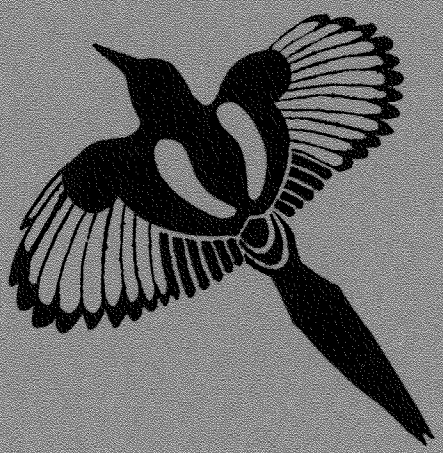
# Milton Keynes Natural History Society

## Journal 2



1976

THE
MILTON KEYNES
NATURAL HISTORY SOCIETY
JOURNAL

No.2 1976 ISSN 1303-1583

President: G. Osborn Vice President: J. Royston
Chairman: J. Wickham Treasurer: B. Jackson
Secretary: W. G. Stott

CONTENTS



Editor: M. J. Towns

Acknowledgements

The publication of this Journal was made possible by a grant from the Bradwell Abbey Field Centre Trust and by the help and advice of Mr. J. Holley, of the Legal and General Assurance Society, to whom we extend warm thanks.

Thanks are also due to Elaine Cook for her painstaking work in typing the manuscript.

Instructions for contributors

Papers will be accepted on any natural history subject in North Bucks. Publication is at the discretion of the Editor. Papers from non-members may be accepted, but members' papers will receive preference.

Manuscripts should be submitted to the Editor by February of each year and should preferably be typewritten, but neat handwritten copies will be accepted.

The Editor,
Milton Keynes Natural History Society Journal,
Bradwell Abbey Field Centre,
Old Bradwell,
Milton Keynes.

# A HOUSE MARTIN SURVEY OF THE MILTON KEYNES DESIGNATED AREA 1974

M. Towns
R. Mandale

In 1974 a house martin nest site survey was undertaken throughout the Milton Keynes Designated Area. We cannot claim that the survey was complete but almost every town and village was covered. The most notable exceptions were Great Linford, Willen and the district in Bletchley north of Whaddon Way. A number of Society members took part. A recorder was allotted a district and was asked to systematically record the presence of house martin nests on the houses in every street of their district.

## The Survey

The aim of the survey was twofold. Firstly, to plot the present distribution of house martin nest sites in the area and secondly to provide information on the factors which influence the siting of a nest on a building. Recorders were asked to provide the following details:

1. The postal address of the building on which nests were located.
2. The number of nests on the building.
3. The compass orientation of the nests recorded.
4. The type of wall surface on which a nest was built, e.g. brick, pebble-dash, wood.
5. The presence of any supporting structures beneath or to the side of the nest.

We hope it may be possible to observe any fluctuations in the numbers of nesting pairs from year to year. It is realised however that this method is fraught with difficulties but if properly conducted we feel the surveys could be very accurate.

## Local Populations

To be able to colonise a district house martins require the presence of water near the nesting site and houses with eaves of sufficient depth to accommodate the domed nest. The areas of water provide mud for nest building and the insects which overfly water are the preferred food for the birds. Cramp (1950) found that 96.2% of house martin nests were within half a mile of water. All the villages and towns in Milton Keynes where nests were located were within one mile of a body of water. A total of 348 nests were recorded throughout the Designated Area with the highest nest count from Stony Stratford (Table 1).

TABLE 1

Total nest counts from the Designated Area

| Town | No. of nests | Land area |
|---|---|---|
| Stony Stratford | 98 | 100 hectares |
| Bletchley | 91 | 600 hectares |
| Woughton | 48 | 25 hectares |
| Wolverton/New Bradwell | 44 | 150 hectares |
| Loughton/Shenley | 24 | 25 hectares |
| Woolstones | 43 | 25 hectares |

These figures are slightly misleading because as was pointed out earlier, the north-west district of Bletchley was not covered. Nevertheless, when one compares the relative sizes of the urban area of Bletchley and Stony Stratford, the latter is seen to be more densely populated by the house martins. The most densely populated districts were Great and Little Woolstones with 43 nests and Woughton which had 48 nests in 2.5 hectares. At Woughton, twenty nests were in the old village and twenty-eight were on a new estate of 40 houses which were only two years old.

Wolverton, although somewhat larger than Stony Stratford, supported only 44 nests and 20 of these were sited on the McCorquodale print works. The almost eaveless type of terraced house predominant in Wolverton is not attractive to the house martin.

The apparent low nesting population in Bletchley is interesting. The majority of the houses in the town are of a construction favoured by the birds elsewhere in the Designated Area. There are suitable bodies of water locally for the collection of food and mud, e.g. Water Eaton, Mount Farm and the River Ouzel and the Grand Union Canal, though there is little available water in western Bletchley. It may be that around 91 pairs is the highest number that Bletchley can support and that despite the abundance of suitable nest sites no further colonisation will take place, but there was another possibility. In London and other major cities it has been shown that household and industrial coal smoke could have influenced the distribution of house martins and swifts (Cramp & Gooders 1967, Gooders 1968). The imposition of smokeless zone controls brought about a gradual colonisation of sites from which they were previously unrecorded. The particulate matter in smoke may reduce the numbers of flying insects which these birds feed upon. In Bletchley, the Newton Longville brick works is responsible for a significant amount of smoke emission and it seemed possible that this was a

factor reducing the nesting success of house martins in Bletchley.

TABLE 2

Average particulate smoke concentrations (micrograms $m^3$)
April - September 1971

| Month | Bletchley 1 | Bletchley 2 | S. Stratford |
|---|---|---|---|
| April | 29 | 20 | 25 |
| May | 18 | 11 | 14 |
| June | 16 | 10 | 11 |
| July | 13 | 10 | 10 |
| August | 13 | 13 | 11 |
| Sept. | 32 | 31 | 25 |
| Average | 20 | 15.8 | 16 |
| Average for Year 1971-72 | 31.3 | 21.7 | 22 |

Bletchley 1 - The Elms, Council Offices
Bletchley 2 - Rickley Park Pavilion, Shenley Road
Stony Stratford - Public Health Inspector's office, Market Square

Table 2 shows the average concentration of particulate smoke for the year 1971-72. Readings were from three sites, two in Bletchley and one in Stony Stratford. Bletchley site 1 (The Elms, near Bletchley Station) had readings considerably higher than the other two sites which were more comparable. These figures suggest that particulate smoke levels are not high enough to interfere with nesting success. It is probable, therefore, that the smaller martin population in Bletchley is a reflection of the lack of suitable feeding grounds.

The Nests

It was expected that a wide variety of wall surfaces would be used for nest building, with a predominance on brick as this is obviously the most commonly used external building material. Table 3 shows the numbers of nests built upon the various wall surfaces. In Bletchley a number of the older terrace properties with brick surfaces had been re-rendered in pebble-dash and here it was colonised in preference to brick. Pebble-dash surfaces, presumably because of their rough finish, provide an excellent 'keyed' surface to hold the initial ring of mud which forms the foundation of the nest. The attraction of pebble-dash is illustrated in Loughton/Shenley where one building of this type housed 15 nests.

Cement and wood were the only other surfaces utilised to any extent. Cement

finishes generally proved attractive only when coupled with particularly large eaves. Wood was used slightly more often but the majority of wood sites had a bottom support which gave the birds a good surface from which to begin nest construction. This leads us into the very interesting observations on the use of supports to assist in nest building.

TABLE 3

Numbers of nests built on various wall surfaces

| | Brick | Pebble-dash | Cement | Wood | Tile | Total |
|---|---|---|---|---|---|---|
| Bletchley | 41 | 40 | 3 | 7 | 0 | 91 |
| Stony Stratford | 76 | 6 | 9 | 7 | 0 | 98 |
| Wolverton | 39 | 3 | 0 | 2 | 0 | 44 |
| Loughton/Shenley | 7 | 15 | 0 | 2 | 0 | 24 |
| Woughton | 47 | 0 | 0 | 0 | 1 | 48 |
| Woolstones | 37 | 0 | 0 | 6 | 0 | 6 |
| Totals | 247 | 64 | 12 | 24 | 1 | 348 |

Bottom Supports and Gables

Table 4 shows the number of nests which had a supporting foundation either below or to the side and the number of nests built in gable structures.

TABLE 4

| | With bottom or side support | Gable |
|---|---|---|
| Bletchley | 20 | 8 |
| Stony Stratford | 43 | 27 |
| Wolverton | 9 | 11 |
| Loughton/Shenley | 22 | 0 |
| Woolstones | 43 | 0 |
| Woughton | 19 | 22 |
| Totals | 162 | 68 |

The term gable was used for the point of the building where the two slopes of the roof meet. Gables proved very attractive wherever they were available. In Woughton 21 of the 28 nests on the new estate were in gables, despite the presence of wide eaves on the sides of the houses. In Stony Stratford similar gable colonisation took place on the newer estates of Hilltops and Calverton Road. The Calverton Road estate also clearly illustrated the low

value of wood as a nesting substrate. Several houses in this estate have as a design feature gable structure with brick to the left of the mid-line and wood to the right. In every case where a nest was built in such a gable brick was the substrate of choice.

The use of bottom supports to aid in nest building must be an extremely important factor in the selection of a nest site. One third of the total number of nests counted had some support from below and in some cases to the side. It seems that the supports provide a surface on which the deposited mud has a good chance to consolidate and thereby forms the foundation for the rest of the nest. Types of bottom support used were electricity cables, electrical junction boxes, window hinges, mouldings and telephone cable brackets.

If pebble-dash were to be regarded as a variant of the bottom-supported nest the number of supported nests would rise to 162, almost half of the grand total. (Some pebble-dash nests also had bottom support and so are not included in this figure.)

The original house martin nesting habitat was on cliff faces below overhanging ledges of rock. It seems not unreasonable to assume that fissures and irregularities in the rock face are a useful aid to nest building and that the widespread use of bottom supports and gables on human habitations is an extension of this habit.

House Martin Population of the Milton Keynes Designated Area in 1975

The autumn 1974 migration was disastrous for our swallow and house martin populations. Inclement weather over the Alps brought down tens of thousands of birds and vast numbers perished despite charitable attempts to fly them over the mountains. It was particularly fortunate then that the survey was conducted in the summer of 1974 when the Designated Area held healthy populations of martins.

Because of lack of time and resources, we were unable to repeat the 1974 survey but two sites, Loughton and Woughton, which are easily observed and counted, were surveyed. At both sites there were a number of nests still remaining from the previous year and therefore time was spent on observation to ascertain which nests were definitely occupied and which were not.

At Woughton only 10 nests were satisfactorily regarded as being occupied, and at Loughton only 4 were found occupied. This represents an approximate 80% drop in the house martin population at each site. Although this was not a representative sample, casual observation of other colonies indicated that

they also had suffered similar heavy reductions. It has been suggested that there may not in fact have been a marked reduction in the house martin population but that there were simply fewer nests constructed owing to lack= of suitable mud for nest building because of the exceptionally dry and hot weather. This was not the case at Woughton or Loughton. At both sites mud was available at all times and the birds were seen to have no difficulty in obtaining the material.

The house martin population in Milton Keynes is a healthy one. There is an abundance of nest sites available and the wealth of water bodies being constructed are sure to enable a continuing expansion of the population.

Acknowledgements

We would like to thank the Junior Section and the following members for their help: R. Arnold, G. Balkwill, A. Burton, J. & S. Cousins, B. Frewin, M. Hayle, R. Maycock, J. Mander, L. Pearce, O. & M. Rice, N. Scarfe, S. Towns, J. Wickham.

References

The Investigation of Air Pollution. National Survey of Smoke and Sulphur Dioxide April 1971 - March 1972. Dept. of Trade and Industry, Warren Spring Laboratory.

Cramp, S. (1950) The Census of Swifts, Swallows and House Martins 1949. London Bird Report 14.

Cramp, Stanley & Gooders (1967) The Return of the House Martin. London Bird Report 31.

Gooders, J. (1968) The Swift in Central London. London Bird Report 32.

---

## MANAGEMENT OF SHENLEY WOOD PAST AND PRESENT

J. Cousins

The importance of the past and present management in the understanding of the form and composition of Shenley Wood was evident at the beginning of our investigation (1). In an attempt to construct a picture of how and why the wood looks as it does, historical and other available information was gathered on the wood and has resulted in this paper.

Various published histories of the county (2) have enabled fragments of information to be drawn together which suggest the use and management of the

wood since the Domesday records; in addition Mr. D. S. Johnson, the present owner of the wood, has very kindly made the files on the recent management of the wood available.

Added to and confirming written information are the clues to the management of the wood given by the vegetation itself. The hazel and willow coppice stools and the standard oak and ash trees in parts of the wood are remnants of a management system common in the past, a system which is thought to have been used as early as the thirteenth century and which is documented for Shenley Wood. Under the coppice system the majority of trees and shrubs were cut at intervals (anything from 3 - 20 years) and allowed to grow again from the stump. Other trees, the standards, were left standing for longer periods forming an upper storey of wood and producing larger timber.

There are many other ways of reconstructing the history of woodlands, using biological methods such as pollen analysis as well as general information such as place names. Early carpentry methods also make it possible to count how many trees and of what size were used to build old beamed houses, an exercise which has been carried out in parts of East Anglia (3). A foray among the older houses and cottages of Shenley might suggest how much timber the wood once provided, managed on the coppice-with-standards system, although it is difficult to tell how much timber was imported in the past.

From Domesday to 1900

Domesday records show that Buckinghamshire had extensive forests which were classified according to the number of swine they could support. The nearest to Shenley was Lillingstone forest, the third largest in the county, and able to support 1200 swine.

Domesday entries are also decisive as to the well wooded character of Whaddon and the neighbouring manors, the parish of Shenley having at least three manors, while the adjacent parish of Westbury was recorded as having woods for 50 hogs.

It is not clear how old Shenley Wood is, although a rough estimation can be made from records. The wood is shown as part of the land of Sir John Fortescue in 1599. However a small wooded eminence at the northern end of the wood was said to be visible from another moated situation at the southern end, 'before the planting of the wood', but unfortunately no date is ascribed to this observation which may in fact only refer to the replanting of the compartment we named 'Merle Wood'.

The Reverend Primatt Knapp built a rural cottage on this wooded eminence

sometime in the late 1700's or early 1800's and 'cut walks through the woods', the wood being of some size and maturity to necessitate walks 'to be cut'.

Adjacent to this point is 'Toothill' once thought to be a Roman encampment, but more recently designated as some early fortified village.

Earl Hugh, Hugh Lupus Earl of Chester, was recorded in Domesday as holding two manors in Shenley, one of which had woods for 50 hogs. The distinction between Shenley Brook End and Shenley Church End is also recorded even at this time.

Following the Domesday records fragments of information survive to throw some light on the history of the wood. In 1276 'John Fritz John claimed rights to chase in that part of Shenley known as Westbury which belonged to Richard Engraine in 1086' (the time of Domesday). In 1275 Sir John de Grey, Lord of Bletchley and Water Eton was reported to have seized the manor of Shenley and committed great waste and damage, while in 1277 a licence was issued to hunt fox, badger, hare and cat in the area.

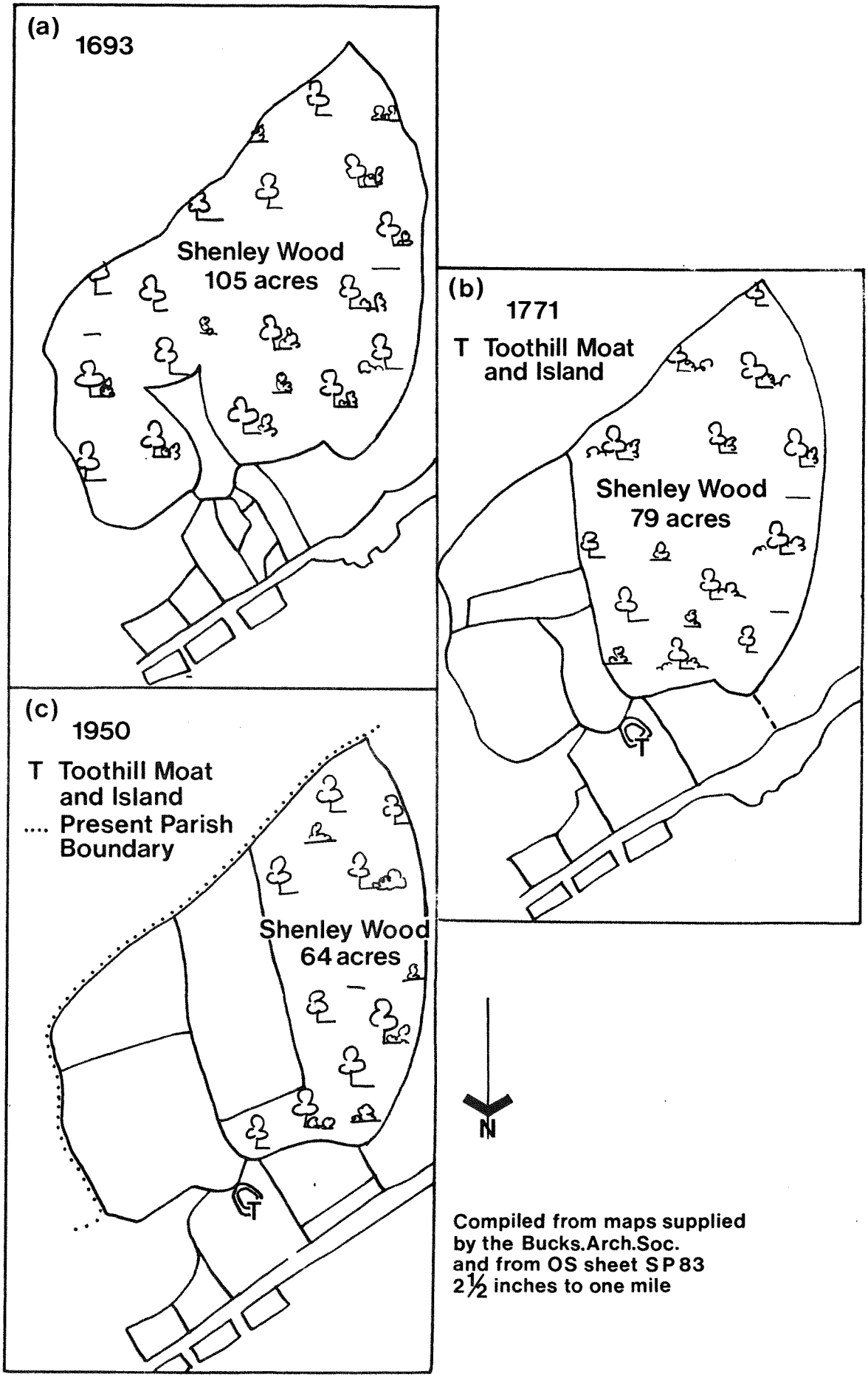
Shenley Church End is described as 'a very ancient enclosure', while records date the enclosure of Shenley Brook End as 1752. It is possible that although the wood did not lie within the immediate area of Whaddon Chase which was 'all ground within the bounds of the diche' (this ditch is shown on old maps), it was managed in conjunction with the Chase. Alternatively Church End may have been mostly sheep farming which was extensive in the fourteenth and fifteenth centuries, but it is interesting to speculate on the possibility of its having been managed as part of the Chase.

Whaddon Chase appears frequently in the records, for example inhabitants of neighbouring manors had rights of common for their cattle on the Chase and in the woods belonging to some manors, the tenants also had rights for gathering firewood or timber.

The Chase was maintained by keepers, the position being an hereditary one. Disputes over boundaries and alleged abuse of common rights are recorded, a 'court of the forest' being called in 1492 under Sir Rainold de Bray to settle a dispute in which Mr. Pigot, an hereditary keeper of the Chase, had met with resistance in the legal expansion of the Chase from one Thomas Stafford, a swineherd from Tattenhoe.

It is possible that such rights both of extension and common may have been claimed by Shenley manors and their tenants which would have affected the woods in their parishes. In 1489 there are records of killing fallow and roe deer and of one William Rede being prosecuted for 'having kept a coppice

Figure 1
Shenley Wood and Surounding Field Pattern




Compiled from maps supplied
by the Bucks.Arch.Soc.
and from OS sheet SP 83
2½ inches to one mile

closed for seven years which ought to be open, to the great hunt of the king's deer'.

The woodlands of the Chase deteriorated in the 1500's and in 1649 and 1651 suffered further depredation when £3000 was ordered to be raised by felling timber. This resulted in much of the park converting to pasture and tillage although the coppice management continued in the woods. This system involved closing a compartment for a period of years, usually nine, and then opening it to the deer and to the commoners for twelve years. The coppices produced large oak, ash and other timber as well as 'underwood' but it is stated that the joint effect of deer and commoners' cattle was to destroy young timber.

In 1813 the Reverend St. John Priest reported to the Board of Agriculture that Whaddon coppices were sold as firewood and faggots, and that thorns were sold for fences and to fill underdrains for which they were widely transported.

A sixteenth century survey of Shenley Manor which lay principally in Shenley Church End speaks of Shenley Park (50 acres), Hangers (38 acres), Redcocks Hill (14 acres) and Oakhill (14 acres) as woods 'all well sett with young oke'. As Figure 1 shows, the wood has gradually been reduced in size. In 1693 it was 105 acres 1 rod in area, in 1771 it was approximately 79-80 acres and between 1834 and 1886 it lost some land from its eastern side to leave 65 to 70 acres at the turn of the century.

From 1900 to 1975

In 1905 Whaddon Chase was 260 acres while Shenley Church End contained 127 acres of woods and plantations, Shenley Wood accounting for 65 acres of this total.

The present 60 acres of Shenley Wood are divided by an obvious network of rides into nine compartments which vary from .3 to 9 acres in size. In 1959 the wood was dedicated under the Forestry Commission planting scheme, the long term plan being to clear and replant a large part of the wood, leaving all the good standard trees. Over the winter of 1959/60, 6 acres on the east side of the wood were cleared and replanted, and a regular system of clearing, planting, fencing and beating-up of compartments appears to have been repeated until 1965, by which time 20 acres had been dealt with. The central and eastern compartments are the ones which have been affected by this planting scheme, leaving a belt of mature deciduous trees running along the western side of the wood.

There are records of firewood being cut during clearing operations in 1964

and on various occasions the use of chemicals and diesel oil is mentioned for weeding, but it is not clear how much or over what acreage such applications were used. The last recorded weeding was in 1966 when there is some mention of draining compartments to increase the 'take' and growth of the trees but it is again not clear whether this was carried out.

Picea abies (Norway spruce), Chamaecyparis lawsoniana (Lawson cypress) and Tsuga heterophylla (Western hemlock) are the main coniferous species which have been planted in the cleared compartments. Picea abies and Tsuga heterophylla are commonly planted trees in forest plantations, the latter being particularly so under hardwood trees as in Shenley Wood. Chamaecyparis lawsoniana has many varieties, most are more common in gardens and parks (4) than plantations although it is a hardy tree species. Oak (Quercus robur) and Beech (Fagus sylvatica) were also included in the planting regime, 2000 seedlings being planted in 1965 along with 7800 Picea abies of various sizes, 1700 Chamaecyparis lawsoniana and 1700 Tsuga heterophylla.

The wood has regularly been used for cub hunting and pheasant rearing, is often traversed by fox hounds, and organised pigeon and rabbit shoots have taken place over the last decade or so. In 1965/66 the plans announcing the siting of a new city in the area caused some concern as to the future of the wood. The wisdom of continuing with the planting scheme if the wood was to be seriously affected by the new city was questioned, which, along with the disappointing growth of the planted trees, seems to have led to a lapse of the wood from the Forestry Commission dedication scheme.

The last records in the files show that in October 1968 no work was proceeding on the commercial woodland because of the uncertainty raised by the new town. Since then, although the rides have been maintained regularly, deciduous under growth has in some compartments almost swamped the planted conifers.

Consequences for the wood

The records suggest that Shenley Wood is several hundred years old and part or all may date back to Domesday and before. It has variously been used more or less intensively for firewood, timber and faggots, as a grazing ground for pigs, deer and cattle and a hunting ground for deer, rabbits, pheasant and hare among others. The effects of wars and taxes have no doubt taken their toll on the size and content of the wood.

The remaining coppice stools depict a once rigorous management system abandoned and now replaced by a system of conifer underplanting in several parts of the wood. In Page's book (5) it is stated that the woods in the

north of the county are chiefly oak with an undergrowth in which sloe (Prunus spinosa) predominates, a situation which can still be found on the western edges of the wood. In other sections paths can be defined through compartments to comply with old maps.

The essential use of the wood has changed along with its management. In earlier centuries it would have been an important element in the local agriculture and so in the economy of the parish. It has now changed into a wood which although it may be managed to yield some commercial products is essentially used for sporting or recreational purposes, and does not supply part or all of the living of parish inhabitants. This is in line with many of the far reaching changes in the social and economic order of our society, particularly in the last century, but the wood remains a vital reserve and sanctuary for birds, mammals and plants in a new city poor in wooded habitats.

The fears that a new city road might bisect the wood have proved unfounded, although the north-east corner of the wood may be affected, but with the growth of Milton Keynes the next decade will prove crucial to the future of the wood.

Acknowledgements

I would like to thank Liz Baines of the Bradwell Abbey Field Centre and Mike Towns for providing material on the history of the local woodlands.

References

(1) Towns, M., Towns, S., and Cousins, J. 'Shenley Wood', The Milton Keynes Natural History Society Journal, Vol.1, 1975. pp. 42-48.

(2),(5) Notably, Lipscombe, G., The History and Antiquities of the County of Buckingham, Vol.IV, Newport Hundred, 1847 and Page, W. The Victorian History of the Counties of England, Vol.II, A History of Buckinghamshire, 1908.

(3) Rackham, O., 'The Oak Tree in Historic Times', in The British Oak Its History and Natural History, The Botanical Society of the British Isles, 1974, pp. 62-79.

(4) Mitchell, A., A Field Guide to the Trees of Britain and Northern Europe, Collins, 1974.

# THE FUTURE OF WILDLIFE CONSERVATION

P. J. Chapman

After a decade of increased environmental concern the wildlife conservation movement needs to sit back and examine its aims and objectives. It is becoming increasingly obvious that wildlife conservation's future will be governed by two factors - the ability of conservationists to adopt fresh outlooks in the face of 'progress' and the probable far-reaching changes in land usage. The time is ripe to assess what is being conserved and how tactics can be improved. Although it is certain that the usage of rural and urban areas is about to undergo considerable alterations these need not be viewed with despondency. Once conservationists employ a more rational approach the problems of the future offer a challenge; there will be great potential for the creation of new habitats and the integration of existing ecosystems into the new forms of land use.

The many organisations which aim to protect the environment allocate a large proportion of their limited resources to the acquisition and management of nature reserves. If a fresh outlook is required then reserves should receive immediate attention.

Despite large inputs of time, effort and money nature reserves are vulnerable - even the best management plans cannot cope with factors beyond the control of conservationists. Accidental damage is one factor and this could be illustrated by the following example. A small reserve might be engulfed by flames from nearby stubble burning; a barbed wire fence and 'Private' sign will not prevent such a catastrophe. Changes can be brought about by natural sequences, e.g. isolated reserves require fresh species and genes and if there is no interchange the sites' wildlife associations will deteriorate. An external change affecting a nature reserve might initially appear to be quite harmless; the lowering of water tables in fields adjacent to a reserve will alter the soil conditions and dry up shallow ponds and ditches in the reserve. The most important reasons for establishing nature reserves are that they provide the optimum conditions for management and afford the best degree of protection to wildlife. In addition, reserves are ideal research sites, one benefit being that with the results of research the reserves can be standards or 'experimental controls' against which other ecosystems, sites or management techniques can be judged. There are also the aspects of education and passive recreation which visitors can enjoy.

The problem facing conservationists is that reserves are valuable but vulnerable

and expensive; a rational review of all nature reserves is therefore desirable. There is much duplication of ecosystems; the less valuable of these should be transferred to more productive land uses. Many small and vulnerable areas are often held onto tenaciously when it is quite obvious that they are a nuisance to the owners of the surrounding land; these owners should be given the chance of buying such sites. Nature reserves which protect a single species, that inevitably means a rarity, should receive close scrutiny. A rarity usually has little bearing on an ecosystem and as a result a site can normally withstand the loss of a rare species. In this situation, especially if the remaining ecosystem is not of ecological importance, the rarity should be transferred to another reserve or refuge and the site returned to more productive land usage. Those small, isolated reserves which are too important to lose require the aquisiton of 'buffer zones', protection by the goodwill of surrounding landowners and should be linked to similar areas and ecosystems by 'wildlife passages'.

Where there are no conflicting land uses, working agreements, made between landowners and conservationists, have a promising future and all possibilities must be examined with urgency. Whatever the changes in land use economy some areas can never be farmed, afforested, developed, have recreational uses, etc., and these are perhaps the 'nature reserves' of the future. Motorway verges, graveyards, golf courses, army training grounds, sewage farms, railway cuttings, surrounds to electricity sub-stations are a few examples of areas which can be protected and improved, by working agreements, with little or no worry of losing the site.

Although working agreements can be as effective as nature reserves there is also a need for similar rationalisation as discussed above. In the past farmers have agreed to set aside hedgerows, copses, 'rough areas', etc., only to find that these impede improvements to their agricultural methods or holdings. A pond in the centre of a hundred-acre barley field cannot survive its isolation and the ingress of fertilizers and biocides. The pond creates problems for the farmer and if he was allowed to fill it in he could, in return, plant up field corners with native trees, lay boundary hedgerows or be persuaded not to drain a wet meadow.

By altering their outlook conservationists will begin to gain the support of landowners and this will be far more valuable than another nature reserve or a Parliamentary Bill protecting wild flowers and animals. At the moment working agreements work only when they suit landowners, rarely will they sign written agreements and verbal ones are easily 'forgotten'. It is usual that

wildlife occurs near the bottom of landowners' lists of priorities and if they wish to alter the management of protected areas they will do so. In such cases, the only solution appears to be subsidies to cover the losses they incur by not making changes in management.

Although priorities must be given to those species and wildlife assemblages in greatest danger, conservationists must begin to realise that their responsibilities also lie with the more abundant forms of wildlife. It is totally wrong to allow wildlife to become rare or threatened before considering it worthy of protection - remember what they said about passenger pigeons and buffaloes? The whole environment and individual ecosystems rely on earthworms and sparrows for their continued existence far more than on rare orchids and butterflies. So much of the countryside consists of the common things which, in turn, are appreciated by the majority of people. Rolling wheat fields, sand lizards, a wood with primroses, a windswept plateau with arctic-alpine vegetation - go and ask the man in the street which two he has the greatest feeling for. Without the public's backing the future of conservation is insecure; it is important that the conservation lobby has this support and work should be orientated towards generating public awareness. For example: some reserves, with nature walks, should be established close to large towns, and urban parks could have 'wilderness areas', created and maintained by conservationists, where people can see wildlife. The public, which is sadly not that well informed about wildlife management and protection, should be shown that conservationists are active and that wildlife is interesting and enjoyable.

An accurate and objective method of site evaluation is essential during an appraisal of nature reserves, working agreements, sites, etc. At the moment conservationists resort to subjective site assessment and use terms which create considerable confusion. Take, for example, some of London's reservoirs; an ornithologist specialising in waterfowl might describe them as 'high-quality environment', yet a landscape architect, botanist, member of the Council for the Protection of Rural England, etc., might have difficulty in applying any value at all.

Mathematics and statistics can be baffling and frightening but if employed correctly quantitative techniques provide a sound basis on which site evaluation can be carried out. A Canadian geographer wrote, "The quantification of theory, the use of mathematics to express relationships, can be supported on two main grounds. First, it is more rigorous. Second, and more important, it is a considerable aid in the avoidance of self-deception." There is surely a need

for similar techniques in conservation. Ecologists have been trying to grade sites by various quantitative means and they are slowly making progress. Sceptics should examine the 'Ecological Appraisal of West Sussex', which proved to be quite an accurate ecological grading of a large area; a similar survey was applied to parts of Milton Keynes. The encouraging results indicate that the methodology is satisfactory and further work, using additional criteria and more intensive surveying, should improve the accuracy and make the survey useful for the grading of individual sites.

Ideally, grading should be based on a monetary scale, which is only quantitative grading using specialised units. The reasoning behind this can best be illustrated by the following fictitious, but plausible, case history.

A road can pass either through an arable field or an ancient meadow containing a complex ecosystem. Conservationists submit protests, against the latter route, to the planners, but without hard facts the planners may well resort to economic reasoning, preferring the meadow route if the land is cheaper. Remember it is our money they are spending so we should be grateful. Also the agronomists will support them if the meadow produces less food per acre than the arable field. In a limited space 'Wildlife Conservation', published in this journal in 1975, attempted to explain the need for wildlife and if there is ever a need for a commodity a price can always be fixed. How much is the obscure fungus which produces penicillin worth? Governments and drug companies would have to invest fortunes to find an antibiotic as effective. How much is saved when adopting a lichen survey instead of buying expensive pollutant-monitoring equipment? If evaluation of wildlife still sounds far-fetched, think of how the Tate Gallery assessed the value of 120 building bricks and considered it worthwhile to spend thousands of pounds on them! Surely it is possible to estimate the worth of that ancient ecosystem.

With the value of the ecosystem plus the agricultural cost of the land the total worth of the meadow could be more than that of the arable field. This is the evidence on which planners can work and hopefully they will choose the cheaper, less damaging route. If they decide otherwise conservationists must fight harder than in the past and the present methods should be improved.

Whilst amassing all relevant data on the meadow they should enlist all possible local support:- the vicar, youth club, Girl Guides, Women's Institute, primary school, J.P.'s, councillors, local newspaper, action groups, residents' associations..... there are many groups and individuals who will endorse the appeal. County, regional or national societies, trusts, etc., should be asked to exert pressure if the meadow warrants their involvement; the county

naturalists' trust and regional office of the Nature Conservancy Council should become involved in all but the most insignificant cases. This particular example could be taken to the local archaeological society for their support. The meadow might have been mentioned in the Domesday Book or recorded on mediaeval maps; it might be bounded by Saxon hedges and be the best example of 'ridge and furrow' in the area. Planners must be informed that there are many people who value wildlife and the environment.

Re-appeals should only be made if the site is worthy of extra petitioning - all too often conservationists have re-appealed when it was obvious that the site would be lost or was of no notable value. A second stage of the fight would include additional evidence offered by county, regional and national organisations and pleas from more local institutions. If the fight is still lost the meadow's wildlife should be surveyed and some of the turf transplanted, perhaps back onto the verges of the new road. Losses should not cause bitterness or despondency but provide extra momentum for future fights where losses can be traded for gains.

This article has been directed towards the future but alterations in land usage are already under way and rapidly gaining pace. The present approach by the conservation movement is staid and it will require considerable effort to overcome the inherent inertia. Even with pessimistic prospects for the short-term the future of wildlife conservation does offer a challenge which is by no means insurmountable. To prophesise would be rash but wildlife is resilient and it should have a future. George Orwell, in his frighteningly realistic novel, 'Nineteen Eighty Four', felt that the quality of future life would be very poor. With perpetual wars, squalid housing and the brutal authorities it would seem impossible for nature to exist but Orwell writes of an area surprisingly rich in wildlife only a half-hour train journey from Paddington. He vividly describes a woodland of coppiced ash with a field layer of bluebells. Who coppiced the wood? The Ministry of Plenty, or were there some Oceania conservationists?

---

# THE EXCAVATION OF BADGER SETTS AT STANTONBURY AND MILTON KEYNES VILLAGE

B.C. Frewin

## Introduction

During the early years of the construction of Milton Keynes New City there was little organisation and liaison between the natural history interests in the area and the Milton Keynes Development Corporation. As a result there was no particular protection for the badger (Meles meles) until the emergency excavation of the setts at Stantonbury and Milton Keynes Village. The following account describes the excavations of these setts which were carried out within a fortnight of each other in 1972. The excavations were carried out with the primary aim of removing badgers from setts in imminent danger of destruction by construction activity. At both setts there was the very real possibility of animals being entombed. The excavations also yielded considerable information on the manner of sett construction.

Since 1972 considerably more expertise and information has been obtained, enabling a policy for the protection of badgers in Milton Keynes to be drawn up and implemented.(1)

## The Stantonbury Badger Sett

Discovered in 1967, it was apparent that this sett had been in use for some time. Its position at that time, well away from urban development, meant that the sett was left undisturbed for long periods. There were numerous signs of badger activity such as scratch marks on trees, droppings, hair caught on barbed wire, as well as tracks and old bedding cleared from the sett.

During 1970-71 the sett was watched and the badgers' movements plotted, enabling a territory range to be mapped (Fig. 3 ). Tracks were sometimes found away from the habitual pathways indicating that these badgers did not necessarily rigidly adhere to the pathways as is often supposed. The badgers used as watering holes two ponds beneath an electicity pylon which has since been removed. On April 17th 1971 two adult badgers and two young were seen and a week previous to the dig two badgers were seen romping in the field by the sett.

The sett was constructed to the west of a double hedgerow and wet ditch, with the two main entrance holes sited on the bank of the ditch. The hedges contained mature trees of ash (Fraxinus excelsior) and field maple (Acer campestre) with a shrub understorey of elder (Sambucus nigra), hawthorn (Crataegus monogyna) and sloe (Prunus spinosa). A field layer containing

dogs mercury (Mercurialis perenis) and bluebell (Endymion non-scriptus) was present. The sett was thought to be approximately thirty years old. There were two entrance holes, A & B, 4.27 metres apart and the large amounts of spoil deposited outside the entrances indicated that excavation was still in progress. Well-worn tracks led away from the entrance holes, north to the New Bradwell cemetery and south to Linford Wood.

In September 1968 a second sett was excavated in the same hedge 140 metres to the north. This sett was destroyed by a housing development in August 1972. It was unoccupied at the time. The original sett, which was still occupied, was on the site of the Stantonbury Campus complex and in early November 1972 was in imminent danger of destruction. On November 5th a team of members from Milton Keynes Natural History Society, with permission from Milton Keynes Development Corporation, the landowners, attempted to remove the badgers from the sett. If the badgers were captured it was proposed to move them to an unoccupied sett 10 miles away and outside the new city boundary.

## The First Excavation

A number of precautionary measures were taken for the excavation. I received a tetanus anti-toxin injection, a first aid kit was available at all times and people assisting were instructed not to impede the escape of the badgers. Only I was allowed in the trenches. In the event of a capture only two persons were to handle the badgers. A nylon net and a wire cage were to be used to effect a capture and the badgers were to be transported within a dustbin to prevent them panicking.

From the age of the sett it was expected that there would be an extensive tunnel system and a request was made to M.K.D.C. for the loan of a 'Hi-mac' trench excavator. The 'Hi-mac' operator was instructed to remove just enough soil from the side of the tunnels to make them readily accessible and yet leave a good margin of soil to ensure the safety of a badger which may have been inside. The 'Hi-mac' operator was extremely skilful and we owe him a great debt of thanks for enabling the smooth conduct of the operation. Most of the excavated spoil was dumped away from the tunnel system and no back filling took place, to avoid burying the badgers in tunnels, but one load was returned on an opened tunnel at Point S. As the sett was excavated the lie, depth and size of the tunnels was measured, and chambers plotted. To help detect the presence of a badger in the tunnel and to reduce the risk of a sudden attack a large mirror was used to reflect torchlight into the tunnel, enabling one to see as much as two metres ahead.

Fig.1.

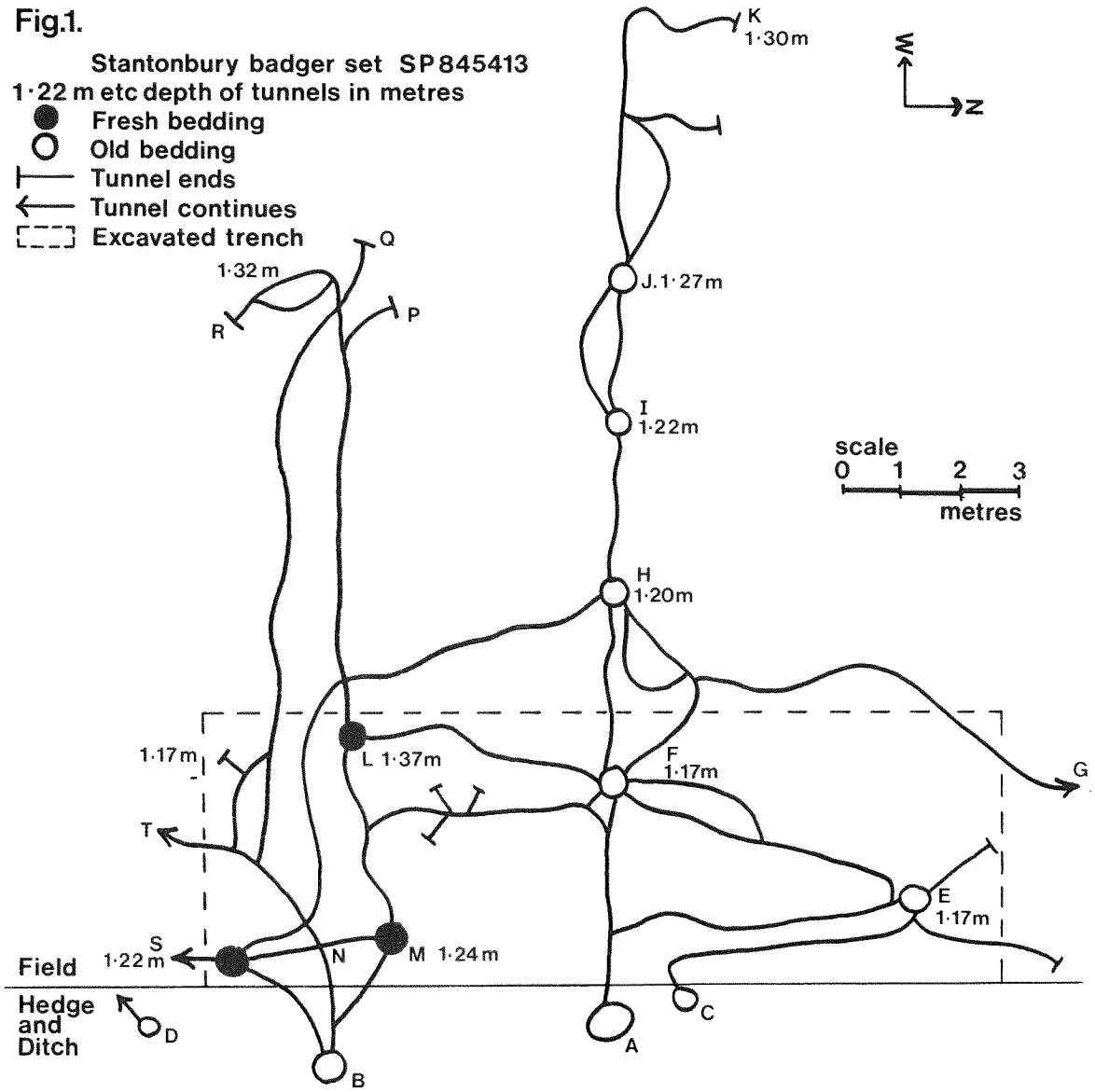
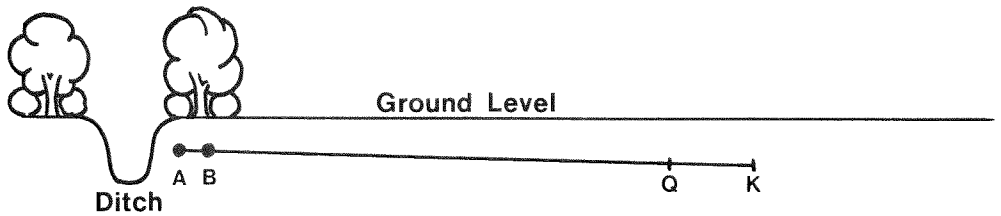

Stantonbury badger set SP845413
1·22 m etc depth of tunnels in metres
Fresh bedding
Old bedding
Tunnel ends
Tunnel continues
Excavated trench
K
1·30m
W
Z
Q
1·32 m
R
P
J. 1·27m
I
1·22m
scale
0 1 2 3
metres
H
1·20m
1·17m
L 1·37m
F
1·17m
G
T
E
1·17m
S
1·22 m
N
M 1·24 m
Field
Hedge
and
Ditch
D
C
A
B

Fig 2


Ground Level
A B
Q
K
Ditch

The tunnel system of the sett was first excavated along the line A to K (Fig. 1 ) and continued along the line H to L. The passage C to E had clearly been dug by rabbits, and connected with E. It was a small hole with diameters of 5 cm x 20 cm and there were rabbit droppings along its length. At intersection L there was fresh bedding, a strong musky odour and two fresh droppings. Cowling, B. (2) reported dropping pits within the tunnels of a sett he excavated but no such pits were seen at Stantonbury and these droppings are believed to have been passed in fright.

At this point the excavation was returned to entrance hole B and the tunnels leading to S, N and M were uncovered and continued along to P, Q and R which were dead ends. Up to now the excavation had taken five and a half hours. The tunnel system was even more elaborate than expected and though we were near the badgers we had no real idea of the size of the tunnel system remaining. An offer, before the excavation, of a pair of inexperienced terriers had been rejected on humane grounds. It was decided therefore to halt the dig. Unfortunately, the following day the 'Hi-mac' was unavailable and could not be loaned to us again for some time and the excavation had to be abandoned. A thorough examination of the site the next day revealed the tracks of a badger which had left the sett at tunnel T and had not returned.

The Second Excavation

The sett was examined regularly in the following weeks and on January 7th 1973, when construction activity on the site was in full swing, badger tracks were found again. The animal visited the sett eight times in a fortnight and used tunnels M and E which had become exposed once again due to soil subsidence (not all the tunnels had needed to be excavated). There was a strong possibility that it was a sow preparing for the birth of its young, an undesirable prospect with the increasing activity in the area. The sett was also vulnerable now that large sections had been excavated. A 'Hi-mac' was again made available to us and it was decided to excavate as much of the remaining tunnel system as possible. Any unexcavated tunnels were to be blocked to discourage the animal from returning.

The second dig took place on January 20th, but this time a trench 1 metre wide and 1.5 metres deep was first excavated around the active area (Fig.1). Although examination of the sett did not reveal the presence of a badger, it was hoped that if one was present it could be driven into the trench and contained long enough to capture it. The trench exposed the tunnels T, L and G and the excavated mouths to these tunnels between the trench and the field were blocked and observers placed by the side of the trench. The only sign of badger activity

found was in chamber E where there were large amounts of fresh dry grass. At the start of the excavation the remains of a dead boar badger were found. Examination of the badger's teeth showed it to be an old animal. The canines were heavily grooved and the molars well worn. It was obviously one of the pair present in the sett during the first excavation. Tragically, the load of spoil dumped on the open tunnel S appeared to have trapped the badger in the tunnel and he was unable, perhaps surprisingly, to dig himself out.

Finally, rags soaked in old engine oil were placed in the holes and they were filled in. Checks at the site were made weekly for two months, then monthly for the next year. Throughout that period and since there has been no sign of badger activity and the site is now completely developed.

The Sett at Milton Keynes Village

This sett, 200 yards north of Milton Keynes village, was situated on the verge of the now discontinued B224 road to Willen village. The grass verge, from road to ditch was approximately 3 metres wide. Across the ditch was a hawthorn hedge bounding an arable ley pasture. At the time of destruction the sett (Fig. 5 ) had two entrance holes, A and C. Two other small holes were used by rabbits. Despite several exhaustive searches over the period 1970-72 no entrance holes were ever found on the opposite side of the road. Spoil, thrown from the sett by the badgers, partially blocked the ditch and was used by the badgers when crossing the ditch to enter the field. Tracks on the spoil were a useful indicator of when the sett was active. The badgers' path crossed a contractors' road which led to a nearby sand quarry. Several badgers had been killed in the early mornings by contractors' lorries on this road. In January 1972, 96 latrine pits were found along the wire fence alongside the contractors' road. We learned later that the sett was about 40 years old.

In October 1972 trunk sewer pipes were laid across the field described in the direction of the sett. Immediate enquiries revealed that the main sewer connection shaft was in fact to be sunk through the centre of the sett. After urgent discussion with the contractor on site, it became apparent that neither the direction of the sewer nor the location of the connection shaft could be changed at such a late stage and there were now only two hours left before preliminary site works were to be started. The preliminary works could not be delayed because the contractor wanted to push on as time lost was money lost. The next day a shaft 5 metres x 4.5 metres deep was to be sunk through the middle of the sett which would have trapped the badgers underground.

A digger was available on the site and it was decided that an attempt to excavate the sett and remove the badgers should be made. Because no entrance

holes had been found on the opposite side of the road it was hoped that the sett would be confined to the verge area.

The sett (Fig. 4 ) was excavated from Point A along to G, then along through F and G to I. At Point G there were large amounts of mildewed grass (possibly taken down by a heavily pregnant sow which was killed on the B224 at the sett in February 1972). It became evident that the sett was quite extensive and tunnels were located which passed under the road. A request to dig up the road was refused, even though the road was discontinued two months later. The badgers were not located. The vertical sides of the excavated trench, which was 1.2 m deep, meant that the badgers could only leave the sett from Point A. Soft soil and V-shaped sticks were placed at the mouths of the exposed holes to register the presence of a badger.

The next morning, only the stick at hole H had been moved and tracks showed that a badger had ventured out but had returned into the same hole. It was hoped that tunnel H would connect with F and C, thereby still leaving an escape route for the badgers after the shaft had been excavated. To facilitate this escape a quickly constructed wooden tunnel was used to bridge the trench at Point F. The bridge was covered with loose soil. The contractors then set to work on excavating the shaft, completely destroying the central portion of the sett. The shaft was shored with steel piles on the roadside edge, blocking G and H completely, but the other tunnel holes could clearly be seen and all were at least 2.8 metres from the bottom of the shaft. Tunnels J and K both continued to run downward, K from a depth of 1.8 metres and J from a depth of 1.5 metres.

The site was checked daily for three weeks for any signs of the badgers, but none were ever found, and it is surmised that the animal or animals were trapped underground and died. Three months later a fox began to use hole C.

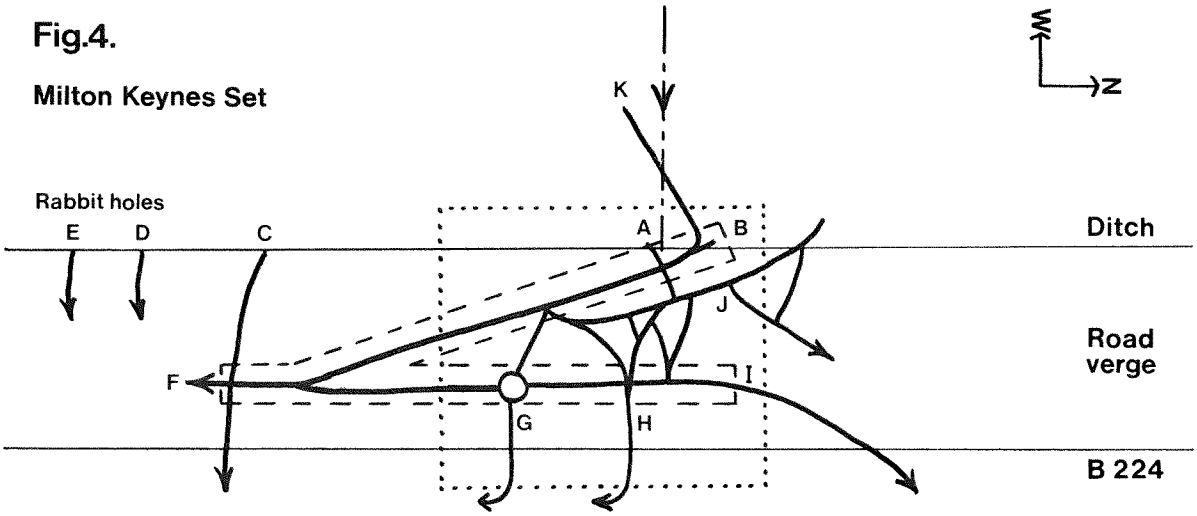
## The Structure of the Setts

At Stantonbury the soil in which the sett was excavated was a medium-heavy clay with an admixture of sand, whilst that at Milton Keynes Village was predominantly sand with a binding mixture of clay. The entrances to both setts were established in ditched hedgerows.

The setts appeared to have no definite pattern of construction, although the Stantonbury sett seemed to have a conspicuous east-west orientation. Tunnels radiated at random and frequently interconnected. This random, unconnected type of structure is similar to that recorded from rabbit warrens by Thompson and Worden (3) where warren enlargement is haphazard and mainly initiated when

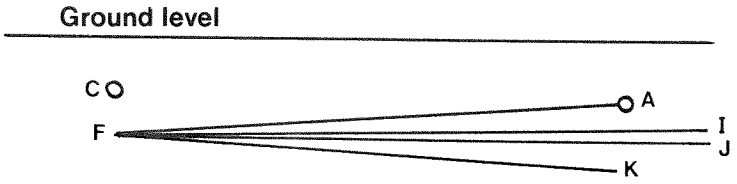
Fig.4.

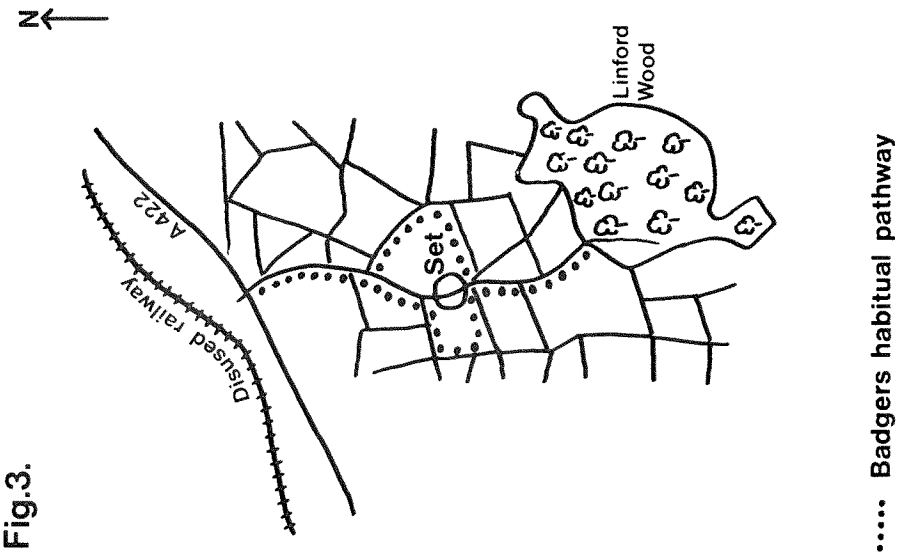
**Milton Keynes Set**




Excavated shaft
Sewer shaft

Fig.5.




..... Badgers habitual pathway

Fig.3.

nest burrows are excavated by pregnant and lactating females. Tunnels in the setts were uniform in size and shape, being 38.5 cm wide and 36 cm deep with both floor and roof concave. Most of the tunnels had a distinctive sheen from the constant passage of the badgers. Tunnel intersections were also uniform and in most cases were 66 cm wide by 43.5cm deep.

Rabbit holes penetrated into both setts and could have acted as ventilation shafts. Ventilation holes have been reported from other setts but none were located at Stantonbury or Milton Keynes Village. The considerable differences in the depth of the tunnels at the two setts could be accounted for by the differing soil types. On the heavier soil at Stantonbury, tunnels were little more than half a metre deep, with no more than twenty centimetres between the deepest and the shallowest. At Milton Keynes Village, tunnels were recorded descending to a depth of two metres and still continued downward, the sand constituting an excellent medium for excavation. (An account of the influence of soil on sett site selection will be the subject of another paper.)

The bedding areas of the setts contained grasses in various stages of decomposition and in several cases grass was damp and mildewed. Bedding, apparently, is not renewed unless a bedding area is required for use.

Conclusion

After the excavations at Stantonbury and Milton Keynes Village it became clear that effective liaison with the Milton Keynes Development Corporation and contractors on site and a systematic approach to badger protection and conservation in Milton Keynes was necessary if the badger was to remain one step ahead of, and safe from, the march of development. As a result the Policy for the Protection of Badgers was drawn up and is now in use and proving a success.

Although the excavations failed in their primary aim of capturing and translocating resident badgers they did succeed in driving badgers away from the vulnerable sett at Stantonbury. The deaths of badgers at both setts was unfortunate and regrettable but the animals would not have fared any better had the excavations not taken place. Another sett in the path of a new road development at Whaddon Way, Bletchley was bulldozed and destroyed while two adult and two young badgers were present within. This sett had only recently been discovered and again there was no time to act. It is often said that badgers will dig their way past a blockage and in most cases should be left to fend for themselves if the sett is disturbed but this must be only partially true. It would have been impossible for a badger to have dug its way out of the bulldozed and compacted ground at the Whaddon Way sett and even at

Stantonbury a small load of spoil was sufficient to trap the badger. A trapped badger will probably dig instinctively along the old tunnel line, but to do so, spoil will have to be pushed behind it. Eventually air in the tunnel will be exhausted and back-filling will only reduce the amount of air available, so the animal will be asphyxiated.

In the event of it becoming necessary in the future to remove badgers from a threatened sett experienced terriers will be used to assist in locating the badgers underground, enabling swift and humane capture. Experienced dogs were not available for the excavations described.

It is no longer sufficient to hope that badgers in the path of construction and development will ultimately be able to fend for themselves and if serious consideration is to be given to the conservation and protection of badgers in such circumstances then effective liaison and agreed procedure are essential. I hope that our experiences in Milton Keynes can in some measure help others to avoid the pitfalls we have encountered.

Acknowledgements

I would like to thank the following people for their help with the excavations: D. Clarke, M. Hayle, S. Hayle, J. Kelcey (M.K.D.C. Ecologist), R. Locerie, R. Mandale, D. Mattinson, T. Murray, J. Wickham, M. Towns.

References

(1) Frewin, B., Hayle, M. and Burton, A. 'Policy for the Protection of Badgers in the Designated Area of Milton Keynes', The Milton Keynes Natural History Society Journal, Vol.1, 1975. pp. 29-32.

(2) Cowling, B. (Pers. Comm.)

(3) Thompson, H. V., and Worden, A. N., The Rabbit. 1965. Collins, London.

---

## ANALYSIS OF BADGER FAECES IN THE MILTON KEYNES AREA FOR THE PRESENCE OF BOVINE TUBERCULOSIS BACILLI

B. Frewin

One of the recommendations of the Badger Protection Policy formulated in 1974 was that if it became necessary badgers should be captured and removed to selected setts outside the Milton Keynes Designated Area. However the appearance of Myobacterium tuberculosis in cattle in Britain has meant that considerably greater caution has to be exercised when considering the transfer of badgers from one site to another because unfortunately the badger is also

susceptible to Myobacterium tuberculosis and in fact acts as a reservoir of infection in affected areas. In infected areas movement restriction orders have been placed on cattle and badgers and all bodies involved with badgers have a firmly agreed policy that no badgers from outside infected areas should be moved until the animals can be shown to be free of infection.

In Milton Keynes it had been decided to attempt to monitor the badger population for possible signs of the disease and Mr. J. Gallagher of the Veterinary Investigation Centre, Ministry of Agriculture, Fisheries and Food, Gloucester was contacted for advice. Mr. Gallagher very kindly offered to test for TB any samples sent to him. The surest method of detecting badger TB is by the thorough examination of a dead animal. However, as we wish to keep our badgers alive and possibly transfer them to other sites outside the city other methods of examination are preferred!

The Collection of Samples

Indirect examination of the badger for the presence of tubercle bacilli can be carried out using blood or faecal samples. The collection of a blood sample requires the capture of the badger, which is difficult and upsetting both to the collector and the animal. Faecal samples, on the other hand, can easily be obtained from latrine pits, enabling several setts to be visited in a short period of time. The collection of faecal samples allows regular and easy monitoring of the badger population in the area and was the method of choice.

Five setts were visited three times over a period of seven months in 1975, on March 18th, July 2nd and September 25th. Faeces were collected into disposable plastic sampling bottles with the aid of a spatula and then sealed. Disposable rubber gloves were used during collection. Two samples were taken from each sett. The samples were packaged and posted to the Veterinary Investigation Centre.

Methods of Examination

On arrival at the Veterinary Investigation Centre each sample was divided into ten and subjected to the following tests:

A. Direct Smear Test

This involves the microscopic examination of a smear of faeces on a slide. The bacteria however, are not easily identifiable unless there are a mass of them; small numbers are difficult to find.

B. Culture Test

Faeces are treated as a culture in a nutrient solution and are examined

after four weeks for the presence of tubercle bacteria. If the bacteria were present in the sample they will have multiplied enormously and are then easy to identify. This test is reliable but slow.

C. Biological Test

This method involves the injection of a solution of faeces into a guinea-pig. If TB bacteria are present in the faeces the guinea-pig will develop the disease. The guinea-pig is killed after six weeks and examined for signs of the disease. This test is the most reliable, but it is slow and more expensive to perform.

Results and Conclusion

No tubercle bacilli were isolated from the samples sent to the Veterinary Investigation Centre by use of the above techniques. This does not necessarily mean that the badgers sampled are free from the disease. None of the investigatory methods used on faecal samples are totally reliable because it is possible for a badger to suffer from TB and not pass bacteria into the faeces, thereby giving a false negative result in the tests carried out.

However, the large number of samples processed and the fact that the disease has not been reported from this area leads us to believe with confidence that the animals sampled were uninfected and could be safely moved should it become necessary. Monitoring of the TB status of badgers in Milton Keynes will be continued.

Acknowledgements

We are extremely grateful to Mr. J. Gallagher of the Veterinary Investigation Clinic, and also Dr. E. Neal, for their advice and help with these investigations.

---

## BAT HUNTING IN NORTH BUCKS

A. Burton

During the period May to August 1975 I was able to attend several of the 'bat meetings' organised by Clive Banks of the Hertfordshire Natural History Society. This prompted me to begin looking for bat sites in north Bucks and as a result records for two species of bat in this area have been obtained. Unfortunately, I left Milton Keynes in September to take up a new job elsewhere, but I hope the following account may encourage another member of the Milton Keynes Natural History Society to take up 'batting' where I left off. Bats are a

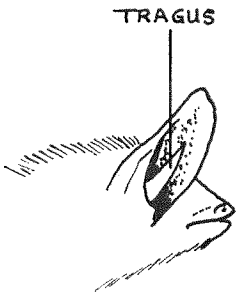
very rewarding species of mammal in which to specialise as there is still a great deal to be learned about them. It is quite likely that an enthusiastic amateur could make a significant contribution to the field of knowledge on bats.

It is easy enough to discover where bats are simply by checking suitable-looking sites such as churches and old buildings at dusk when the bats are likely to be flying, but identifying individual species is more difficult. Although it is sometimes possible to make a tentative identification from such evidence as the height and pattern of flight and the size and shape of wing, it is necessary to catch the bat and examine it closely before a positive identification can be made. Bats are not easy to catch in flight as their superb echo location system makes them adept at perceiving and avoiding obstacles put in their path. Probably the best place and time to catch them is just as they emerge from their roost but it is easier to find the sites where they hunt than it is to find their roosts. If one is lucky enough to find a roost it may be possible to take them from it by hand. This should not be attempted during hibernation as disturbance at this time lowers the bats' chances of surviving the winter.

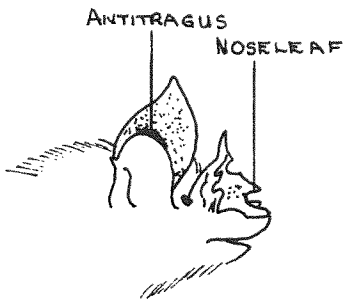
The usual method of catching bats involves the use of a mist net strung between two poles. Bird ringers use this equipment to catch birds for ringing. They set up the net across the birds' flight path, the birds are unable to see the fine net, fly into it and are caught. Very occasionally bird ringers catch bats in their nets and this method can be used to catch bats where they fly in large numbers over a known flight path (1). Sometimes, two people hold the mist net low and horizontal to the ground and it is swept over in an arc as a bat flies past so that the bat does not have time to avoid it and is caught in the net and brought to the ground. This method has several disadvantages: it can only be used in open areas because of the room needed to swing the net, and it requires perfect timing and complete co-operation between the two people manning the poles.

Another method which seems more efficient uses a mist net fastened to a circular wire frame attached to a long pole, which is used like an enormous butterfly net. This method enables an individual to work on his own in a more restricted space. Ideally, the net is brought over the bat from behind, because there is greater risk of injury to the bat if it flies head-on into a fast-moving net.

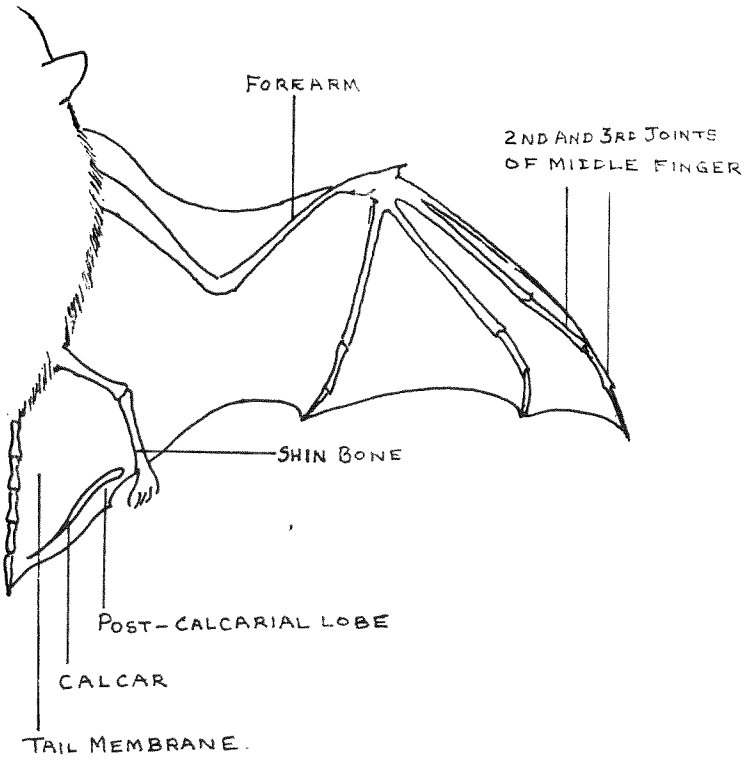
Some bats fly at heights of around 18-24 metres and to make these high fliers easier to catch they can sometimes be lured down by a pebble thrown in the air which they often mistake for an insect and will swoop down after it.




NATTERER'S BAT




LESSER HORSESHOE BAT




ANATOMY OF A BAT'S WING
(GREATER HORSESHOE BAT)

When a bat has been caught it is extracted from the net and placed in a draw-string bag. This is a delicate operation, as some bats get seemingly inextricably entangled in the net and the larger species can give a very nasty bite. At the end of the evening all the bats caught are examined, identified, sexed, measured, weighed and then released. They do not appear to suffer any ill-effects.

Bats were caught at two sites in north Bucks. The first of these was the Holy Trinity church at Old Wolverton, where on May 27th 1975 equipment was brought to the church grounds and although far fewer bats were seen that evening than on previous visits we were successful in capturing a male pipistrelle (Pipistrellus pipistrellus). The pipistrelle is both the commonest and the smallest bat in the British Isles. It has a wing span of about 21 cm. It is a species from the Family Vespertilionidae, which includes all bats with an ear tragus and without a nose leaf. The tragus is a small lobe that lies at the front of the ear passage and, in man, partly covers it. Vespertilionid bats have a very large tragus which stands in front of the main ear flap like a small second ear. There are twelve main species of Vespertilionid bats in Britain and the shape and size of the tragus is used to help identify the different species. Another identifying characteristic of pipistrelles is the possession of a post calcarial lobe, the small piece of membrane attached to the outside of the calcar, a gristly spur at the heel which helps to support the free edge of the interfemoral membrane. Their fur is long and extends on to both sides of the wing and on to the back of the interfemoral membrane. Pipistrelles may live either in colonies or singly and hide by day in cracks and crevices in buildings, cliffs and trees. Unlike other bats, whose hunting flights last only for short periods, pipistrelles are thought to fly all night. They do not fly very high and tend to 'work a regular beat', hawking up and down a lane or around a tree or building. They eat mostly small insects, especially gnats.

The second site where bats were caught and identified was at Caldecote Mill, Newport Pagnell. The owner, Mr. A. West, told me that bats roosted in his outbuilding which he uses as a garage, and he showed me their droppings on his car roof. On 1st August 1975 we visited the mill and removed three bats from the roost. We were pleased to discover that they were Natterers' bats (Myotis nattereri), one of the less common species. There appeared to be at least twelve bats in the colony. On a subsequent visit on 5th August 1975 a pipistrelle was taken in flight.

The Natterers' bat is an attractive medium-sized bat with a wing span of about

28 cm. The tragus is long and narrow, and about two-thirds the length of the ear. The most distinctive identifying feature is a fringe of short hairs on the edge of the interfemoral membrane between the end of the calcar and the tail. The species has long, thick fur, greyish-brown above with a distinctly lighter underside. It is a gregarious species which lives in buildings, trees and caves. The duration of its flight is not known. It flies at a moderate height and often hunts round trees, sometimes picking insects off the foliage. It eats flies, small moths, and beetles.

I found many other sites where bats fly, but I did not have a net of my own at that time and was unable to attempt to catch and identify bats at these other sites. The bat is a very under-studied and misunderstood mammal species which needs as many supporters as it can get. There may well be roosts of rare species in the area which the Milton Keynes Development Corporation might be willing to help conserve. It would be sad if such roosts were lost simply because no-one knew they were there.

Acknowledgements

I would especially like to thank Mr. Clive Banks, Mr. Michael Clark and Mr. Brian Barton for visiting these sites to capture and identify the bats and I would also like to thank Mr. West for allowing us the run of Caldecote Mill. Mr. Banks would be pleased to help anyone wishing to pursue the study of bats and can be contacted at 72 Spencer Road, Luton, Beds.

References

(1) Earl of Cranbrook & Barratt, H.G. 'Observations on Noctule Bats Captured While Feeding' Proc. Zool. Soc. Lond., Vol.144, Part I, pp. 1-24.

# THE DISTRIBUTION OF WINTER WILDFOWL IN NORTH BUCKINGHAMSHIRE

R. Mandale

The past three years have seen some major additions to the number of water bodies in North Bucks and there have also been changes in the use of some lakes. The most important additions have been the construction of Tongwell and Willen Balancing Lakes in the Ousel valley. These lakes, designed for temporary storage of storm water run-off from Milton Keynes New City, have proved attractive to a very wide variety of wildfowl and waders. Willen (60 ha.) was flooded accidently during the widespread floods of 1973-74 and has since held water varying from a depth of 15-50 cm over large areas and up to 3 m in deep water channels. The lake is at present filled to less than half its depth and is expected to be completely filled as soon as weather conditions permit, when club sailing will take place. Tongwell is a smaller lake (10 ha) with a central island and has well grassed banks on all sides, part of which was afforested in 1975-76. Water depth varies from 4 m at the dam to 50 cm at the western 'tail'. In the spring of 1976 this lake was leased to a local water-skiing club.

The most important change in the usage of a local water has been the division, by a causeway, of the main lake at Linford Gravel Pits. The causeway was needed to facilitate the exploitation of further reserves of gravel. One half of the divided lake is to be used as a game research and environmental centre, the other for sailing. Unfortunately, sailing is being pursued temporarily on the environmental lake.

This paper is based on the count figures obtained from monthly Wildfowl Trust Count Days. Since these counts are taken only on one day each month they do not necessarily give maximum figures for wildfowl which use a water, but rather give reliable and accurate average figures for individual waters in the North Bucks area. The waters referred to are shown in Fig. 1 and their geographical relationship with Pitsford Reservoir and Grafham Water is shown in Fig. 2. Both Grafham and Pitsford hold vast numbers of wildfowl and there is a certain amount of movement of birds from here to lakes in North Bucks.

Table 2 gives monthly wildfowl distribution figures for the four winters from 1972 to 1976 and Table 3 an analysis of the percentage of birds of each species present at each water over the winter. What is immediately apparent is that the introduction of Willen Balancing Lake has caused a marked re-distribution of the wildfowl populations and appears to have encouraged

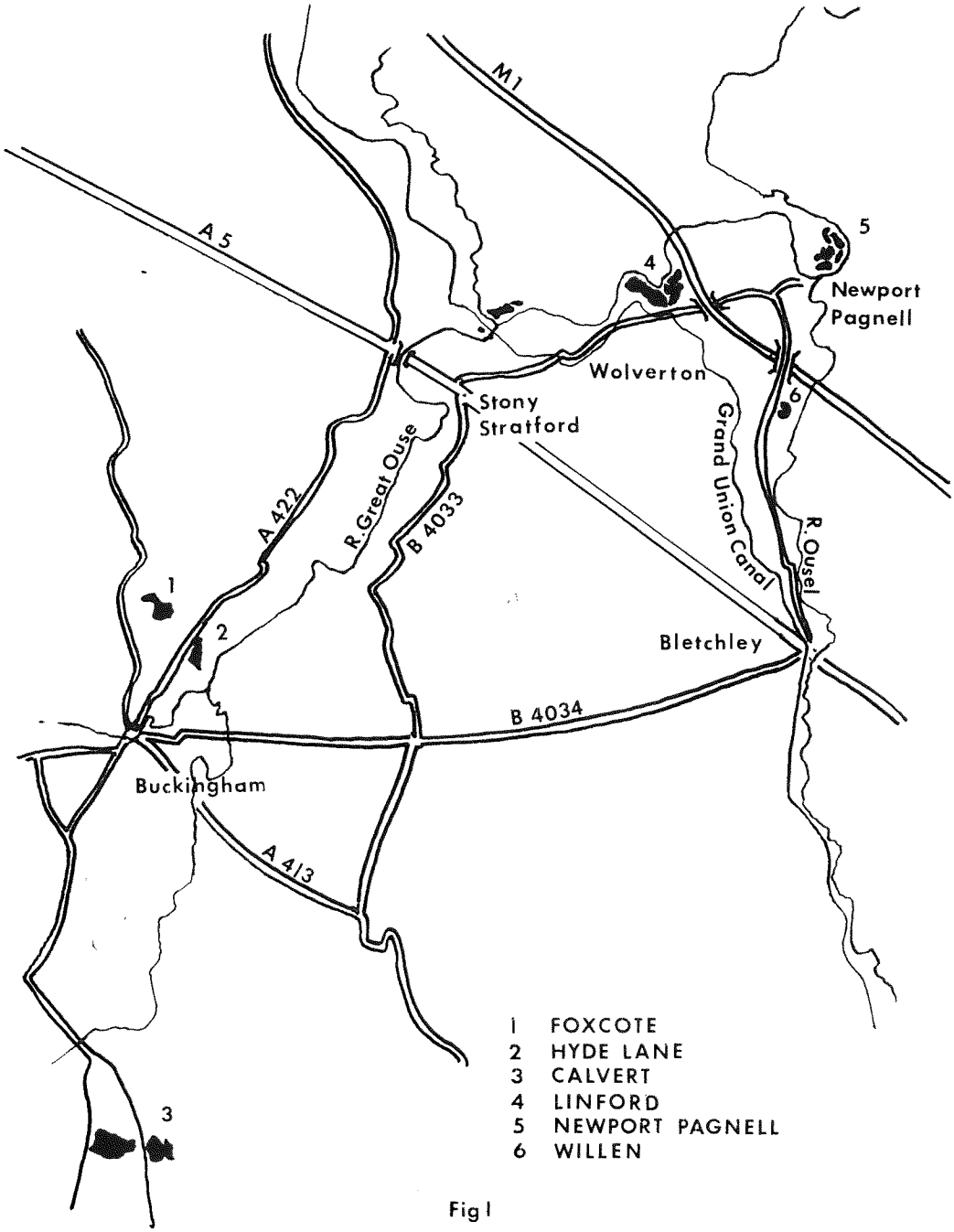

M1
A 5
A 422
R. Great Ouse
B 4033
Stony Stratford
Wolverton
Grand Union Canal
R. Ousel
Newport Pagnell
Bletchley
B 4034
Buckingham
A 413
1 FOXCOTE
2 HYDE LANE
3 CALVERT
4 LINFORD
5 NEWPORT PAGNELL
6 WILLEN

Fig 1

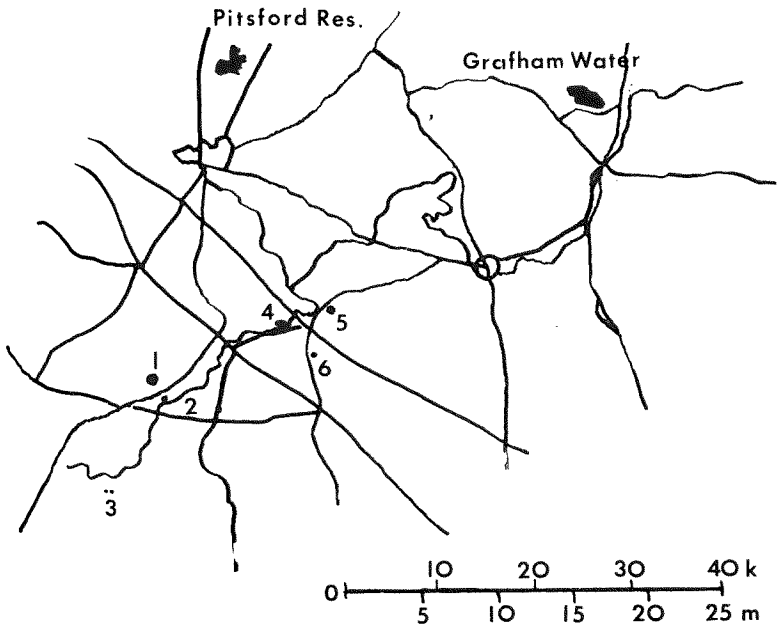

Pitsford Res.
Grafham Water
0 10 20 30 40 k
0 5 10 15 20 25 m

Fig 2

an increase in the numbers of Goldeneye (Bucephala clangula), Shelduck (Tadorna tadorna), Shoveler (Anas clypeata) and Mute Swan (Cygnus olor). The attraction of Willen, apart from its large size, probably lies in its variety of depth and its high productivity. Clouds of Daphnia spp. can be seen in the shallow waters throughout the summer and much of the winter and there are large and increasing populations of Jenkins' Spire Shell (Potamopyrgus jenkinsi), Wandering Snail (Lymnaea peregra) and White Ramshorn (Planorbis albus). In 1975 there was extensive growth of submerged Potamogeton spp. Tongwell has, in general, held only small populations of wildfowl but its grassy banks have proved ideal habitat for Wigeon (Anas penelope) and Bewick's Swan (Cygnus bewickii).

Linford Gravel Pit has a variety of shoreline and depth and a complex of islands that maintain a high resident population of wildfowl, in particular Mallard (Anas platyrhynchos) and Tufted Duck (Aythya fuligula). The large areas of wasteland and grassland around the pit provide suitable feeding grounds for Wigeon and Teal (Anas crecca).

Foxcote Reservoir is a wildfowl refuge managed since 1965 by the Bucks, Berks and Oxon Naturalists Trust. Its importance lies not only in the large numbers of common species which it holds, but also in the variety of species occurring in the winter months.

Newport Pagnell and Hyde Lane Gravel Pits, and Calvert Clay Pit, although individually not holding any sizeable wildfowl population, together constitute a large water area which provides sanctuary for disturbed birds. The pits are deep, particularly Calvert, and have steeply sloping sides.

## Notes on Individual Species

### Mallard

The distribution of mallard is dependant on the shallows and shoreline of the lakes and in consequence Newport Pagnell; Calvert and Hyde Lane have smaller populations. Willen has reduced the size of the Foxcote and Linford populations, but not increased the overall North Bucks complement.

### Tufted Duck

Prefers a deeper water with abundant vegetation and invertebrates. Linford and Newport Pagnell hold good populations and Linford also has a high resident breeding population. Willen has claimed a good number of birds, which seem to feed mainly from the deep water channels and deeper shallows.

### Pochard

This bird almost doubled its previous population size in 1975-76 and over the past four years Foxcote has steadily claimed a greater percentage of birds. The increase at Foxcote and the sharp rise in overall numbers in the area is probably related to the profuse growth of stonewort (Chara) which occurred at Foxcote in 1974-75.

Shoveler

The number of shoveler in the area has been steadily increasing since 1972-73 and the presence of Willen has sharply accelerated this trend. Willen is an ideal shoveler water, with some shallows best described as 'invertebrate soup'. Foxcote, despite taking a much lower percentage of the overall total in 1975-76, still had more birds than in 1972-73.

Teal

The teal population underwent a remarkable increase om 1974-75, and numbers were still above the norm in 1975-76. At present there is no explanation for this increase which might be connected with the condition of waters elsewhere in the country. In 1975-76 Foxcote and Linford took a share of birds comparable to 1972-74, while Willen absorbed most of the increase in population. Willen was probably favoured because of the large amount of waste ground in the dry north basin.

Wigeon

Wigeon have shown a consistent loyalty to Linford and although the figures for 1975-76 show Willen claiming 18% of the year's population, Tongwell (uncalculated) took a larger share of the total for the months of January, February and March.

Pintail

A population of tagged birds was introduced to Linford Gravel Pit by the Game Conservancy in 1974.

Mute Swan

Mute swan have increased considerably since 1972-73 and this seems to be directly linked with the increase in water available in the area. Willen and Tongwell provide good feeding grounds and once again Willen has absorbed much of the population increase. Mount Farm, an uncounted water, also occasionally carries large numbers.

Goldeneye

Goldeneye have always been regular winter visitors in North Bucks, not favouring any particular water, but Willen has held more birds and for longer than previously. Again, a greater part of the increased population has gone to Willen, in this case probably because of the abundance of molluscs and crustacea.

Shelduck

Shelduck is an interesting bird for North Bucks. In 1974 a pair bred at Linford, the first known breeding record for the area. The majority of shelduck in the area are now held by Willen and some birds are staying on well into the year. One can only speculate in the absence of firm data, but it seems likely that these birds are feeding on the abundant molluscs and crustacea in the lake.

Shortage of space made it necessary to omit from the tables species of wildfowl which occurred irregularly. Gadwall, although not uncommon, only occurred, on count days, at Linford on 18th March 1973, Foxcote on 15th September 1974, Linford on 13th October 1974 and 12th January 1975, Willen on 16th November 1975 and Linford on 15th December 1975. Bewick's Swans visit occasionally. Count day records are 4 at Foxcote on November 17th 1974, 1 at Foxcote on February 16th 1975 and 3 at Willen on 16th November

1975 and see also Table 3. Three Whooper Swans wintered at Hyde Lane from November to March 1974/75 and 7 from November to March 1975/76, with a maximum of 10 during this period and 2 on April 1st 1976.

Geese have been omitted because the two species present at Linford, the Greylang and Canada have been introduced. On July 4th 1972 an Egyptian Goose visited Foxcote for one day, as did a Snow Goose on 29th May 1974.

## Conclusion

The introduction of Willen and Tongwell Balancing Lakes has had a considerable influence on the distribution and size of the wildfowl population in North Bucks and the other two equally large lakes planned for the future, Walton and Caldecotte, could have a similar impact. There will be, however, heavy recreational pressure on the lakes in Milton Keynes and only time will tell how much influence this pressure will exert on the area's population. Already, sailing is taking place at Linford and water-skiing at Tongwell, and it is planned to fill Willen and use it for sailing in the very near future. More water will attract more birds, and it becomes vital that there are quiet waters where birds can seek refuge at times of disturbance. It is hoped that the planners for the Milton Keynes New City are far-sighted enough to see the need for setting aside a proportion of their water for wildfowl and wildlife in general.

## Acknowledgements

I would like to thank Bill Pedley for Count figures from Newport Pagnell, and Chris Emary for Count figures from Calvert.

Table 1 Tongwell Balancing Lake

| | Mallard | Tufted | Wigeon | Mute Swan | Bewicks | Pochard | Shoveler |
|---|---|---|---|---|---|---|---|
| Jan 18th '7 | 33 | 8 | 160 | 15 | 14 | | |
| Feb 15th '76 | 2 | 6 | 185 | 2 | 21 | 5 | |
| Mar 14th '76 | | | 1 | | | | 4 |

Table 2 North Bucks Wildfowl Counts - Sept 1972 - Dec 1975

| | Mallard | Tufted | Pochard | Shoveler | Teal | Wigeon | Pintail | Mute Swan | Goldeneye | Goosander | Shelduck |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 17th Sept'72 | 9/10 cloud. Strong N.W. wind. Fair. | | | | | | | | | | |
| Foxcote | 13 | 59 | 6 | 2 | | | | 2 | | | |
| Linford | 585 | 147 | 12 | | 5 | | | 9 | | | |
| N. Pagnell | 3 | 75 | | | | | | | | | |
| Calvert | 67 | 55 | 47 | | | | | | | | |
| Hyde Lane | | 45 | | | | | | 4 | | | |
| Total | 668 | 381 | 65 | 2 | 5 | | | 15 | | | |
| 15th Oct '72 | No cloud. N.E. wind. Bright sun. | | | | | | | | | | |
| Foxcote | 1300 | 47 | 24 | 13 | 14 | 2 | | | | | |
| Linford | 449 | 201 | 20 | | 16 | | | 15 | | | |
| N. Pagnell | | 155 | 29 | | | | | | | | |
| Calvert | 227 | 33 | 73 | | 1 | | | | | | |
| Hyde Lane | | 20 | 1 | | | | | 2 | | | |
| Total | 1976 | 456 | 147 | 13 | 31 | 2 | | 17 | | | |
| 18th Nov '72 | Complete thin cloud. Hazy sun. Slight S. wind. Ground frost. | | | | | | | | | | |
| Foxcote | 1500 | 52 | 7 | 5 | 2 | | | | | | |
| Linford | 622 | 176 | 30 | | 1 | 9 | | 12 | 2 | | |
| N. Pagnell | 2 | 230 | 37 | | | | | 1 | | | |
| Calvert | 3 | 38 | 28 | | | | | | | | |
| Hyde Lane | 4 | 96 | 8 | | | | | | | | |
| Total | 2131 | 592 | 110 | 5 | 3 | 9 | | 13 | 2 | | |
| 17th Dec '72 | Complete cloud. No wind. Mist. Poor visibility. | | | | | | | | | | |
| Foxcote | 652 | 166 | 40 | 10 | 27 | 14 | | 2 | | | |
| Linford | 709 | 266 | 53 | 2 | 13 | 161 | | 5 | | | |
| N. Pagnell | 10 | 230 | 24 | | | | | 3 | | | |
| Calvert | 50 | 73 | 26 | 2 | | | | | | | |
| Hyde Lane | | 11 | | | | | | 5 | 1 | | |
| Total | 1421 | 746 | 143 | 14 | 40 | 175 | | 15 | 1 | | |
| 14th Jan '73 | ½ cloud. Bright sun. Strong S.W. wind. | | | | | | | | | | |
| Foxcote | 412 | 126 | 45 | 12 | | 27 | | 2 | | 3 | |
| Linford | 510 | 240 | 98 | 5 | | 557 | | 8 | | | |
| N. Pagnell | 3 | 246 | 44 | | | | | 2 | 1 | | |
| Calvert | 3 | 44 | 50 | | | | | | | | |
| Hyde Lane | | 14 | 22 | | | 6 | | | | | |
| Total | 928 | 670 | 259 | 17 | | 590 | | 12 | 1 | 3 | |
| 18th Feb '73 | No cloud. Bright hazy sun. Slight N. wind. Pt. frozen waters. | | | | | | | | | | |
| Foxcote | 62 | 100 | 45 | 9 | | 41 | | | 2 | 4 | |
| Linford | 310 | 314 | 85 | | 2 | 744 | | 5 | 2 | | |
| N. Pagnell | 6 | 229 | 9 | | | | | 4 | 1 | | |
| Calvert | 1 | 49 | 17 | | | 2 | | | | | |
| Hyde Lane | 3 | 47 | 13 | | | | | 1 | | | |
| Total | 382 | 739 | 169 | 9 | 2 | 787 | | 10 | 5 | 4 | |

Table 2 cont'd

| | Mallard | Tufted | Pochard | Shoveler | Teal | Wigeon | Pintail | Mute Swan | Goldeneye | Goosander | Shelduck |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18th Mar '73 | Complete cloud. No wind. | | | | | | | | | | |
| Foxcote | 40+ | 60 | 15 | 5 | | 21 | | 2 | | | |
| Linford | 173 | 179 | 35 | 17 | 5 | 206 | | 9 | 3 | | 1 |
| N. Pagnell | No count this month | | | | | | | | | | |
| Calvert | 4 | 4 | 4 | | 2 | | | | | | |
| Hyde Lane | | | | | | | | | | | |
| Total | 217 | 243 | 54 | 22 | 7 | 227 | | 11 | 3 | | 1 |
| 16th Sept'73 | Slight S.W. wind. Fog thinning. Slight drizzle. | | | | | | | | | | |
| Foxcote | 1042 | 59 | 20 | 15 | 34 | 2 | | 2 | | | |
| Linford | 574 | 93 | 8 | | 1 | | | 10 | | | |
| N. Pagnell | 23 | 113 | | | | | | | | | |
| Calvert | 268 | 29 | 3 | | | | | | | | |
| Hyde Lane | 2 | 65 | | | | | | 1 | | | |
| Total | 1909 | 359 | 31 | 15 | 35 | 2 | | 13 | | | |
| 14th Oct '73 | Complete cloud. Slight N.E. wind. Rain. | | | | | | | | | | |
| Foxcote | 1240 | 25 | 23 | 19 | | | 3 | 1 | | | |
| Linford | 230 | 199 | 97 | | 6 | | | 7 | | | |
| N. Pagnell | 21 | 100 | 8 | | | | | 3 | | | |
| Calvert | 77 | 46 | 14 | | | | | | | | |
| Hyde Lane | | 64 | 9 | | | | | 3 | | | |
| Total | 1568 | 434 | 151 | 19 | 6 | | 3 | 14 | | | |
| 18th Nov '73 | Hazy sun. Slight S. wind. | | | | | | | | | | |
| Foxcote | 1022+ | 28 | 42 | 95 | | 150 | | | | | |
| Linford | 719 | 135 | 54 | | 5 | 47 | | 3 | | | |
| N. Pagnell | 6 | 142 | 13 | | | | | 2 | 1 | | |
| Calvert | 15 | 24 | 30 | | | | | | | | |
| Hyde Lane | | 143 | 17 | | | | | | | | |
| Total | 1762 | 472 | 156 | 95 | 5 | 197 | | 5 | 1 | | |
| 16th Dec '73 | Complete cloud. W. wind. Intermittent rain. | | | | | | | | | | |
| Foxcote | 255 | 31 | 66 | 39 | | 38 | 2 | | | | 1 |
| Linford | 314 | 152 | 56 | 2 | 43 | 301 | | 6 | 3 | 1 | 1 |
| N. Pagnell | 47 | 103 | 19 | | | | | 1 | 1 | | |
| Calvert | 60 | 35 | 52 | | | 7 | | | | | |
| Hyde Lane | 28 | 139 | 9 | | | | | | | | |
| Total | 704 | 460 | 202 | 41 | 43 | 346 | 2 | 7 | 4 | 1 | 2 |
| 13th Jan '74 | Complete cloud. Strong W. wind. Heavy rain. | | | | | | | | | | |
| Foxcote | 68 | 107 | 63 | 21 | | | | 1 | | 3 | |
| Linford | 367 | 124 | 88 | | 5 | 152 | | 11 | 2 | 1 | |
| N. Pagnell | 5 | 123 | 17 | | | | | 4 | | | |
| Calvert | 73 | 38 | 44 | | | 1 | | | | | |
| Hyde Lane | 2 | 27 | 3 | | | | | 2 | | | |
| Total | 515 | 419 | 215 | 21 | 5 | 153 | | 18 | 2 | 4 | |

Table 2 cont'd

| | Mallard | Tufted | Pochard | Shoveler | Teal | Wigeon | Pintail | Mute Swan | Goldeneye | Goosander | Shelduck |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 17th Feb '74 | Complete cloud. Slight N.W. wind. | | | | | | | | | | |
| Foxcote | 67 | 165 | 71 | 13 | | 17 | | 1 | | | |
| Linford | 262 | 170 | 66 | | 11 | 596+ | 10 | 11 | 7 | | 1 |
| N. Pagnell | 5 | 99 | 42 | | | | | 4 | 1 | | |
| Calvert | 84 | 23 | 21 | | | 8 | | | | | |
| Hyde Lane | | 24 | | | | | | | | | |
| Total | 418 | 481 | 200 | 13 | 11 | 621 | 10 | 16 | 8 | | 1 |
| 17th Mar '74 | Complete cloud. Strong S.E. wind. Heavy rain. | | | | | | | | | | |
| Foxcote | 11 | 40 | 12 | 8 | | | | 1 | 1 | 2 | |
| Linford | 55 | 63 | 5 | | | 180 | 10 | 10 | 5 | | |
| N. Pagnell | 19 | 56 | 10 | | | | | 1 | 1 | | |
| Calvert | | 17 | 1 | | | 1 | | | | | |
| Hyde Lane | 8 | 61 | 3 | | | | | | | | |
| Total | 93 | 237 | 31 | 8 | | 181 | 10 | 12 | 7 | 2 | |
| 15th Sept'74 | Complete cloud. No wind. Drizzle. | | | | | | | | | | |
| Foxcote | 550 | 72 | 24 | 40 | | | | | | | |
| Linford | 795 | 61 | 3 | 2 | 14 | | | 20 | | | |
| N. Pagnell | 26 | 90 | 2 | | | | | | | | |
| Calvert | 33 | 27 | | | | | | 1 | | | |
| Hyde Lane | | 89 | | | | | | 2 | | | |
| Willen | | | | | | | | | | | |
| Total | 1404 | 339 | 29 | 42 | 14 | | | 23 | | | |
| 13th Oct '74 | ½ cloud. Sunny. Slight N. wind. | | | | | | | | | | |
| Foxcote | 288 | 19 | 19 | 8 | | | | 7 | | | |
| Linford | 900 | 93 | 25 | 16 | 250 | 10 | | 22 | | | |
| N. Pagnell | 5 | 132 | 42 | | | | | 2 | | | |
| Calvert | 12 | 20 | 2 | | | | | | | | |
| Hyde Lane | | 80 | | | | | | | | | |
| Willen | 258 | | | 10 | 6 | | | | | | 7 |
| Total | 1463 | 344 | 88 | 34 | 256 | 10 | | 31 | | | 7 |
| 17th Nov '74 | Complete cloud, breaking. No wind. | | | | | | | | | | |
| Foxcote | 810 | 78 | 121 | 40 | | 26 | 1 | | | | |
| Linford | 760 | | 69 | | 33 | 89 | 14 | 13 | 3 | | |
| N. Pagnell | 72 | 201 | 27 | | | | | 3 | | | |
| Calvert | 5 | 33 | 11 | | | | | | | | |
| Hyde Lane | | 2 | | | | | | | | | |
| Willen | 335 | 38 | | 19 | 140 | 54 | | | 1 | | |
| Total | 1982 | 352 | 228 | 59 | 173 | 169 | 15 | 16 | 4 | | |

Table 2 cont'd

| | Mallard | Tufted | Pochard | Shoveler | Teal | Wigeon | Pintail | Mute Swan | Goldeneye | Goosander | Shelduck |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15th Dec '74 | Little cloud. Slight N.W. wind. Sunny. | | | | | | | | | | |
| Foxcote | 319 | 114 | 122 | 11 | 5 | 24 | | | | 1 | |
| Linford | 467 | 114 | 86 | 2 | 75 | 133 | | 5 | | | |
| N. Pagnell | 28 | 145 | 38 | | 2 | | | 2 | | | |
| Calvert | 3 | 44 | 36 | 3 | | 3 | | | | | |
| Hyde Lane | | 28 | | | | | | | | | |
| Willen | 363 | 28 | 8 | 3 | 73 | 11 | | 5 | 3 | | |
| Total | 1180 | 473 | 290 | 19 | 155 | 171 | | 12 | 3 | 1 | |
| 12th Jan '75 | Complete cloud. Strong S.W. wind. Drizzle. | | | | | | | | | | |
| Foxcote | 495 | 148 | 51 | 14 | 8 | 29 | | | | | |
| Linford | 847 | 114 | 44 | 7 | 266 | 399 | 9 | 5 | | | |
| N. Pagnell | 8 | 114 | 23 | | | | | 2 | | | |
| Calvert | 11 | 16 | 1 | | 4 | 25 | | | 9 | | |
| Hyde Lane | | | | | | | | | | | |
| Willen | 190 | 8 | | | | | | | | | |
| Total | 1551 | 400 | 119 | 21 | 378 | 453 | 9 | 7 | 9 | | |
| 16th Feb '75 | Complete thin cloud. Hazy sun. No wind. Frost. | | | | | | | | | | |
| Foxcote | 65 | 113 | 27 | 16 | | 10 | 2 | | 1 | 2 | |
| Linford | 95 | 83 | 75 | | 70+ | 278+ | 2 | 12 | 1 | | |
| N. Pagnell | 9 | 80 | 9 | | 1 | | | 4 | | | |
| Calvert | | 24 | 5 | | | 7 | | | | | |
| Hyde Lane | | 21 | | | | | | 11 | | | |
| Willen | 100 | 18 | | 22 | 38 | 70 | | | 8 | | |
| Total | 269 | 339 | 116 | 38 | 109 | 365 | 4 | 27 | 10 | 2 | |
| 16th Mar '75 | ½ cloud. Strong N.E. wind. Occasional snow flurries. | | | | | | | | | | |
| Foxcote | 32 | 21 | | 4 | | | | | | 1 | |
| Linford | 20 | 49 | 10 | | | 200 | 10 | 6 | | | |
| N. Pagnell | 18 | 47 | | | | | | 3 | | | |
| Calvert | | 17 | 1 | | | 1 | | | | | |
| Hyde Lane | 4 | 16 | | | | | | 17 | | | |
| Willen | 19 | 88 | 2 | 34 | 69 | 31 | | | 4 | | |
| Total | 93 | 238 | 13 | 38 | 69 | 232 | 10 | 26 | 4 | 1 | |
| 14th Sept'75 | Complete cloud. N.E. wind. Rain. Improving. | | | | | | | | | | |
| Foxcote | 72 | 21 | 82 | | 18 | | | | | | |
| Linford | 516 | 93 | 28 | | 6 | | | 10 | | | |
| N. Pagnell | 1 | 27 | 1 | | | | | | | | |
| Calvert | No count this month | | | | | | | | | | |
| Hyde Lane | | 46 | | | | | | 2 | | | |
| Willen | 256 | 64 | | 18 | 4 | | | 12 | | | |
| Total | 845 | 251 | 111 | 18 | 28 | | | 24 | | | |

Table 2 cont'd

| | Mallard | Tufted | Pochard | Shoveler | Teal | Wigeon | Pintail | Mute Swan | Goldeneye | Goosander | Shelduck |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12th Oct '75 | 9/10 cloud. N. wind. Cold. | | | | | | | | | | |
| Foxcote | 400 | 45 | 192 | 2 | 10 | 3 | | | | | |
| Linford | 242 | 162 | 85 | | 10 | 2 | 3 | 21 | | | |
| N. Pagnell | 1 | 115 | 10 | | | | | 1 | | | |
| Calvert | 19 | 22 | 6 | | | 4 | | | | | |
| Hyde Lane | | 28 | | | | | | 1 | | | |
| Willen | 900+ | 50 | | 23 | 6 | 7 | | 15 | 1 | | |
| Total | 1562 | 422 | 293 | 25 | 26 | 16 | 3 | 38 | 1 | | |
| 16th Nov '75 | Complete cloud. Strong N. wind. V.cold.Heavy rain. Vis.poor. | | | | | | | | | | |
| Foxcote | 334 | 10 | 150 | 19 | 2 | | | 5 | | | |
| Linford | 486 | 205 | 178 | 1 | 13 | 15 | 10 | 2 | | | |
| N. Pagnell | 3 | 81 | 28 | | | | | | | | |
| Calvert | 1 | 28 | 2 | | | | | | | | |
| Hyde Lane | | 163 | 5 | | | | | | | | |
| Willen | 273 | 25 | 3 | 22 | 5 | 11 | | 38 | | | 2 |
| Total | 1097 | 512 | 366 | 42 | 20 | 26 | 10 | 45 | | | 2 |
| 14th Dec '75 | Complete cloud. Slight W. wind. Misty. Poor visibility. | | | | | | | | | | |
| Foxcote | 250 | 183 | 162 | 15 | 3 | 12 | | | | | |
| Linford | 386 | 180 | 117 | 6 | 69 | 70 | 7 | 3 | 3 | | |
| N. Pagnell | 45 | 94 | 11 | | | | | | | | |
| Calvert | 10 | 45 | 29 | | 1 | 2 | | | | | |
| Hyde Lane | 17 | 126 | 9 | | | 6 | | | | | |
| Willen | 205 | 10 | | 35 | 178 | 58 | 2 | 26 | 3 | | 3 |
| Total | 913 | 638 | 328 | 56 | 251 | 148 | 9 | 29 | 6 | | 3 |
| 18th Jan '76 | Strong W.wind.Heavy rain.Vis.poor, improving. Cold. | | | | | | | | | | |
| Foxcote | 307 | 72 | 146 | 25 | 2 | 12 | | | | | |
| Linford | 303 | 341 | 196 | | 15 | 194 | 6 | 6 | | 3 | |
| N. Pagnell | | 143 | | | | | | | | | |
| Calvert | 12 | 36 | 15 | | 2 | 3 | | | | | |
| Hyde Lane | 11 | 57 | 16 | | | | | 6 | | | |
| Willen | 289 | 50 | 15 | 50 | 5 | 145 | 6 | 4 | 10 | | |
| Total | 922 | 699 | 388 | 75 | 24 | 354 | 6 | 16 | 10 | 3 | |
| 15th Feb '76 | Complete cloud. No wind. Visibility good. | | | | | | | | | | |
| Foxcote | 116 | 67 | 93 | 13 | 3 | 68 | | | | 5 | 1 |
| Linford | 252 | 176 | 123 | 24 | 7 | 353 | 5 | 9 | 1 | | |
| N. Pagnell | 36 | 214 | 13 | | | | | | | | |
| Calvert | | 21 | 9 | | | 9 | | | | | |
| Hyde Lane | 1 | 160 | 8 | | | | | 19 | 1 | | |
| Willen | 172 | 24 | 11 | 45 | 188 | 9 | 6 | 8 | 14 | | 10 |
| Total | 577 | 662 | 257 | 82 | 198 | 439 | 11 | 36 | 16 | 5 | 11 |

Table 2 cont'd

| | Mallard | Tufted | Pochard | Shoveler | Teal | Wigeon | Pintail | Mute Swan | Goldeneye | Goosander | Shelduck |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 14th Mar '76 No wind. Low mist with occasional drizzle. Vis.poor. | | | | | | | | | | | |
| Foxcote | 26 | 26 | 51 | 9 | | 22 | | | | 3 | |
| Linford | 150 | 129 | 43 | 5 | 21 | 200+ | 2 | 19 | | 3 | |
| N. Pagnell | 26 | 62 | 7 | | | | | 3 | | | |
| Calvert | 2 | 9 | 2 | | | | | | | | |
| Hyde Lane | 8 | 116 | 6 | | | | | 26 | | | |
| Willen | 70 | 100 | 19 | 54 | 24 | 60 | 13 | 5 | 16 | | 13 |
| Total | 282 | 442 | 128 | 68 | 45 | 282 | 15 | 53 | 16 | 6 | 13 |

Table 3 Showing % Breakdown of Species Distribution at Each Site. Species order as Table 2.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1972-73 | | | | | | | | | | | |
| Foxcote | 51.5 | 15.9 | 19.2 | 68.3 | 48.4 | 5.7 | - | 8.7 | 16.6 | 100 | 100 |
| Linford | 43.5 | 39.8 | 35.2 | 29.3 | 47.2 | 94.2 | - | 67.7 | 58.4 | - | - |
| N. Pagnell | 0.3 | 30.5 | 15.2 | - | - | - | - | 10.7 | 16.6 | - | - |
| Calvert | 4.6 | 7.8 | 25.8 | 2.4 | 2.2 | 0.1 | - | - | - | - | - |
| Hyde Lane | 0.1 | 6.0 | 4.6 | - | 2.2 | - | - | 12.9 | 8.4 | - | - |
| 1973-74 | | | | | | | | | | | |
| Foxcote | 53.2 | 15.8 | 30.2 | 99.0 | 32.4 | 13.8 | 25.0 | 7.4 | 4.6 | 83.6 | 33.5 |
| Linford | 36.2 | 32.7 | 37.9 | 1.0 | 67.6 | 85.0 | 75.0 | 67.0 | 77.2 | 16.4 | 66.5 |
| N. Pagnell | 1.9 | 25.7 | 11.0 | - | - | - | - | 18.2 | 18.2 | - | - |
| Calvert | 8.2 | 7.5 | 16.7 | - | - | 1.2 | - | - | - | - | - |
| Hyde Lane | 0.5 | 18.3 | 4.2 | - | - | - | - | 7.4 | - | - | - |
| 1974-75 | | | | | | | | | | | |
| Foxcote | 32.3 | 22.7 | 41.2 | 48.8 | 1.2 | 6.3 | 7.9 | 4.3 | 3.3 | 100 | - |
| Linford | 48.9 | 20.6 | 35.4 | 9.9 | 65.2 | 77.4 | 92.1 | 50.6 | 13.3 | - | - |
| N. Pagnell | 2.0 | 32.6 | 15.9 | 1.2 | 3.3 | - | - | 15.8 | - | - | - |
| Calvert | 0.8 | 7.6 | 6.4 | 1.2 | 0.3 | 4.6 | - | 0.6 | 30.1 | - | - |
| Hyde Lane | 0.1 | 10.9 | - | - | - | - | - | 18.3 | - | - | - |
| Willen | 15.9 | 5.7 | 1.1 | 38.9 | 30.0 | 11.7 | - | 10.4 | 53.3 | - | 100 |
| 1975-76 | | | | | | | | | | | |
| Foxcote | 24.3 | 12.8 | 46.8 | 22.7 | 6.4 | 9.8 | - | 2.1 | - | 50.0 | 3.5 |
| Linford | 37.6 | 38.8 | 41.2 | 9.8 | 23.8 | 70.3 | 55.0 | 27.9 | 8.2 | 50.0 | - |
| N. Pagnell | 1.7 | 14.2 | 3.7 | - | - | - | - | 1.6 | - | - | - |
| Calvert | 0.8 | 4.9 | 3.4 | - | 0.5 | 1.6 | - | 0.8 | - | - | - |
| Hyde Lane | 0.6 | 11.8 | 2.4 | - | - | - | - | 22.5 | 2.1 | - | - |
| Willen | 35.0 | 17.5 | 2.5 | 67.5 | 69.3 | 18.3 | 45.0 | 45.1 | 89.7 | - | 96.5 |

# NORTH BUCKS BIRD REPORT FOR 1975

C. Emary

I should like to thank the following people for supplying records for this report: R. Arnold, G. Balkwill, S. Cousins, P. Chapman, J. Day, D. Dunham, A. R. Frost, G. W. Garlick, Mr. Henderson, P. Kent, A. D. Lewis, R. M. Mandale, J. Mander, R. Morgan (British Trust for Ornithology), W. Pedley, Mrs. O. Rice, M. Rice, N. Scarfe, R. Stott, M. Towns, A. West. I would also like to say a special thank-you to H. Mayer-Gross for supplying the ringing records.

Counts: In the tables the winter of 1974-75 is treated as a whole. The count dates were as follows:- Sept 15th, Oct. 13th, Nov. 17th, Dec. 15th, Jan. 12th, Feb. 16th, Mar. 16th. N.C.= NO COUNT, G.P.= Gravel Pit, B.L.= Balancing Lake.

GREAT CRESTED GREBE (Podiceps cristatus). Resident, breeding species

| | SEPT | OCT | NOV | DEC | JAN | FEB | MAR |
|---|---|---|---|---|---|---|---|
| Calvert G.P. | 21 | 12 | 3 | 4 | 4 | 12 | 8 |
| Foxcote Reservoir | 15 | 30 | 15 | 26 | 2 | 10 | 6 |
| Hyde Lane G. P. | 10 | 15 | 5 | 0 | 3 | 7 | 6 |
| Linford G.P. | 4 | 7 | 13 | 20 | 4 | 7 | 1 |
| Newport Pagnell G.P. | 7 | 17 | 4 | 4 | 9 | 17 | 7 |
| Willen B.L. | N.C. | 0 | 0 | 0 | 2 | 0 | 1 |

Other 1975 records of interest: Cosgrove 6 on February 15th, Mount Farm 32 on October 23rd.

BLACK NECKED GREBE (Podiceps nigricollis). A single bird at Foxcote Reservoir between July 20th and August 18th.

LITTLE GREBE (Tachybaptus ruficollis). Resident. Recorded at numerous localities. Breeding only recorded at New Foundout, Bletchley. Highest count 9 on October 12th.

CORMORANT (Phalacrocorax carbo). Irregular visitor throughout the year. Records received from: Calvert G.P. May 15th - 1; August 17th - 1; Sept. 3rd. - 7; October 6th to 17th - 1 immature. Foxcote Reservoir Sept. 21st - 3 increasing to 5 on Sept. 23rd; October 1st/2nd - 2 decreasing to 1 3rd to 7th. Linford G.P. March 16th - 1; April 30th - 1; Nov. 1st - 1. Mount Farm Mar.15th- 1 immature; Newport Pagnell G.P. - May 16th - 1. Newton Longville Oct. 26th - 1.

MALLARD (Anas platyrhynchos). Common resident breeding species and winter visitor.

| | SEPT | OCT | NOV | DEC | JAN | FEB | MAR |
|---|---|---|---|---|---|---|---|
| Calvert G.P. | 33 | 12 | 5 | 3 | 11 | 0 | 5 |
| Foxcote Reservoir | 550 | 288 | 810 | 319 | 495 | 65 | 32 |
| Linford G.P. | 795 | 900 | 760 | 467 | 847 | 95 | 20 |
| Newport Pagnell G.P. | 26 | 5 | 91 | 33 | 8 | 9 | 18 |
| Willen B.L. | N.C. | 258 | 335 | 363 | 190 | 100 | 14 |

Other 1975 counts of interest: Foxcote Reservoir Sept. 23rd & 24th - 1200+; Bletchley S.F. Sept. 29th - 60; Tongwell B.L. Oct. 4th - 109; Willen B.L. Oct. 19th - 1195 max.

TEAL (Anas crecca). A winter visitor.

| | SEPT | OCT | NOV | DEC | JAN | FEB | MAR |
|---|---|---|---|---|---|---|---|
| Foxcote Reservoir | 0 | 0 | 0 | 0 | 8 | 0 | 0 |
| Linford G.P. | 14 | 250+ | 33 | 75 | 266+ | 70+ | 0 |
| Newport Pagnell G.P. | 0 | 0 | 0 | 2 | 0 | 1 | 0 |
| Willen B.L. | N.C. | 6 | 140 | 73 | 4 | 33 | 43 |

Records were also received from Bletchley Sewage Farm, Calvert G.P., Cosgrove, Hyde Lane G.P., Tongwell B.L. and Yardley Gobion.

GARGANEY (Anas querquedula). Only one record - a pair on Linford G.P. on May 18th.

GADWALL (Anas strepera). Foxcote Reservoir August 16th - 5; August 23rd - 2; September 13th - 1; September 15th - 4; September 25th & 26th - 6. Linford G.P. January 12th - 2; February 15th & 22nd - 4. Willen B.L. March 28th - 2.

WIGEON (Anas penelope). Common winter visitor.

| | SEPT | OCT | NOV | DEC | JAN | FEB | MAR |
|---|---|---|---|---|---|---|---|
| Foxcote Reservoir | 0 | 0 | 76 | 24 | 29 | 25 | 0 |
| Linford G.P. | 0 | 10 | 89 | 133 | 399 | 278+ | 200+ |
| Willen B.L. | N.C. | 0 | 54 | 11 | 25 | 70 | 34 |

Counts of interest: Foxcote Reservoir February 21st - 90; September 16th - 3 (first of winter 1975/76). Willen B.L. February 13th - 88; May 11th - 2.

PINTAIL (Anas acuta). Annual winter visitor in small numbers. Confusion has arisen with birds at Linford G.P. because of the introduction of tagged birds by the Game Conservancy, but max. 14 - November 22nd. Calvert G.P. February 25th & 28th - 4. Foxcote Reservoir max. 7 - February 19th. Tongwell B.L. September 16th/18th and October 4th - 4. Willen B.L. January 29th - max.5.

SHOVELER (Anas clypeata). Winter visitor. Single birds reported at two or three sites during the summer.

| | SEPT | OCT | NOV | DEC | JAN | FEB | MAR |
|---|---|---|---|---|---|---|---|
| Foxcote Reservoir | 40 | 8 | 40 | 11 | 14 | 16 | 4 |
| Linford G.P. | 2 | 16 | 0 | 2 | 7 | 0 | 0 |
| Willen B.L. | N.C. | 10 | 19 | 5 | 0 | 22 | 27 |

Other 1975 records of interest: Calvert G.P. February 21st & 28th - 4; Foxcote Reservoir May 4th - 4; July 13th - 1. Willen B.L. February 13th - 40; March 15th - 43; May 25th - 5; December 27th - 44

TUFTED DUCK (Aythya fuligula). Resident and winter visitor.

Count table on next page.

Other 1975 counts of interest: Foxcote Reservoir December 14th - 183; Calvert G.P. August 6th - 78. Hyde Lane G.P. November 16th - 163; Linford G.P. November 16th - 205. Cosgrove March 1st - 61.

Count table Tufted Duck:

| | SEPT | OCT | NOV | DEC | JAN | FEB | MAR |
|---|---|---|---|---|---|---|---|
| Calvert G.P. | 27 | 20 | 33 | 44 | 16 | 24 | 21 |
| Foxcote Reservoir | 72 | 19 | 78 | 114 | 148 | 113 | 21 |
| Hyde Lane G.P. | 89 | 80 | 2 | 28 | 0 | 21 | 16 |
| Linford G.P. | 61 | 93 | 108 | 114 | 114 | 83 | 49 |
| Newport Pagnell G.P. | 90 | 132 | 201 | 145 | 114 | 80 | 47 |
| Willen B.L. | N.C. | 0 | 38 | 28 | 8 | 18 | 53 |

POCHARD (Aythya ferina). Common winter visitor

| | SEPT | OCT | NOV | DEC | JAN | FEB | MAR |
|---|---|---|---|---|---|---|---|
| Calvert G.P. | 0 | 2 | 11 | 36 | 1 | 5 | 12 |
| Foxcote Reservoir | 24 | 19 | 121 | 122 | 51 | 27 | 0 |
| Linford G.P. | 2 | 25 | 69 | 86 | 44 | 75 | 10 |
| Newport Pagnell G.P. | 2 | 42 | 27 | 38 | 23 | 9 | 0 |
| Willen B.L. | N.C. | 0 | 0 | 8 | 0 | 0 | 0 |

Other 1975 records of interest: Calvert G.P. January 1st - 50. Foxcote Reservoir November 9th - 301. Blue Lagoon, Bletchley November 8th - 33. Linford G.P. November 16th - 178. Willen B.L. October 18th - 20.

GOLDENEYE (Bucephala clangula). Annual winter visitor.

| | SEPT | OCT | NOV | DEC | JAN | FEB | MAR |
|---|---|---|---|---|---|---|---|
| Willen B.L. | N.C. | 0 | 1 | 3 | 9 | 8 | 8 |

A maximum of 20 at Willen B.L. on 26th January. Records also received from: Foxcote Reservoir, Hyde Lane G.P., Linford G.P., Newport Pagnell G.P. and Tongwell B.L.

COMMON SCOTER (Melanitta nigra). One female at Calvert G.P. on April 7th.

RUDDY DUCK (Oxyura jamaicensis). One female at Foxcote Reservoir between January 5th and 19th.

GOOSANDER (Mergus merganser). Regular winter visitor. Only regularly reported at Foxcote Reservoir with maximum of 7 on February 9th. 5 at Hyde Lane G.P. on February 8th. The first report of the 1975-76 winter was a male at Linford G.P. on December 25th and possible the same male at Willen B.L. on December 26th.

SHELDUCK (Tadorna tadorna). Resident and winter visitor. Bred for the first time in N. Bucks at Linford G.P., when 11 young noted on June 8th but only 1 seen on June 22nd; 1 juvenile on August 2nd, 9th & 12th. Foxcote Reservoir January 1st - 2 (which were found later in the day at Calvert G.P.): April 18th - 2; December 13th -2. Willen B.L. February 22nd 1; March all month - 2; April 6th - 17; May 11th - 2; August 24th - 1; September 21st - 9; October 17th - 4; November/December - 3.

WHOOPER SWAN (Cygnus cygnus). Regular winter visitor in small numbers. Seen Hyde Lane G.P. February - 3 all month, increasing to 5 in first half of March, decreasing to 1 on April 6th; November 9th - 7 (2 adults, 5 juveniles), increasing to 10 by end November to end of year. Tongwell B.L. November 22nd - 1; December - 1 all month.

BEWICK SWAN (Cygnus bewickii). Regular winter visitor in small numbers. Emberton December 27th - 10. Foxcote Reservoir January/February - 1; November 23rd -5; December 7th - 5. Hyde Lane G.P. November 26th - 5; December 1st-6th - 5 (probably same birds as at Foxcote Reservoir). Tongwell B.L. November 21st to 23rd - 3; December 16th & 17th - 11 (2 juveniles). Willen B.L. November 16th - 3; December 21st - 12.

SPARROWHAWK (Accipiter nisus). Three records: Wicken Wood, 1 over April 5th, Linford Wood - unspecified date or dates during the summer, Foxcote Reservoir, 1 over November 5th.

HOBBY (Falco subbuteo). Three records: 1 south of Bletchley August 3rd, 1 at Edgcott on August 22nd, 1 at Bletchley Sewage Farm September 7th.

KESTREL (Falco tinnunculus). Resident widely distributed. Only one confirmed breeding site near Calvert G.P.

RED LEGGED PARTRIDGE (Alectoris rufa). Recorded throughout the year. A pair with 6 young noted at Deanshanger G.P. July 4th. A covey of 11 at Newton Longville September 26th and of 8 at Newport Pagnell G.P. October 12th & December 14th.

COMMON PARTRIDGE (Perdix perdix). Very few records. 5 young seen at Stowe on August 5th. A covey of 6 at Marsh Gibbon on November 28th.

WATER RAIL (Rallus aquaticus). Only recorded in November at Linford G.P. and December at Newport Pagnell, up to 3 birds present.

COOT (Fulica atra). Common resident and winter visitor.

| | SEPT | OCT | NOV | DEC | JAN | FEB | MAR |
|---|---|---|---|---|---|---|---|
| Calvert G.P. | N.C. | 54 | N.C. | 34 | 35 | 33+ | 9 |
| Foxcote Reservoir | N.C. | N.C. | N.C. | N.C. | 46 | 26 | N.C. |
| Hyde Lane G.P. | N.C. | 60 | 54 | N.C. | 31 | N.C. | N.C. |
| Linford G.P. | N.C. | N.C. | 317 | N.C. | 228 | 63 | 22 |

Other 1975 counts of interest: Willen B.L. 100 on October 7th. Emberton Park 200+ on October 5th. Calvert G.P. 128 on December 1st. Hyde Lane G.P. 149 on December 28th.

OYSTERCATCHER (Haematopus ostralegus). Occasional records: Linford G.P. 1 on 11th & 1 24th - 27th May. Willen B.L. 1-September 7th, October 7th, November 26th & December 2nd.

LAPWING (Vanellus vanellus). Resident, passage migrant and winter visitor. 500+ near Wing January 26th; regularly throughout March at Singleborough 400+. Flying north over A5 1000+ November 16th.

RINGED PLOVER (Charadrius hiaticula). Records from Bletchley Sewage Farm, Cosgrove G.P., Linford G.P. and Willen B.L. Bred successfully at one N. Bucks. site.

LITTLE RINGED PLOVER (Charadrius dubius). Passage migrant and breeding species. Earliest record: 1 at Bletchley S.F. March 31st. Breeding proved at three sites in N. Bucks with 12 young being recorded. Latest record 1 at Bletchley S.F. on September 5th

GREY PLOVER (Pluvialis squatarola). Two records: May 8th - 1 in partial summer plumage at Linford G.P. and 1 in full summer plumage at Willen B.L.

GOLDEN PLOVER (Pluvialis apricaria). Winter visitor and passage migrant. Seen Marsh Gibbon - up to 80 January. 2 miles east of Newport Pagnell - 300+ March 29th. Yardley Gobion 130 - April 6th. Willen B.L. 2 - July 29th. Foxcote Reservoir 13 - October 19th.

TURNSTONE (Arenaria interpres). Passage migrant. Linford G.P. May 3rd - 4. Willen B.L. May 18th - 2.

COMMON SNIPE (Gallinago gallinago) Records from 7 sites. Counts of interest: Marsh Gibbon 100+ January 22nd, increasing to 200+ March 9th. Deanshanger G.P. 30+ March 30th. Bletchley Sewage Farm 100+ February 12th & April 6th; 60+ September 7th.

JACK SNIPE (Lymnocryptes minimus). Records from 4 sites: Marsh Gibbon January 26th - 1. Bletchley Sewage Farm February 12th - 20, decreasing to 7 on March 26th, then 8 on April 24th. Hyde Lane G.P. November 26th - 1. Foxcote Reservoir September 17th - 1.

WOODCOCK (Scolopax rusticola). Occasional records. Recorded during the summer at Linford Wood. 1 at Hyde Lane G.P. November 9th. 1 at Black Pit Farm December 28th.

CURLEW (Numenius arquata). Birds were noted holding territory at Yardley Gobion, Foxcote Reservoir and Hyde Lane G.P.

WHIMBREL (Numenius phaeopus). Rare passage migrant. Willen B.L. - 1 flying south and 2 seen for half an hour by a small pool before flying north April 24th. Foxcote Reservoir 1 over July 16th.

BLACK TAILED GODWIT (Limosa limosa). Linford G.P. March 16th - 1. Bletchley Sewage Farm April 13th - 1.

GREEN SANDPIPER (Tringa ochropus). Passage migrant. A number of winter records: Bletchley S.F. February 9th - 1; March 24th -1; April 24th - 1; July 10th - 1; July 17th - 6; July 29th - 4; August 14th - 5+; September 28th - 9. Calvert G.P. July 7th - 1; November 12th - 1; November 25th - 1; December 2nd to 5th - 2; December 14th - 1. Deanshanger G.P. October 22nd - 1, December 25th - 1. Foxcote Reservoir May 11th - 1; July 13th - 1; July 29th - 1; November 20th - 1. Linford G.P. March 20th & 26th - 1; April 6th - 1; July 17th - 1 July 29th - 4; August 12th - 2; August 31st - 1. Willen B.L. July 10th - 2; August 24th - 1; September 14th - 1; September 26th - 1; October 25th - 1; December 26th - 1. Records were also received from the River Ouse at Wolverton; Great Horwood; Cosgrove G.P. and South Water Eaton.

WOOD SANDPIPER (Tringa glarola). Autumn passage migrant. Bletchley S.F. July 10th to July 13th - 2; July 29th - 1; August 9th - 1. Willen B.L. August 24th & 25th - 1.

COMMON SANDPIPER (Tringa hypoleucos). Passage migrant. Earliest record: 1 at Foxcote Reservoir April 18th. Maximum of 4 at Linford G.P. April 30th. 10 Foxcote Reservoir May 11th. Late records: Linford G.P. October 1st - 1. Tongwell B.L. October 4th - 1. Willen B.L. October 18th - 1. An extremely late record of a single bird at Foxcote Reservoir November 20th.

REDSHANK (Tringa totanus). Recorded throughout the year with breeding noted at one site. Highest count 8 at Willen B.L. July 29th.

SPOTTED REDSHANK (Tringa erythropus). Single bird at Foxcote Reservoir August 7th. 2 at Bletchley Sewage Farm August 14th.

GREENSHANK (Tringa nebularia). Passage migrant. Bletchley Sewage Farm April 24th - 2; July 13th -1; July 17th - 1; July 29th - 4; August 14th - 1; September 5th - 1. Foxcote Reservoir April 23rd - 1; May 25th - 1; July 13th - 1. Linford G.P. May 24th - 1; August 12th - 1; August 16th - 2. Walton B.L. August 2nd - 16th - 1. Willen B.L. May 26th - 1; July 10th - 8; July 13th - 1; July 17th - 7; July 29th - 4; August 2nd - 1; August 9th - 4; August 10th - 3; August 16th - 3; August 25th - 1; August 31st - 2.

LITTLE STINT (Calidris minuta). Passage migrant. Bletchley S.F. August 31st - 2. Foxcote Reservoir August 23rd - 1; October 1st - 1. Willen B.L. August 31st - 10, increasing to 15 on September 1st.

DUNLIN (Calidris alpina). Passage and winter visitor. Bletchley S.F. March 31st - 1; August 14th - 2; September 5th - 1. Calvert G.P. November 19th - 11; Deanshanger G.P. September 20th - 2. Foxcote Reservoir May 4th - 1; August 31st - 1; October 7th - 1; November 23rd - max.4; December 28th - max.3. Linford G.P. April 30th - 2; May 3rd - 1; May 10th - 5; May 11th - 1; May 18th - 1. Tongwell B.L. November 15th - 4. Willen B.L. Maximum monthly counts: January 26th - 30; February 13th - 35; March 15th - 30; April 8th - 39; May 18th - 2; August 31st - 17; September 17th - 4; October 23rd - 10; November 4th - 9; December 13th - 8.

RUFF (Philomachus pugnax).Passage migrant. Bletchley S.F. April 24th - 5; July 13th - 3 Ruff, 1 Reeve; July 17th - 2 Ruff, 1 Reeve; July 29th - 4 Ruff; August 14th - 9+; September 7th - 1. Calvert G.P. September 3rd - 1. Foxcote Reservoir August 31st to September 2nd - 1. Linford G.P. April 12th/13th - 1; April 30th - 1; May 3rd - 1. Willen B.L. May 8th - 1; August 31st - 1; September 7th - 10th - 1.

AVOCET (Recurvirostra avosetta). 6 birds flew into Linford G.P., stayed 30 minutes, then left May 18th.

GULLS Roosts: Calvert G.P. November 19th - 400+ Black headed gulls, increasing to 500+ in December, with 100+ Lesser black backed gulls. Foxcote Reservoir October 23rd - 3500 Black headed gulls. Willen B.L. January 12th - 3000+ Black headed, Great black backed, Lesser black backed and Herring gulls. increasing to 3500+ in early March, decreasing to 150+ in early April.. The large roost of 3500+ was again present in September but had decreased to 1500+ in December.

LITTLE GULL (Larus minutus). Occasional visitor. Willen B.L. 1 adult and 1 immature on April 8th. Foxcote Reservoir 1 immature on August 11th & 12th, 2 immatures on October 7th. Newport Pagnell G.P. August 21st - 1.

KITTIWAKE (Rissa tridactyla). A single bird at Foxcote Reservoir August 18th.

BLACK TERN (Chlidonias niger). Passage migrant. Records from: Calvert G.P. May 15th - 1; May 22nd - 5. Foxcote Reservoir May 8th - 3 at 8.30 a.m., increasing to 5 by midday; May 16th - 1; May 18th - 1; May 27th - 3; July 5th - 1; September 8th - 13; September 9th - 3; September 10th - 3. Linford G.P. May 18th - 2; May 22nd - 6; May 24th - 1; July 6th - 6; August 6th - 6; Willen B.L. May 18th - 1.

COMMON/ARCTIC TERN (Sterna hirundo/paradisaea). Passage migrant. Earliest record: Foxcote Reservoir April 29th - 1. Records from Calvert G.P., Foxcote Reservoir with maximum counts of 52 on 7th and 25 on 18th May. Linford G.P., Newport Pagnell and Willen during May. Few recorded on autumn passage.

CUCKOO (Cuculus canorus). Summer visitor. Earliest record. 1 at Hillesden April 24th, 1 at Heath & Reach April 26th.

SHORT EARED OWL (Asio flammeus). Records from two sites. Cosgrove - a single bird May 5th, 8th & 10th and September 20th and a single at Calvert G.P. 1st December.

GREAT SPOTTED WOODPECKER (Dendrocopos major). Reports from: Shenley Wood, Howe Park Wood, Foxcote Reservoir, Linford Wood and Wicken Wood.

LESSER SPOTTED WOODPECKER (Dendrocopos minor). Reports from only three sites: Cosgrove - 1 on June 7th and 11th. Caldecote Mill-1 on October 6th. Hyde Lane G.P.-1 on October 26th.

SWIFT (Apus apus). Summer visitor. Earliest records: 4 at Foxcote Reservoir & 1 at Yardley Gobion 29th April. 500+ were noted at Foxcote Reservoir on 18th & 19th May. Latest record:1 at Buckingham 4th September.

SWALLOW (Hirundo rustica). Summer visitor and breeding species. Earliest record: 5 at Foxcote Reservoir 30th March. Latest record: 1 at Buckingham 22nd October.

HOUSE MARTIN (Delichon urbica). Common summer visitor and breeding species. Earliest record: 1 at Old Wolverton 23rd April. Latest record: 20 at Caldecote Mill on 6th October.

SAND MARTIN (Riparia riparia). Summer visitor and breeding species. Earliest record: 1 at Cosgrove 19th April. Latest record: 1 at Foxcote Reservoir 25th September. Only breeding colony was reported at Stowe.

CARRION CROW (Corvus corone). Common resident.

Ringing Recovery

| | | | |
|---|---|---|---|
| 3103444 | Pullus | 23rd May 1975 | Newport Pagnell G.P. 52°06'N 0°43'W |
| | Shot | 9th October 1975 | Sherington, Nr. Newport Pagnell |

HOODED CROW A single bird at Foxcote Reservoir on November 3rd.

MAGPIE (Pica pica). Common resident. 50+ to roost at Shenley Wood on January 16th.

GREAT TIT (Parus major). Resident, breeding species.

Ringing Recovery

| | | | |
|---|---|---|---|
| BR 58321 | Pullus | 9th June 1974 | Great Brickhill 51°58'N 0°41'W |
| | Found freshly dead | 6th June 1975 | Nr. Bragenham, Great Brickhill |

BLUE TIT (Parus caeruleus). Resident, breeding species.

Ringing Recoveries

| | | | |
|---|---|---|---|
| JC 60113 | Adult | 13th February 1972 | Howe Park Wood 52° 00'N 0°47'W |
| | Controlled | 15th November 1975 | Stony Stratford 52°03'N 0°51'W |
| JC 90146 | 1st Year | 28th December 1973 | Amersham, Bucks. 51°40'N 0°36'W |
| | Controlled | 23rd March 1975 | Maids Moreton,Bucks. 52°01'N 0°58'W 45 km N.W. |
| JR 48202 | Adult | 25th March 1973 | Great Brickhill 51°58'N 0°41'W |
| | Controlled | 29th December 1975 | Boston, Lincs. 120 km N.N.E. |
| JV 30833 | 1st Year | 24th March 1975 | New Mill, Tring, Herts. 51°48'N0°40'W |
| | Controlled | 28th March 1975 | Maids Moreton 52°01'N 0°58'W 32 km N.W. |
| JX 78637 | 1st Year | 24th February 1975 | Headington, Oxon. 51°45'N 1°14'W |
| | Found dead | 5th May 1975 | Akeley,Buckingham 52°02'N 0°59'W 33 km N.E. |

FIELD FARE (Turdus pilaris). Winter visitor. Latest record: 2 Foxcote Reservoir April 20th. Earliest record: 25+ Woughton October 3rd. Between 5 & 7000 Fieldfares and Redwings to roost at Wicken Wood in March.

REDWING (Turdus iliacus). Winter visitor. Earliest record: 10 Woughton October 3rd. Roosts noted at Lady Villiers Gorse in late March and early April when 2000+ were present and at Shenley Wood in January when 2000+ present.

WHEATEAR (Oenanthe oenanthe). Passage migrant. Earliest record: a single at Foxcote Reservoir April 9th. Records also from Hillesden, Linford G.P., and Willen B.L. Latest record: a single at Willen B.L. September 14th.

STONECHAT (Saxicola torquata). Winter visitor. Seen Bletchley Sewage Farm March 12th - 1; September 28th - 1 male. Blue Lagoon November 29th - 1. Calvert G.P. October 30th - 2; November 11th - 1 male; November 19th - 1 female. Linford G.P. November 22nd - 1. Newton Longville October 26th - 1. Willen B.L. January 4th - 1; January 29th - 2; February 1st - 1. Nr.Woughton October 26th - 2.

WHINCHAT (Saxicola rubetra). Birds recorded on autumn passage only. Bletchley S.F. September 7th - 2. Calvert G.P. August 6th -2; August 17th - 1 female; September 3rd - 3 juveniles. Foxcote Reservoir September 2nd - 1.

COMMON REDSTART (Phoenicurus phoenicurus) The only breeding records received were a pair with 4 young at Linford G.P. in June and a pair with 3 juveniles at the Brickhills in August and September. Maids Moreton August 15th - 1 male.

BLACK REDSTART (Phoenicurus phoenicurus). Breed successfully in N. Bucks. 4 fledged young noted on 25th June.

NIGHTINGALE (Luscinia megarhynchos). Three records: Shenley Wood May 4th and Clifton Spinney same date. One at Calvert G.P. May 22nd.

REED WARBLER (Acrocephalus scirpaceus). Summer visitor and breeding species. Earliest record: single bird at Hyde Lane G.P. 30th April. Breeding colonies noted at Newport Pagnell, Hyde Lane G.P. and Linford.

Ringing Recoveries

| | Newport Pagnell | | | Linford |
|---|---|---|---|---|
| JC 60213 | Adult | 16th July 1972 | ) | (27th July 1975 |
| JS 09129 | Adult | 12th August 1973) | re- | (27th July 1975 |
| JS 09911 | Pullus | 2nd July 1974 | ) trapped | (15th August 1975 |
| JS 09938 | Pullus | 7th July 1974 | ) | (15th August 1975 |
| JS 09937 | Pullus | 7th July 1974 | | Newport Pagnell |
| | Controlled | 25th July 1975 | | Weston Turville Res. Aylesbury, Bucks. 51°47'N 0°45'W 32 km S. |

SEDGE WARBLER (Acrocephalus schoenobaenus). Summer visitor and breeding species. Earliest record: 1 at Hyde Lane G.P. 23rd April.

Ringing Recovery

| | | | |
|---|---|---|---|
| JS 09862 | Pullus | 24th June 1974 | Newport Pagnell |
| | Controlled | 18th July 1975 | Burghfield, Reading, Berks. 51°26'N 1°01'W 77 km S.S.W. |

BLACKCAP (Sylvia atricapilla). Common summer visitor. Earliest record: Leckhampstead March 30th - 1. Latest record: Wicken Wood October 11th - 1.

COMMON WHITETHROAT (Sylvia communis). Summer visitor and breeding species. Earliest record: Hyde Lane G.P. 28th April - 1. Latest record: Calvert G.P. 23rd September - 2.

WILLOW WARBLER (Phylloscopus trochilus). Common summer visitor and breeding species. Earliest record: Foxcote Reservoir - 1, Great Horwood - 2 20th April.

CHIFFCHAFF (Phylloscopus collybita). Common summer visitor and breeding species. Earliest record: Hyde Lane G.P. 6th April - 1. Latest record: Foxcote Reservoir 13th September - 2.

Ringing Recovery

| | | | |
|---|---|---|---|
| 792284 | Pullus | 19th June 1975 | Great Brickhill 51°57'N 0°41'W |
| | Found dying | 25th July 1975 | Wing, Bucks. 51°54'N 0°44'W 8 km S.S.W. |

SPOTTED FLYCATCHER (Muscicapa striata). Summer visitor and breeding species. Earliest record: Foxcote Reservoir 20th April - 1. Latest record: Caldecote Mill 20th September - 1.

PIED WAGTAIL (Motacilla alba). Common resident. Bletchley S.F. March 12th - 40+. Calvert G.P. 30+ to roost October 23rd, increasing to 40+ November 2nd. Newport Pagnell G.P. November 13th - 200+ to roost.

YELLOW WAGTAIL (Motacilla flava). Common summer visitor and passage migrant. Earliest record: April 13th birds noted at Newport Pagnell G.P. and Bletchley Sewage Farm.

GREY WAGTAIL (Motacilla alba). Winter visitor, Recorded up to May 6th when 2 at Hyde Lane G.P. and again regularly from August 31st when 1 Deanshanger G.P.

WAXWING (Bombycilla garrulus). Rare winter visitor. A single at Buckingham between 11th & 14th April.

GREAT GREY SHRIKE (Lanius excubitor). Uncommon winter visitor. 1 Shenley Brook End January 10th. 1 Heath & Reach March 12th - this bird is reported to have overwintered in the area.

STARLING (Sturnus vulgaris). Very common resident. Roosts noted at Shenley Wood when 10000 January 16th. Lady Villiers Gorse 20 - 30000 April 4th. Calvert G.P. 1000+ October 23rd.

Ringing Recovery

| | | | |
|---|---|---|---|
| XV 44544 | Adult female | 19th February 1975 | Bletchley S.F. 52°00'N 0°42'W |
| | Dead in stables | 20th April 1975 | Walton, Milton Keynes. 52°01'N 0°42'W |

GOLDFINCH (Carduelis carduelis). Resident, breeding species. Flocks noted Foxcote Reservoir: 31st August -30+. Deanshanger G.P. 31st August - 250+. Newport Pagnell 14th September - 50+. Willen B.L. 20th September - 100+.

SISKIN (Carduelis spinus). Winter visitor in small numbers. Records only from Brickhills area.

LINNET (Acanthis cannabina). Resident, breeding species. Flocks noted at: Willen B.L. 16th March - 150+, decreasing to between 30 & 40 on 24th April. Bletchley S.F. 7th September 25+. Calvert G.P. 23rd October 100+ to roost.

REDPOLL (Acanthis flammea). Resident, breeding species and winter visitor. Heath & Reach November 19th - 30+. Great Brickhill December 11th - 15. Hyde Lane G.P. December 14th - 10.

Ringing Recovery

| | | | |
|---|---|---|---|
| KB 47026 | Adult female | 31st March 1975 | Great Brickhill 51°48'N 0°41'W |
| | Controlled | 7th July 1975 | Arbroath, Angus Scotland 56°33'N 2°37'W 520 km N.N.W. |

BULLFINCH (Pyrrhula pyrrhula). Common resident.

Ringing Recoveries

| | | | |
|---|---|---|---|
| JC 60208 | Adult male | 11th February 1973 | Howe Park 52°00'N 0°47'W |
| | Found dying | 21st June 1975 | Bletchley Park 52°00'N 0°45'W |
| KB 47018 | 1st Year male | 31st March 1975 | Great Brickhill 51°58'N 0°41'W |
| | Killed striking window | 2nd July 1975 | Great Brickhill |

Bullfinch recovery records cont'd

| | | | |
|---|---|---|---|
| BS 42229 | Pullus | 13th June 1975 | Newport Pagnell 52°06'N 0°43'W |
| | Killed striking window | 11th August 1975 | Newport Pagnell |

BRAMBLING (Fringilla montifringilla). Single report of a male with a flock of mixed finches Charndon 19th November.

CORN BUNTING (Emberiza calandra). Recorded throughout the year at a number of sites in North Bucks.

REED BUNTING (Emberiza schoeniclus). Common breeding species. Winter roosts noted at: Newport Pagnell, Hyde Lane, Calvert G.P.'s & at Stowe.

ESCAPES

BAR HEADED GOOSE. Linford G.P. 1 April 6th & 30th, May 3rd & 11th.

RED BREASTED GOOSE. Linford G.P. 2 stolen from Stagsden Bird Gardens found at the pits July 17th.

GOLDEN PHEASANT. Linford Wood. 1 August 26th.

Other species recorded in the Milton Keynes Natural History Society area during the year:

Grey Heron; Greylag Goose; Canada Goose; Mute Swan; Moorhen; Stock Dove; Wood Pigeon; Turtle Dove; Collared Dove; Barn Owl; Little Owl; Tawny Owl; Kingfisher; Green Woodpecker; Skylark; Rook; Jackdaw; Jay; Coal Tit; Marsh Tit; Willow Tit; Long-Tailed Tit; Nuthatch; Treecreeper; Wren; Mistle Thrush; Song Thrush; Blackbird; Robin; Lesser Whitethroat; Dunnock; Meadow Pipit; Greenfinch; Chaffinch; Yellowhammer; House Sparrow; Tree Sparrow.

ADDITIONAL RECORDS ACCEPTED FOR 1974

CORMORANT. Newport Pagnell G.P. September 21st - 1. Willen B.L. October 12th - 2.
GLAUCOUS GULL. Calvert G.P. February 28th - 1.
ARCTIC TERN. Linford G.P. April 28th - 3.
SWALLOW. Milton Keynes November 23rd - 1.
ROCK PIPIT. Willen B.L. October 17th - 1.
BLUE HEADED WAGTAIL. Calvert G.P. - 1 male with yellow wagtails May 12th.

The order followed in the systematic list is that of:
A Species List of British and Irish Birds (BTO Guide No.13, Pub.1971)

CONTENTS