reproduced. On the face of it this seemed ideal, but MGL combinations of these two variables fail to form a match with any of the combinations used to define Trophic status.

Another classification technique on the same web site based on alkalinity employs a combination of pH and Calcium carbonate. Our equipment will not measure this variable, as we have not to date purchased suitable reagents. The calcium carbonate content can to some extent be inferred from the freshwater invertebrate records, which include

freshwater shrimp and molluscs. Freshwater shrimp *Gammarus spp.* is not found in waters deficient in calcium. However, the thinness of the shells of MGL freshwater snails has been commented on. So it can be inferred that calcium carbonate is present but possibly in concentrations towards the low end of the range that supports *Mollusca spp.* Further clues lie in the aquatic plant records, provided by Chris Hall. The presence of Stonewort *Chara spp.*, Spiked Water Milfoil *Myriophyllum spicatum*, and Small Pondweed *Potamogeton berchtoldii* are indicative of a base rich lowland water body. (Base enrichment - is determined by the underlying geology of the lake and the geology its springs have passed through, the water acquiring calcium, magnesium, sodium and iron.), Iron is present at MGL, its oxide is found deposited on plants,

substrate and aquatic larva (damselfly) making positive identification difficult. There are plenty of clues, what we need is someone with the knowledge to interpret them. If that is you, please get in touch.

References:

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

English nature. *The upland management handbook-freshwater habitats*. WWW. 2001

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

2007-2008

| <b>Officer</b>    | <b>Committee Post / Responsibilities</b>                 |
|-------------------|--|
| Peter Scott*      | Chairman / Report Editor / Recorder for Reptiles         |
| Robert Godden     | Committee Secretary (until February 2008)                |
| Roger Murfitt     | Committee Secretary (from February 2008)                 |
| Sue Dent          | Blackwater Valley Countryside Partnership Representative |
| Dr. Bruce Archer* | Treasurer  |
| Keith Littler     | Membership Secretary (until February 2008)               |
| David Bishop      | Membership Secretary (from February 2008)                |
| Cohn Wilson       | Newsletter Editor  |
| Simon Weeks       | Site Liaison Officer                                     |
| Dr. Ian Brown     | Recorder for Birds                                       |
| Ken Crick         | Recorder for Dragonflies and Damselflies                 |
| Ian White         | Recorder for Mammals                                     |
| Sue Proudley      | Recorder for Butterflies                                 |
| Colin Proudley    | Recorder for Moths                                       |
| 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   |
| Cooper S 2006     | Moor Green Lakes Nature Reserve. An Aquatic and Wetland Plant Survey. Surrey Wildlife Trust.                                       |

#### 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

