THE MILTON KEYNES NATURAL HISTORY SOCIETY JOURNAL

No 1 1975

50p

This is the first edition of what will become an annual journal from the Milton Keynes Natural History Society. The papers are varied and cover a wide, but by no means complete, spectrum of the Society's activities.

The publication of the journal was greatly assisted by a grant from the Milton Keynes Research Committee and we are indebted to Mr Holley at the Legal and General Assurance Society for his assistance. We should also like to extend our thanks to Christine Elsom for her painstaking work in typing the manuscript.

THE BREEDING BIRDS OF HOWE PARK WOOD

1970 to 1974

N SCARFE

On completion of the New City of Milton Keynes, Howe Park, a deciduous woodland of approximately 60 acres, will be sited within the city boundary with houses and factories in close proximity and roads along its northern edge. This will be in complete contrast to its present rural setting in arable and pastoral land. Also, being distant from the main centres of population, the wood at present suffers little recreational pressure and its flora and fauna go virtually undisturbed.

In 1970 the Natural History Society decided to undertake a comprehensive survey of the woodland to evaluate and monitor any changes in flora and fauna which may occur as urbanization proceeds around it. The Common Bird Census techniques of the British Trust for Ornithology were chosen to record the breeding birds.

Census Method

A number of visits (a minimum of nine) are made to the wood between mid-March and mid-July, the main breeding season, and each species is registered on a map, together with its activity at the time of recording, eg singing, fighting. There is a separate symbol for each species and each type of activity. Eventually, the accummulation of data makes it possible to assess the numbers of breeding birds in the wood and to estimate the size of individual territories. All records are sent to the British Trust for Ornithology for final analysis by their staff.

Table I shows the number of visits made to the wood and the number of hours spent in recording:

Table I

Time spent on fieldwork					
	1970	1971	1972	1973	1974
Number of visits	14	13	13	13	9.5
Number of hours	44	41	33	not recorded	30

For convenience, the wood was divided into two halves north and south of the main east-west ride, so that each recorder covered 30 acres.

The Bird Community

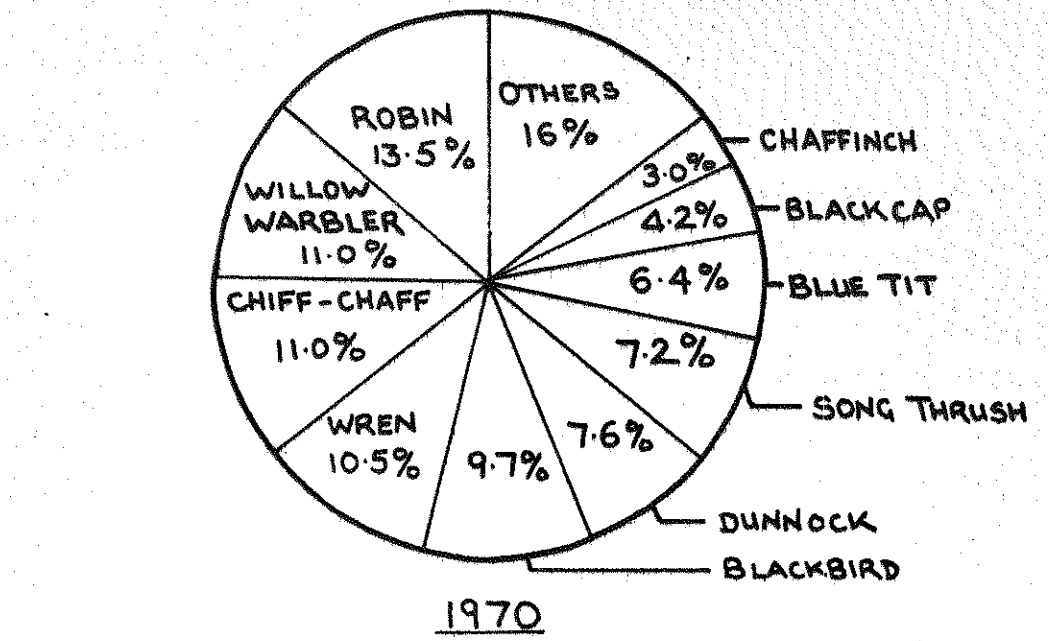
The overall density of birds in Howe Park Wood is quite high and typical of lowland, mixed deciduous woodland (Figure I). In accord with national trends, the total number of breeding species and breeding pairs has climbed steadily since 1970 and is almost certainly due to the series of mild winters over the past few years.

Table II

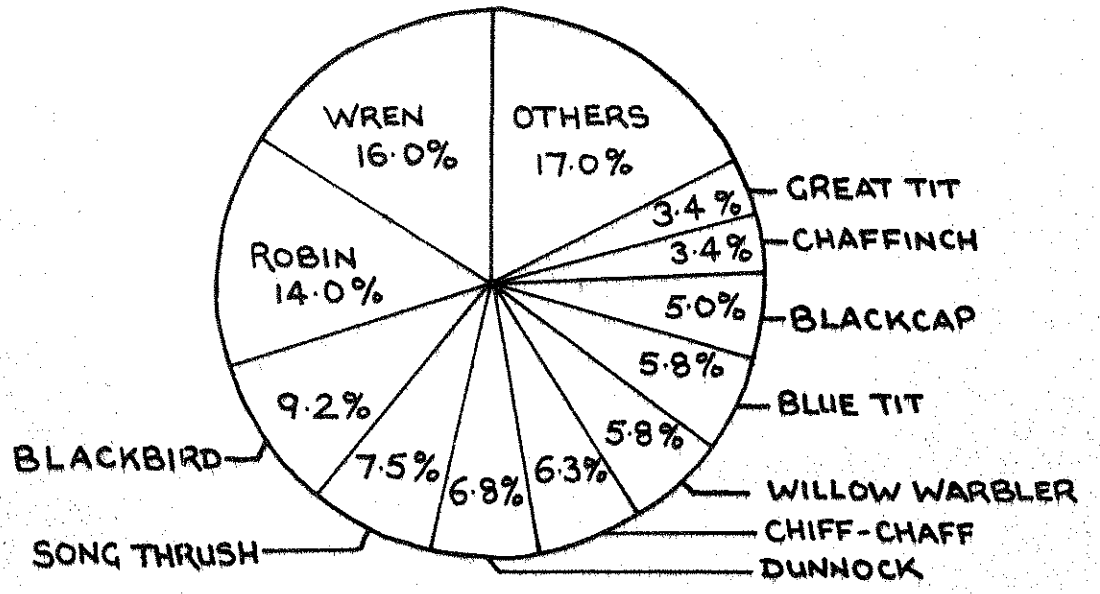
Totals of species and pairs of breeding birds					
	1970	1971	1972	1973	1974
Total species recorded	32	37	44	41	39
Total breeding pairs	237	286	412	458	386

The reduced totals of breeding species and pairs for 1974 may, in part, be due to the fewer number of census visits for that year, rather than a real reduction in the size of the breeding population. The apparent reduction in breeding populations indicated by the pie diagrams, eg chiff-chaff (Phylloscopus callybita) is, in fact, more a reflection of the remarkable increase in the numbers of robin (Erithacus rebecula) and wren (Troglodytes troglodytes).

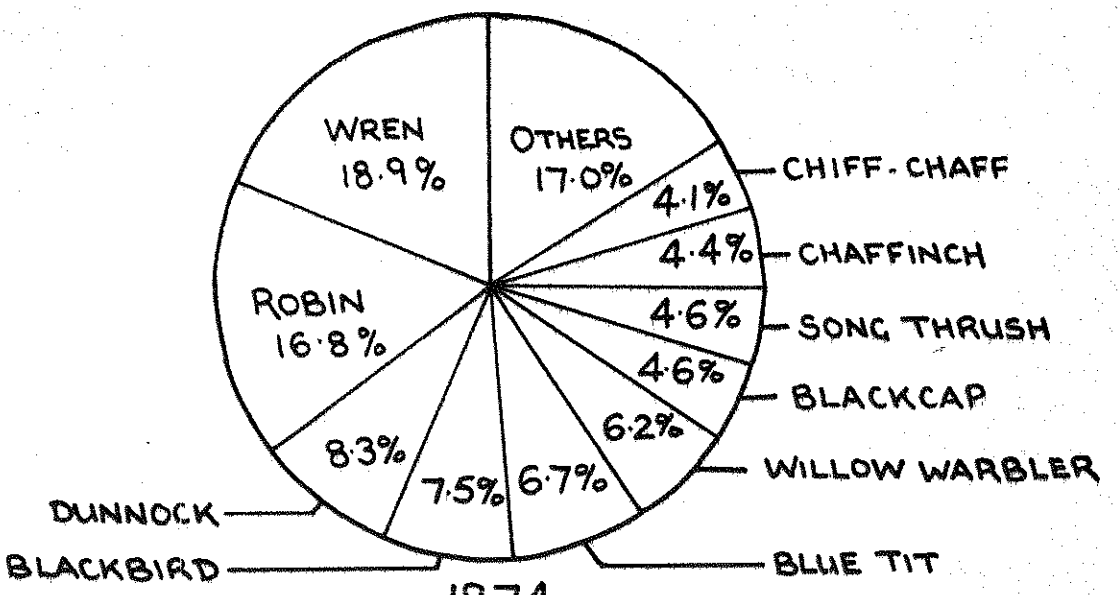
Figure 1



1970



1972



1974

Nationally, the wren has undergone a vertiable population explosion in recent years and is probably now the most common breeding woodland bird. The population of robin, however, has remained fairly steady on a national scale, and it seems the increase in breeding pairs in Howe Park Wood is a local phenomenon.

Clearly, the wood has been under-utilized over the period of the census, and most species have shown increases in their breeding populations. 1974 seems to have shown a levelling off in this increase (even allowing for reduced census time) and it is possible that the 1973 figures may approximately represent the highest breeding population that the wood is able to support.

Notes on some Species (see Table III)

Non-Passerines

In the past, the wood was managed for the rearing of pheasant (Phasianus colchicus) and it is assumed that the population was far in excess of that at present. Shooting still occasionally takes place, but numbers have remained steady. Wood pigeons (Columna palumbus) are not included in the Common Bird Census, but numbers are quite high.

Most years have seen the successful breeding of tawny owls (Strix aluco) with young seen out of the nest in 3 of the 5 years of the census. A nest-box was erected in 1972 and was first used in 1974 when one chick was reared.

The green woodpecker (Picus viridis) has been regularly seen and heard, but to date no nest has been located. The great spotted woodpecker (Dendrocopos major) was first recorded in 1972, and its nest was located then and in 1973.

Corvidae

Represented by four species, carrion crow (Corvus corone), jackdaw (Corvus monedula), magpie (Pica pica) and jay (Garulus glandarius). With the exception of the jay, most records and located nests were at or near the edge of the wood. The jay and magpie have been recorded deeper in the wood and it is believed that these species contribute to the high failure rate of passerine nests.

Tits, Nuthatch, Treecreeper

The tits are well represented with the blue tit (Parus caeruleus) the most abundant. The winter after nuthatch (Sitta europea) was recorded from the wood, a pair were caught and ringed. Treecreeper (Certhia familiaris) were frequently seen and nests were located in 1972 and 1973.

Wren and Robin

The most abundant birds in the wood; found in all areas, but territories in willow scrub, with reduced light and little undergrowth, were larger than those elsewhere.

Nightingale

The two pairs recorded in 1970 to 1972 were guarded with some jealousy by Society members to ensure as little disturbance as possible. During the winter months work was carried out to try to maintain the habitat, but 1973 to 1974 saw no return of the nightingale (Lusciana megarhyncha). However, nightingale was recorded in a recent survey of Shenley Wood, but whether it may have previously been present there or whether it was one of the Howe Park pairs is not known as previous work at Shenley Wood was irregular.

Warblers

In the two years grasshopper warblers (Locustella naevia) were present, the preferred habitat was beside the stream running along the woodland edge. In 1974

Table III

Number of Breeding Pairs of each Species each Year 1970 to 1974

Species	1970	1971	1972	1973	1974
Mallard (Anas platyrhynchos)	*	--	*	--	--
Partridge (Perdix perdix)	--	--	*	--	--
Pheasant (Phasianus colchicus)	3	3	--	2	2
Common Snipe (Gallinago gallinago)	*	--	--	--	--
Woodcock (Scolopak rusticola)	*	--	*	--	--
Stock Dove (Columba ornas)	*	*	*	--	--
Turtle Dove (Streptopelia turtur)	5	5	2	7	3
Cuckoo (Cuculus canorus)	--	3	2	2	1
Tawny Owl (Strix aluco)	--	2	1	1	1
Green Woodpecker (Picus viridis)	1	*	2	2	*
Great Spotted Woodpecker (Dendrocopos major)	--	*	1	2	1
Carrion Crow (Corvus corone)	--	1	2	1	1
Jackdaw (Corvus monedula)	--	1	2	3	2
Magpie (Pica pica)	1	2	1	2	2
Jay (Garrulus glandarius)	4	1	3	3	1
Great Tit (Parus major)	2	12	14	12	9
Blue Tit (Parus caeruleus)	15	15	24	29	26
Coal Tit (Parus ater)	1	--	*	2	2
Marsh Tit (Parus palustris)	*	1	2	1	*
Willow Tit (Parus montanus)	--	2	3	2	3
Long Tailed Tit (Argithalos caudatus)	1	2	2	3	3
Nuthatch (Sitta europaea)	--	--	1	--	--
Treecreeper (Certhia familiaris)	2	2	2	2	1
Wren (Troglodytes troglodytes)	25	34	66	74	73
Mistle Thrush (Turdus viscivorus)	--	--	1	1	*
Song Thrush (Turdus philomelos)	17	19	31	29	18
Blackbird (Turdus merula)	23	29	38	32	29
Robin (Erithacus rebecula)	32	39	58	76	65
Nightingale (Luscinia megarhyncha)	2	2	2	--	--
Grasshopper Warbler (Locustella naevia)	--	--	1	1	--
Sedge Warbler (Acrocephalus schoenobaeus)	--	--	*	--	--
Blackcap (Sylvia atricapilla)	10	14	21	23	18
Garden Warbler (Sylvia borin)	6	5	6	1	3
Whitethroat (Sylvia communis)	1	*	*	*	--
Lesser Whitethroat (Sylvia curruca)	--	--	2	*	1
Willow Warbler (Phylloscopus trochilus)	26	22	24	28	24
Chiff-Chaff (Phylloscopus collybita)	26	21	26	22	16
Goldcrest (Regulus regulus)	--	--	2	8	8
Spotted Flycatcher (Muscirapa striata)	*	*	--	1	--
Pied Flycatcher (Ficedula hypolenca)	--	--	--	--	*
Dunnock (Prunella modularis)	18	17	28	42	32
Starling (Sturnus valgaris)	2	5	10	9	9
Hawfinch (Coccothraustes coccothraustes)	--	--	--	*	--
Greenfinch (Carduelis chloris)	--	1	*	1	1
Linnet (Ascanthis cannabina)	--	1	--	--	*
Lesser Redpoll (Ascanthis flammea)	--	--	--	*	*
Bullfinch (Pyrrhula pyrrhula)	1	*	6	9	7
Chaffinch (Fringilla coelebs)	7	15	14	17	17
Yellow Hammer (Emberiza citrinella)	3	2	2	3	2
Reed Bunting (Emberiza schoeniclus)	--	1	1	1	1
Tree Sparrow (Passer montanus)	3	7	9	4	9

* Indicates that the species was recorded, but its territorial status is doubtful.

a nest was found in a grass area near the entrance to the wood and 4 metres from the stream. Whitethroat (Sylvia communis) bred only once, on the woodland edge. Chiff-chaff normally prefer a more open habitat on the woodland edge, so it was surprising to find them evenly distributed alongside willow warbler (Phylloscopus trochilus) over most of the wood.

Other passerines

The goldcrest (Regulus regulus) has a close affinity to coniferous trees and its absence from Howe Park Wood in 1970 to 1971 was not surprising. However, the species has had a rapid in crease in population since the late 1960s and we were pleased to hear its distinctive call for the first time in 1972. Nationally, similar increases in other bird populations have also taken place and the redpoll (acanthis flammea) was 4.5 times as abundant in 1972 as it was in 1964, yet redpoll were not recorded in Howe Park Wood until 1973.

Spotted flycatcher (Muscirapa striata) were recorded in 3 of the 5 years with a family party seen in 1970, and a nest located in 1973. The single pied flycatcher (Ficedula hypoleuca) was a passage migrant.

Acknowledgements

Thanks go to R Arnold, G Balkwill, and D Tomlinson for fieldwork recording; L Batten and the staff of the British Trust for Ornithology for up-tp-date information and analysis of results, and to other members of the Milton Keynes Natural History Society who gave assistance.

o - O - o o - O - o o - O - o

THE PLANTS OF HOWE PARK WOOD

R MAYCOCK

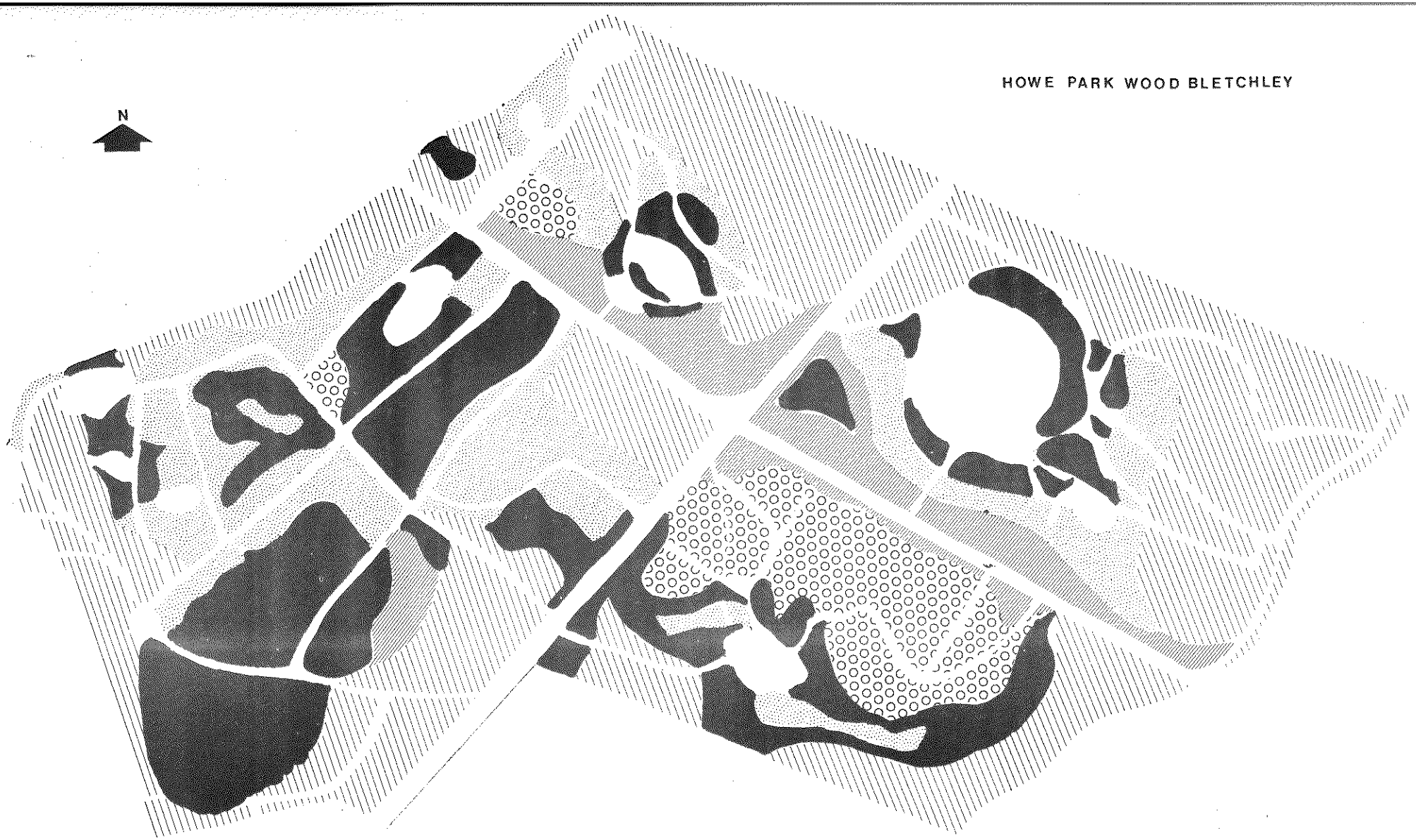
Howe Park Wood has an area of 59 acres, is surrounded by farmland and has a stream on its north-west margin. The road leading to Howe Park Farm verges on the western side.

The soil, in which the typical climax vegetation of deciduous woodland is here set, is over heavy, alkaline Oxford clay sub-soil. It is a clay loam, varying from grey brown to brown in colour and having a pH of about 7.0 at the surface. Drainage is impeded and there is probably lateral movement of water giving an overall wet effect to the wood. There are overgrown drainage ditches along the main rides, and one temporary stream in winter flows into a stream. The high water content has a marked effect on the vegetation.

Howe Park is only a semi-natural woodland and conforms to a pattern commonly found in the Midlands and south of England of a coppice with standards. The standard trees are mainly of oak (Quercus robur) and ash (Fraxinus excelsior), the coppice of hazel (Corylus avellana), though there is evidence of hornbeam (Carpinus betulus) coppice as well as some fine standards of this species.

It is probable that the natural climax woodland would have been of oak with hazel the dominant shrub, the typical type of woodland of wet clay soils. In the Middle Ages, the practice of coppicing the hazel every ten to fifteen years and the standards every fifty to one hundred and fifty years depended on local demands, and later on national demands. When the national demand exceeded the natural availability, then planting of woodland for development into coppice with standards

HOWE PARK WOOD BLETCHLEY



dense blackthorn no standard trees or ground cover

oak,ash standards hazel coppice bluebell,primrose

slender aspen standards open willow scrub sedge,grass

thickets of hornbeam, ash,oak saplings no ground cover

oak,ash,hornbeam standards patches of hawthorn,blackthorn brambles,nettle,grass

note: unshaded areas within the wood denotes grass rides and glades

SCALE 1:2500

began. It is likely that Howe Park had such complex origins. Aspen (Populus tremula) found there is normally suppressed in natural oak wood and so may not properly belong to the climax consociation.

The practice of coppicing has been recommenced in Howe Park, with two areas of hazel dealt with in recent winters. Other plants of the shrub layer are hawthorn (Crataegus monogyna) and blackthorn (Prunus spinosa) and in some areas they form a very dense undergrowth, especially when intertwined with bramble (Rubus fruticosus).

The ground flora is very rich in species, the rides and open areas providing the greatest variety. Most of them are typically woodland plants, but others have encroached from the surrounding countryside and appear as weeds. Many of the herbs flower early in the year and often form conspicuous sheets, as with lesser celandine (Ranunculus ficaria), bluebells (Endymion nonscriptus), wood anemone (Anemone nemorosa) and, to a lesser extent, primroses (Primula vulgaris). One important factor in determining the rich ground flora is the variation in soil water. Although this is high over much of the wood, its variations do lead to different plants being found in different areas, eg those with lady fern (Athyrium filix-foemina), those with wavy bitter-cress (Cardamine flexuosa) with broad-leaved helleborine (Epipactis helleborine) etc. There are lots of sedges too, with the spectacular pendulous sedge (Carex pendula) being quite abundant in certain areas. Other orchids too put in their appearance, some frequent, like the common spotted orchid (Dactylorhiza fuchsii), and one, the greater butterfly orchid (Platanthera chlorantha) having been seen only once. Growing close to this was an extremely rare hybrid grass - not very spectacular (fortunately!) but nevertheless, of great interest because of its rarity.

A number of mosses are found below the herb layer with a few liverworts, whilst others are found as epiphytes on the trunks of trees or on fallen branches. Britain's only aquatic moss (Fontinalis antipyretica) was found in the pond, whilst most of the algae recorded have come from the same site or from the stream. Some of the fungi will be responsible for the death of some of the higher plants, whilst others will be concerned with the breakdown and decay of the dead material and so providing nutrients for the soil and more organisms.

The great variety of plant life found in Howe Park is sufficient to provide many different habitats and so a great variety of animal life is to be expected.

PLANT LISTS

Thallophyta

Algae	Chlamydomonas sp	
	Mougeotia sp	
	Pleurococcus sp	
	Scenedesmus sp	
	Tribonema sp	
	Mixed diatoms including Pinnularia viridis	
Fungi	Agaricus silvaticus	
	Armillaria mellea	Honey Fungus
	Auricularia auricula	Jew's Ear
	Clavaria cinerea	
	Clavaria rugosa	Fairy Clubs

Coprinus atramentarius	
Coprinus lagopus	
Coprinus plicatilis	Ink Caps
Coryne sarcoides	
Crepidotus mollis	
Crepidotus variabilis	
Dacrymyces deliquescens	
Daedaleopsis confragosa	
Daldinia concentrica	
Didalea biennis	
Entoloma (lucidum?)	
Ganoderma applanatum	
Gymnopilus junonius	
Hebeloma crustuliniforme	
Hypholoma fasciculare	Sulphur Tuft
Hypholoma hydrophilum	
Inocybe geophylla	
Inocybe geophylla var lilacina	
Laccaria amethystina	
Laccaria laccata	
Lacrymaria (=Psathyrella) lacrybunda	
Lactarius pyrogalus	
Lactarius subdulcis	
Lycoperdon pyriforme	Puff-ball
Marasmius oreades	Fairy-ring Champignon
Mycena epipterygia	
Mycena galericulata	
Mycena galopus	
Mycena inclinata	
Mycena polygramma	
Nectria cinnabarina	
Oudemansiella radicata	
Phlebia radiata	
Pleurotus ostreatus	Oyster Fungus
Pluteus cervinus	
Pluteus sarracinus	
Polyporus giganteus	
Polyporus squamosus	
Polystictus (=Trametes) versicolor	
Poria ferruginosa	
Russula atropurpurea	
Russula cyanoxantha	
Stereum hirsutum	
Stereum purpureum	
Stereum rugosum	
Stropharia aeruginosa	
Trametes rubescens	
Tremella mesenterica	
Xylaria hypoxylon	

Bryophyta		
Hepaticae	Cephalozia bicuspidata	
	Lophocolea cuspidata	
	Lophocolea heterophylla	
	Plagiochila asplenioides	
Musci	Atrichium undulatum	
	Amblystegium serpens	
	Brachythecium rutabulum	
	Dicranella heteromalla	
	Eurynchium praelongum	
	Eurynchium striatum	
	Fissidens bryoides	
	Fontinalis antipyretica	
	Funaria hygrometrica	
	Hypnum cupressiforme and also var resupinatum	
	Isothecium myosuroides	
	Isothecium myurum	
	Mnium hornum	
	Mnium punctatum	
	Mnium rostratum	
	Mnium undulatum	
	Plagiothecium denticulatum	
Pteridophyta		
Filicales	Athyrium filix-femina	Lady Fern
	Dryopteris dilatata	Broad Buckler-fern
	Dryopteris filix-mas	Male Fern
Spermatophyta		
Woody plants	Acer campestre	Field Maple
	Carpinus betulus	Hornbeam
	Corylus avellana	Hazel
	Crataegus monogyna	Hawthorn
	Daphne laureola	Spurge Laurel
	Fraxinus excelsior	Ash
	Lonicera periclymenum	Honeysuckle
	Malus sylvestris	Apple
	Populus tremula	Aspen
	Prunus spinosa	Blackthorn
	Quercus robur	Pendunculate Oak
	Quercus cerris	Turkey Oak
	Rubus fruticosus agg	Bramble
	Rubus idaeus	Raspberry
	Sambucus nigra	Elder
	Solanum dulcamara	Bittersweet
	Swida sanguinea	Dogwood
	Viburnum lantana	Wayfaring-tree
	Viburnum opulus	Guelder-rose
Herbaceous Plants	Agrostis tenuis	Common Bent
	Ajuga reptans	Bugle

Alliaria petiolata	Garlic Mustard
Alopecurus myosuroides	Black-Grass
Alopecurus pratensis	Meadow Foxtail
Anemone nemorosa	Wood Anemone
Angelica sylvestris	Wild Angelica
Anthemis cotula	Stinking Chamomile
Anthriscus sylvestris	Cow Parsley
Arctium minus	Lesser Burdock
Arrhenatherum elatius	False Oat-Grass
Arum maculatum	Lords-and-Ladies
Brachypodium sylvaticum	False Brome
Bromus ramosus	Hairy Brome
Calamagrostis epigejos	Wood Small-Reed
Callitriche sp	Starwort
Cardamine flexuosa	Wavy Bitter-Cress
Cardamine pratensis	Cuckooflower
Carex flacca	Glaucous Sedge
Carex hirta	Hairy Sedge
Carex otrubae	False Fox-Sedge
Carex pendula	Pendulous Sedge
Carex remota	Remote Sedge
Carex sylvatica	Wood-Sedge
Cerastium holosteoides	Common Mouse-Ear
Circaea lutetiana	Enchanter's Nightshade
Cirsium arvense	Creeping Thistle
Cirsium palustre	Marsh Thistle
Cynosurus cristatus	Crested Dog's-Tail
Dactylis glomerata	Cock's-Foot
Dactylorhiza fuchsii	Common Spotted-Orchid
Deschampsia cespitosa	Tufted Hair-Grass
Endymion nonscriptus	Bluebell
Epilobium angustifolium	Rosebay Willowherb
Epilobium hirsutum	Great Willowherb
Epilobium montanum	Broad-Leaved Willowherb
Epilobium tetragonum	Square-Stalked Willowherb
Epipactis helleborine	Broad-Leaved Helleborine
Festuca gigantea	Giant Fescue
Festuca rubra	Red Fescue
Filipendula ulmaria	Meadowsweet
Fragaria vesca	Wild Strawberry
Galium aparine	Cleavers
Galium palustre	Common Marsh-Bedstraw
Geum urbanum	Wood Avens
Glechoma hederacea	Ground-Ivy
Glyceria fluitans x G declinata	
Heracleum sphondylium	Hogweed
Holcus lanatus	Yorkshire Fog
Hypericum hirsutum	Hairy St John's Wort
Hypericum perforatum	Perforate St John's Wort

Hypericum tetrapterum	Square-Stalked St John's-Wort
Juncus articulatus	Jointed Rush
Juncus effusus	Soft Rush
Juncus inflexus	Hard Rush
Lapsana communis	Nipplewort
Lathyrus pratensis	Meadow Vetchling
Listera ovata	Common Twayblade
Lolium perenne	Perennial Rye-Grass
Lotus uliginosus	Greater Bird's-Foot Trefoil
Luzula pilosa	Hariy Woodrush
Lychnis flos-cuculi	Ragged Robin
Lysimachia nummularia	Creeping Jenny
Melica uniflora	Wood Melick
Mentha aquatica	Water Mint
Mercurialis perennis	Dog's Mercury
Milium effusum	Wood Millet
Moehringia trinervia	Three-Nerved Sandwort
Myosotis arvensis	Field Forget-Me-Not
Odontites verna	Red Bartsia
Orchis mascula	Early Purple Orchid
Phalaris arundinacea	Reed Canary-Grass
Phleum pratense	Timothy
Plantago major	Greater Plantain
Platanthera chlorantha	Greater Butterfly-Orchid
Poa annua	Annual Meadow Grass
Poa pratensis	Smooth Meadow-Grass
Poa trivialis	Rough Meadow-Grass
Polygonum aviculare	Knotgrass
Polygonum convolvulus	Black-Bindweed
Polygonum persicaria	Red-Shank
Potentilla anserina	Silverweed
Potentilla reptans	Creeping Cinquefoil
Potentilla sterilis	Barren Strawberry
Primula vulgaris	Primrose
Prunella vulgaris	Selfheal
Ranunculus acris	Meadow Buttercup
Ranunculus auricomus	Goldilocks Buttercup
Ranunculus ficaria	Lesser Celandine
Ranunculus repens	Creeping Buttercup
Rumex crispus	Curled Dock
Rumex obtusifolius	Broad-Leaved Dock
Rumex sanguineus	Wood Dock
Scrophularia auriculata	Water Figwort
Scrophularia nodosa	Common Figwort
Senecio squalidus	Oxford Ragwort
Sonchus arvensis	Perennial Sow-Thistle
Sonchus asper	Prickly Sow-Thistle
Stachys sylvatica	Hedge Woundwort
Stellaria holostea	Greater Stitchwort
Stellaria media	Common Chickweed

Tamus communis	Black Bryony
Taraxacum officinale agg	Dandelion
Urtica dioica	Common Nettle
Veronica beccabunga	Brooklime
Veronica chamaedrys	Germander Speedwell
Veronica serpyllifolia	Thyme-Leaved Speedwell
Vicia sepium	Bush Vetch
Viola odorata	Sweet Violet
Viola riviniana	Common Dog-Violet

Acknowledgements

Thanks to Professor M Hussey and Mr B D Wheeler are due for help with the field work concerned with the lower plants.

Thanks for help with identification are due to Mr B D Wheeler (Algae and Bryophytes), Professor M Hussey (Fungi), Dr D Bellamy (Bryophytes). Mr J G Kelcey found the hybrid Glyceria and had its identity confirmed by Dr C E Hubbard.

o - O - o o - O - o o - O - o

RECORDS OF MAMMAL POPULATION, DISTRIBUTION AND ACTIVITY IN HOWE PARK WOOD 1969 to 1974

B FREWIN

From October 1969 to October 1971, a detailed mammal survey was carried out in Howe Park Wood. The survey included small mammal trapping which began in January 1970. The main purpose of the survey was identification of species present. More detailed studies of particular species have since taken place and reports of these will be published at a later date. For example, from 1972 to 1973 a population study of small mammals was made. However, various records and observations made in the Wood from 1971 to 1974 have been included here.

Order: Insectivora (Insectivores)

Hedgehog (Erinaceus europaeus)

Because some reference books mention woodlands as a hedgehog habitat, efforts were made from June 1971 to establish whether or not they were present in Howe Park. Food was laid down, eg minced meat, eggs, bread and milk, but this was not taken. As hedgehogs are noisy creatures, much time, both during the day and at night, was spent standing still for periods of ten minutes listening for their characteristic grunts and snuffles. No sight, sound or other sign of hedgehog activity was recorded then, or has been recorded since, either in the wood or in the surrounding fields and hedgerows. It seems likely, therefore, that woodland and open country-side are not typical habitats for hedgehogs, and that they are more likely to be found in parks, gardens and other open areas nearer to towns and villages.

Mole (Talpa europaea)

During the survey, mole earths were seen throughout the wood, but it was noticeable that, in the wetter periods and in the winter when the water table was high, earths were only seen in the higher parts of No 2, No 3 and No 4 areas.

Common Shrew (Sorex araneus)

Common shrews were caught wherever traps were laid in the wood. There were common shrew remains in the tawny owl pellets found in the wood. Skin specimens were taken showing the process of moult in shrews. The winter coat is black and the summer coat is brown. In spring they begin their moult at the head and work down to the tail, in the autumn the process is reversed.

Pygmy Shrew (Sorex minutus)

Pygmy shrew were not common in the wood. Only a very low number was caught and they were found mainly in the dense grass by the ditches on the edge of the wood. Remains of pygmy shrews were also found in the tawny owl pellets.

Water Shrew (Neomys fodiens bicolor)

One water shrew was caught in the stream area. This was caught on one of the six occasions when the traps were baited with maggots to see if this would reduce the death rate of shrews on capture. (Unfortunately, shrews die after about one and a half hours in a trap as, being insectivores, they do not eat the seed usually used as bait and they cannot live for long without food.) The experiments were unsuccessful as the shrews did not eat the maggots.

Order Chiroptera

Many bats were seen heading towards the wood just before dusk and in the clear areas in the wood at night, but no attempt was made at identification.

Order Carnivora (Carnivores)

Fox (Vulpes vulpes)

From October 1969 until 1971, when the main survey was in progress, no fox earths were found, but signs of the presence of foxes, eg smell, droppings, tracks, food remains, were regularly recorded.

After the first fall of snow on 12 February 1970, many fox tracks were visible in and around the wood, and in some places, the smell of fox was evident for several hours. Many of these tracks showed tail drag. The tracks showed that, at least two foxes had passed through the wood that morning. During this period of snow, one dead pygmy shrew and three dead common shrews, all smelling of fox, were found at intervals along the tracks.

Checks for droppings were made in certain areas throughout 1970. From January 1970 to June 1970 samples were often found in these areas, indicating that the fox made regular visits to particular places. In June, July and August, the number of samples found decreased noticeably. During these months the hedgehog survey was in progress and the bait laid at night for the hedgehog was not taken by fox. The absence of foxes from the wood at this time may be connected with the fact that rabbit activity was low. Also, the undergrowth is very dense and the fox can be heard before it is seen which must make hunting in the wood more difficult. From September 1970, rabbit activity increased and numbers of samples of fox droppings found also increased, especially in the less dense parts of No 3 and No 4 areas where adult and half-grown foxes were also seen. During the summer months of 1970, foxes were seen leaving the wood just before dark on eight occasions, and were also seen over the same period on five occasions in 1971. It seems likely, therefore, that at that time the fox rests in the wood during the day and leaves it at night to hunt the surrounding area. In October 1970, foxes were seen many times and

droppings were found which contained only apple and potato remains, both partially digested. On 22 October 1970 the hunt were cubbing in the wood. It is not known whether any cubs were caught, but deer and fox were seen running from the wood. On 31 October 1970 the hunt revisited the wood but did not make a kill.

On 8 November a dead rabbit was placed in a tree three feet from the ground. The next morning it had gone and fox tracks were seen nearby.

On 27 February 1971, the hunt visited again and, once more, made no kill. The necessity for the hunt to visit the wood has been questioned. A huntsman has said that the wood is too dense for successful hunting. As far as the control of foxes is concerned, it serves no useful purpose as there is no evidence that foxes breed in the wood and, although foxes have been regularly recorded in the wood, the resident population there has never seemed very high. Also, the only fox known to have been killed in the wood by the hunt was chased into the wood from Whaddon. The examination of fox droppings from the wood shows that small rodents, including rats, form a large part of the fox's diet. Perhaps not enough consideration is given to the fox's role in vermin control. The hunt still visits the wood, although now only two horses are allowed to enter with the hounds because of the damage done to the rides when the whole hunt entered.

From 1969 to 1974 the presence of foxes in the wood has been recorded on every visit.

Contents of 25 fox dropping samples, October 1970 to April 1971

Grasses
Apples - pips, stalks
(There is a crab-apple tree in No 4)
Acorns
Wood (probably picked up while searching for grubs)
Potatoes (potato crop in field adjacent to wood)
Corn seed and grit (pigeon crop)
Bird bone
Fur and bones of rabbit
Elytra (hard beetle cases)
Segment of worm skin
Mole claws and fur
Teeth of rats, shrews wood mice, voles
Fur (rodent or insectivore)

Stoat (Mustela erminea)

The first record of a stoat using the wood was made when a stoat was disturbed in a squirrel's drey about fifteen feet above ground in March 1974.

Weasel (Mustela nivalis)

There have been several records of weasels in the wood. In 1970 a dead weasel was found in the glade of No 3 area. In the period 1970 to 1971, a cat belonging to a house adjacent to the wood caught four weasels; three young and one adult. One weasel was trapped during a small mammal survey in 1972.

Badger (Meles meles)

Badgers are infrequent visitors to the wood. It is though that they come over from a set in a spinney about a mile away. Their tracks were found in the wood in November 1969, January 1970 and January 1971, and the spring of 1974; in autumn 1974 some latrines were found in the south corner of No 4 area.

There is an old badger set in the wood which was active in 1968 as there are reports of a badger with young being seen at the set in that year. The set has only one entrance. It has been inactive since 1969.

Order Artiodactyla

Ungulata

Barking deer (Muntiacus reevesi)

Tracks and droppings were first seen on 20 November 1969, indicating the presence of a small deer in the wood. The first actual sighting of muntjac was on 15 March 1970. Since then, signs of their presence have been found on every visit and the deer have been seen on many occasions.

Signs are always most numerous in the densest parts of the wood. On 26 May 1970 a doe was seen with two young, and on 16 May 1971 the tracks of a young deer were found with those of adults in No 1 area. There is evidence that at least four deer have been in the wood at one time as two different pairs were seen at either end of the wood in one afternoon. There has not been much sign of damage to trees.

It is very difficult to estimate the numbers of these deer as they are extremely elusive and a small number may leave signs, eg tracks droppings etc, over a wide area which can make it appear that they are more numerous than they really are. The wood is only a part of their territory, which extends over the surrounding areas. Records of muntjac seen, and signs found, have been particularly frequent in the church and moat areas.

Order Lagomorpha

Hare (Lepus europaeus)

Although hares are generally thought to be open country mammals, much use is made of the wood by the hare. Throughout 1970 the presence of two hares in the wood was recorded regularly. Their droppings (which are normally larger than a rabbit's, lighter in colour and more fibrous) were found regularly at particular places throughout the wood, indicating that the wood was included in the hare's territory.

On 31 May 1970 a survey of the fields connected to the wood was made and twelve hares were seen in the field on the south side of the wood. Hares were also seen in the fields around the wood bordering areas 3 and 4.

On 22 October 1970 two hares were found torn to pieces after the hunt had visited the wood. It was noticeable that, for several weeks after this, no hares or signs of hares were recorded within the wood, although they were still seen in the surrounding fields. During subsequent visits to Howe Park since 1971, other hares have been put up inside the wood.

Rabbit (Oryctolagus cuniculus)

In October 1969 many rabbits, their pellets and burrows were seen in the wood. They seemed most numerous in the areas bordering the stream where digging for drainage had produced banks of top soil.

In April 1970, in one particular area, many rabbit bones were found with fox tracks nearby, and on three occasions the remains of six rabbits were found, indicating that this was a feeding place for the fox at that time.

In May 1970, when the corn in the surrounding fields had gained height, there was a noticeable lack of rabbit activity in the wood, and it is believed that they were leaving the wood for the growing corn. Many were seen running into the corn from the road. On 27 August 1970 the corn was harvested and previously inactive rabbit warrens in the wood showed signs of occupation again. Compared to the 1969 records, the numbers of rabbits in the wood in 1970 were very low and many areas previously

marked by droppings were clear.

No myxomatosis-infected rabbits were seen in 1969 when the numbers were high, but in January 1971, when the numbers were already low, the disease appeared lowering them even more. In that month five infected rabbits were seen in the wood.

In March 1971, rabbits were seen which, although bearing scars of the disease, appeared quite healthy and with normal movement. At that time, one would be fortunate to see three rabbits during a day spent in the wood, but by August 1971 the rabbit population seemed to be recovering again and records of rabbits seen for that month indicated the presence of about twenty rabbits in the wood.

In December 1972 and February 1974 myxomatosis appeared again. The population has never really recovered and the numbers in the wood are still low compared with the pre-myxomatosis period. Rabbit activity is recorded on every visit, but the numbers seen are never high. It has been suggested that rabbits are adapting to a life above ground as a result of myxomatosis. No evidence was ever found in the wood or surrounding area of this. (See map showing the areas of greatest rabbit activity in 1971.)

Order Rodentia (Rodents)

Grey Squirrel (Sciurus

A survey of the squirrel population and its distribution in the wood is still in progress and will continue for at least another two years. Results from the preliminary recordings and drey counts for the period 1969 to 1973 will be published in the final report of the survey. There is a healthy population of grey squirrels in the wood; they are often seen, as are their dreys and their food remains.

Harvest Mouse (Micromys minutus)

One nest was found on the inside edge of the wood by the main entrance on the south side. Two nests were found on the other side of the road from the wood in the stream area near the culvert which runs under the road.

Wood Mouse (Apodemus sylvaticus)

Wood mice were caught wherever traps were laid in the wood. On average there were larger numbers of wood mice caught than of any other small mammal. Wood mice remains were found in tawny owl pellets picked up in the wood. In March 1974 a wood mouse was disturbed in a squrrel's drey 4·6 metres above ground, which demonstrates the climbing ability of this rodent.

House Mouse (Mus musculus)

One house mouse was trapped near the farmhouse on the edge of the wood. That house mice were present in the house was shown when, at the request of the householder, four traps were laid in a kitchen cupboard in October 1971 and three mice were caught.

Brown Rat (Rattus norvegicus)

During the survey, no rats were seen or trapped in the wood, and no holes consistant with the size of a rat were found. In autumn 1971, specific checks were carried out in No 4 area which lies adjacent to land around the farmhouse, after the farmer had complained that rats were migrating from the wood into the farm buildings, but with no results. It should be noted that, at that time, there was no water in the wood as the pond in the corner of No 2 area and the ditches within the wood had dried up during the dry summer. However, the water areas outside the wood, ie the pond on the east side of No 1 area and the pond in the small Tattenhoe church area

retained some water and the pond near the church had rat holes in its banks. Many holes and droppings were found scattered throughout the ditches in the surrounding land. During harvesting, rats were seen leaving the fields. It can be concluded, therefore, that the rats were not moving into the farm buildings from the wood or from any one particular place, but were collecting there from the whole of the surrounding area, attracted by the hayricks and grain stores. Of eight rats caught within the farm buildings, the largest had a body length of 21·3 centimetres and a tail length of 15·7 centimetres; the smallest had a body length of 11·7 centimetres and a tail length of 10.2 centimetres.

Bank Vole (Clethrionomys glareolus)

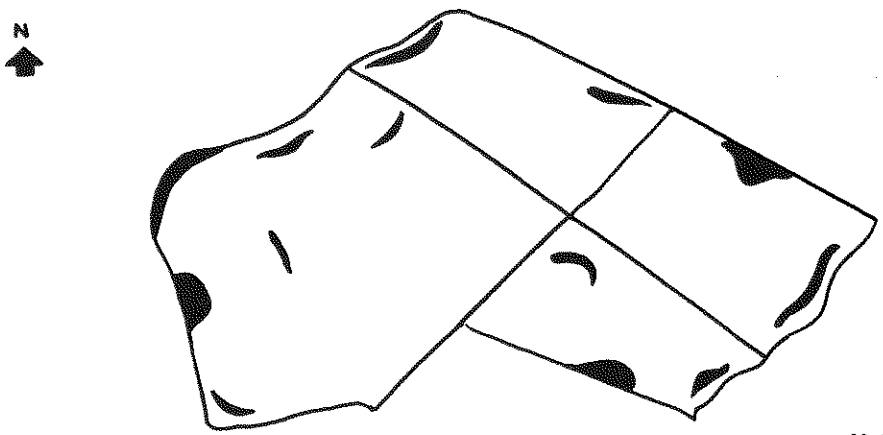
On average the numbers of bank voles caught were second only to the wood mice. Bank vole remains were also found in the tawny owl pellets. It was found that the population size of bank voles and wood mice varied inversely during the year. When numbers of wood mice were high, numbers of bank voles were low, and vice versa.

Short-tailed Vole (Microtus agrestis)

No short-tailed voles were caught inside the wood. Only two were trapped in the hedgerow bordering a grass field on the south side of the wood. Short-tailed vole remains were found in the tawny owl pellets from the wood.

Howe Park exhibits the typical mammal population to be found in any isolated woodland. If a survey of this type can be carried out again after the wood has been opened to the public, it will be interesting to see how the existing mammal population is affected. If the population is to be retained, particularly of certain species such as the muntjac, it is important that sufficient areas should be left dense. Much will also depend on the development of the surrounding land. The existing population could be adversely affected if it were cut off from the surrounding countryside and there would, therefore, need to be a wide corridor leading from the wood to the new city boundary to avoid this.

Acknowledgement is due to those Society members who contributed records to the Howe Park Survey.



SP 834344
MAMMAL CENSUS 1971
HOWE PARK WOOD BLETCHLEY
RABBIT WARRENS AND AREAS OF MOST ACTIVITY

WILDLIFE CONSERVATION

P CHAPMAN

It is essential that those involved with wildlife have a greater understanding of their roles and objectives. There is an increasing awareness of the environment, yet conservation is, perhaps, the most misused, misunderstood word in current vogue. It is hoped that the following questions will be answered during the course of this article:

What is wildlife conservation and what wildlife should be conserved?
Why should wildlife be conserved?
How can wildlife be conserved?

The definition of conservation found in my dictionary bears a marked similarity to preservation, but during this decade, conservation has become the dynamic positive contribution to preservation. Conservation and preservation, though still connected, have drifted poles apart and it is probable that adherents to these causes will be in conflict over various issues in the future. Because of this fresh outlook, the word conservation requires urgent re-definition; this could be:

"The thoughtful management and protection of resources and conditions which ensure the well-being of the environment and provides benefit to mankind."

Although everyone should be concerned about 'total' conservation, such as the management of limited mineral and fossil fuel supplies, naturalists find one facet of this concept of immediate important. This is wildlife conservation, and it could be described as:

"The wise managment of the biotic and abiotic elements of the environment in a manner which ensures the well-being of wildlife and benefits mankind."

Wildlife conservation has many different forms; one of particular interest to naturalists is the continuation of the outmoded rural practices, woodland crafts and farming techniques upon which many wildlife associations have become dependent. It is for this reason that conservationists coppice woodlands, pollard trees, lay hedgerows and even own flocks of sheep. The provision of public access to open-space areas and the maintenance of these areas are often undertaken by conservationists to ensure that an abundance of wildlife can co-exist with people seeking passive recreation. In many cases these areas are used for educational purposes and may contain nature walks. These open-space areas can vary from a canal towpath behind an urban comprehensive school to a Scottish moor, and they include town and national parks. Another form of nature conservation is the improvement of newly created sites. This could consist of the controlled transference of wild plants and native trees to areas such as road verges, golf courses and slag heaps. The large acreage of derelict land, disused railway lines, surrounds to factories or sewerage works, and the scars left by open-cast mining or gravel extraction, may be conserved to protect wildlife already present. Vast areas of Britain provide marginal financial returns from their primary form of land usage and can often be conserved. Wise management of moors, wetlands and coastal areas can usually ensure abundances of wildlife without appreciable reductions in derived incomes. Where land is being intensively managed for urban development, food and timber production or recreational uses, there are normally small pockets of land which have been overlooked or which cannot be developed, and these lend themselves to conservation. These may be field corners, forest rides, even graveyards. Where these forms of

conservation are inadequate for the protection of wildlife it is sometimes necessary to place breeding colonies in refuges, zoos, arboretums or plant nurseries, and when conditions allow, re-introduce them to the wild.

Conservation is governed by land ownership and can be carried out on land which is owned by the conservation trusts or land in private hands. A nature reserve owned by one of the many societies or trusts provides ideal conditions in which wildlife can be effectively managed. Reserves afford the best degree of protection to the wildlife within their boundaries, and they enable conservationists to manage the areas in a manner which will maintain, or even improve, their wildlife values. It is well known that areas rich in wildlife cannot exist indefinitely within barren expanses of arable farmland or the prim, overmanaged urban areas. It is because of this, and the trusts' limited financial resources, that working arrangements with other land owners are made to ensure that wildlife is wisely managed wherever possible.

Unfortunately priorities have to be made when considering what is to be conserved and these are based on the value of each form of wildlife. Rarities, regional variants, and ancient ecosystems tend to be given precedence for, at the moment, it is impossible to recreate an extinct species or to reproduce a complex ecosystem; even simple genetic variations are difficult to replace. Species on the edge of their geographical distributions or those at the apex of the predator/prey relationships are conserved because they are vulnerable to man-influenced changes. Apart from specific species or ecosystems, the remaining forms of wildlife associations which are conserved are those found in 'wildlife passages'. These linear situations such as hedgerows, disused railway lines, road verges, streams, footpaths etc, enable wildlife to move freely between farmland, housing estates, nature reserves and woods.

Wildlife conservation generally requires large inputs of effort and money, but there appears to be no financial return and no benefit to mankind. In fact, many forms of conservation are in direct conflict with man's progress. The only benefits seem to be those gained by the species or ecosystems being conserved. Why then do naturalists conserve? Is it for the protection of some gaudy, lesser-spotted dodo? Is it for an old gentleman in tweeds, wielding a butterfly net?

As the actions of wildlife conservation are usually carried out to achieve the best possible quality of the environment and its wildlife, this section should, perhaps, answer the question:

"Why do wildlife conservationists work towards a good-quality environment and why should they manage and protect its wildlife?"

The protection of all species, especially those on the verge of extinction, is often said to be wasteful of time and money, but in the near future there will be a need for species, many of which may now appear to be of little value. Gene pools are resources that man must manage wisely in order that he can manipulate the characteristics of species to provide food, fight diseases, protect land against adverse geographical processes, produce fibres for textile yarns and ropemaking etc, to provide timber for wood pulp and construction, even to reduce the pips in his grapes or to improve the size and scent of his roses. Virtually all the food-producing animals and plants in the fields of Britain have been derived from the manipulation of the genes of wild species. If, as some prophets speculate, the 'green revolution' is essential for future world food supplies, then many insignificant plants, some of

which are perhaps rare, or may now be regarded as weeds, will be required to synthesize improved strains. Strains which will have one or more of these advantages: greater productivity; greater resistance to damage by insects, disease or drought; little need for intensive management and vigorous growth in poor soils.

The most vivid example of man's use of the gene pool was the development of penicillin from an obscure fungus. The most efficient antibiotic known to medicine was produced from an unwanted mould found in the soil, and its discovery was pure chance. It is a good insurance policy to protect all species.

Although it is possible to place single species in refuges, if they are retained within their ecosystems not only will they be protected, but it is also possible to study their inter-relationships with other species and the environment. If sufficient ecosystems are conserved, the work involved in the protection of single species for the gene pool will be considerably reduced and their futures guaranteed.

Ecosystems are living records of nature's attempts to find the wildlife associations which will optimise the potentials provided by the environment. Generally, those that have been in existence for many decades develop stability and this state was once considered to be due to the increased diversity that ancient ecosystems tend to evolve. Recently it has been realised that stability is probably related to maturity. Ecosystems are created by the invasion of species which, after countless stages of trial and error, develop into stable, virtually self-sufficient, wildlife associations. This random progression is most exacting and produces systems which are often very complex - comprising many species and numerous inter-relationships between species and between species and the environment. The monocultures that man considers necessary are unstable and require constant management to retain their totally unnatural conditions. A cessation of the intensive management of agricultural crops or forestry plantations will produce an almost immediate change in their yields and compositions due to their inherent instability. For example, natural and man-influenced processes have enabled elms to become the dominant component of the hedgerow trees of southern England; in many areas they form virtual monocultures. The spread of Dutch elm disease is producing devastating impacts on the visual and ecological aspects of the countryside. It is because of the reliance of man and wildlife on these trees that the losses are so drastic. Had the hedgerows contained heterogenous mixes of tree species, the loss of one species would not have had this disastrous effect upon the environment.

The knowledge gained from the study of ecosystems enables ecologists to advise landscape and town planners, water supply engineers, farmers, fishermen and foresters. This advice can save much time and money when making and implementing management plans. Nature conservation is dependent upon this knowledge, for it is the ecologist who recommends the courses of action to be taken when conserving a site. Because ecosystems can be stable, it is often advantageous to attempt to recreate them so that site management can be reduced. The synthesis of natural states can be used for amenity and visual effects, such as landscape architecture, or for the amelioration of geographical change, such as the stabilization of soils and the reclamation of deserts. These, and many other uses, are only possible if there are existing ecosystems and gene pools from which the necessary information and material can be obtained.

Wildlife is one of the most sensitive indicators for geographical change, and man's effect on the environment. Alterations in ecosystems can show that rainfall, mean

temperatures, water tables and soil conditions have fluctuated. Farmers and foresters often use certain plants as indicators for the evaluation of previous management and to assist in future plans. Wildlife is an excellent early warning system for pollution and it has led to the restriction of chemicals before technology had realized their presence in quantities harmful to man. An example which received much publicity was the control of DDT and similar chemicals after research into the infertility of peregrine falcons. Some species are extremely sensitive to pollution; lichens in Scandinavia are affected by sulphur dioxide produced in the industries and power stations of Britain. The long-awaited return of the salmon to the Thames will be an example of wildlife acting as an indicator.

Education provides the fourth reason for the need for conservation and it is essential that man understands nature before he can reap its benefits. Geography, biology and history, or the specialist subjects such as botany, zoology, land use economy, sylviculture, entomology etc, have the natural sciences incorporated into their syllabuses. Without conservation, many of these subjects, certainly the specialist ones, would be most difficult to teach. The levels of education can vary from the environmental studies in primary schools to university lectures or from documentary television films to information leaflets distributed by local natural history societies.

The conservation of open-space areas is of growing importance; there is a need for escape into urban parks, the countryside or 'wilderness areas' by people seeking passive recreation. This need will increase with improvements to transport systems, extra time available for leisure and with the increases in population and the associated stresses produced by alienation from working and living conditions. It is important that hill walkers, campers, day trippers and those seeking other forms of passive recreation enjoy themselves and learn of the workings of the countryside. This indirect, self-taught education gives the public an awareness of the environment resulting in a respect for it. The increases in public pressures have created problems; vandalism, litter and damage to vegetation and soils by trampling are of immediate concern. These, and many other problems (just take a look at the summit of a desolate mountain or talk to a farmer), will undoubtedly worsen and, in many cases, conservation is the best form of protection and education the best remedy

The ultimate factor has little scientific support, but it carries the maximum amount of public appeal and thus provides much of the necessary financial aid. This embraces the rather vague argument of the emotional needs for wildlife which are allied to the strong preservationist views that many people have. Almost everyone likes to see the beautiful and interesting aspects of wildlife and they feel that it is right that their children should also see and appreciate the same things. The ethical reason is, perhaps, foremost in the minds of conservationists; wildlife has as much right to exist as man and, while this existence is jeopardized by man's thoughtlessness, exploitation of resources and unwise progress in land management, the conservation movement will remain active.

The repercussions of environmental mismanagement can affect the whole community, even the city gent in his totally unnatural, urban surroundings. Wildlife serves man, but this can only continue if man protects and manages it wisely. It is the benefits to mankind that makes wildlife conservation so important.

Before anyone wishes to warden an osprey's nest, cur scrub from an orchid site or lie in the path of a developer's bulldozer, they must fully understand why they are

doing it. Once this is known and, if the action still appears to be meaningful, they might wonder how their efforts can best be applied. The first step could be to contact an organization which is involved with wildlife conservation and, as there are so many, the individual will have to find which are the most suited to his own particular interests. There are the local natural history societies and the local conservation corps, county naturalists' trusts and county conservation corps and the various national societies (which usually specialize in particular forms of wildlife) and one national conservation corps.

Perhaps conservation should start in the home, the garden, and in the locality. Even town gardens have a potential for wildlife conservation and they can be made more attractive to wildlife if suitable plants and shrubs are grown which provide food and cover for mammals, birds and insects. A pond, bird bath, bird table and nest box will entice birds into a garden. Purists may scorn at such action but many of the well known naturalists and conservationists were once children who observed the natural history of their gardens. Gardens can be most inhospitable to wildlife. Cats will reduce the numbers of small mammals and birds and will frighten the remainder away. Gardens tend to be over-managed; the rough area by the shed, the long grass under the apple trees or the nettles along the hedge can often be left for the benefit of wildlife. Gardeners are often too enthusiastic with their insecticide and herbicide sprays. In many cases they need not be used at all, but if there is no alternative, they should be prepared and applied correctly. It has been found that some gardens are as toxic as arable fields receiving regular applications of biocides. When out for a walk, a sharp eye should be kept open for for any sites which may have a wildlife value or be of ecological interest. On finding one, and there are many such sites which are tucked away in the most unlikley postions, the local natural history society and the county naturalists' trust should be informed. They will investigate the site and, perhaps, come to an agreement with the landowner to ensure the site's future. While this is going on, it is essential to collect the maximum amount of information regarding the site's wildlife, its past and present forms of management and any changes observed, and this should be sent to whoever is working to conserve the site. It is important that all worthwhile sites receive such attention for it is too late to act once a landowner has decided to build houses, sell the timber or plough up the site.

In retrospect, I can see that there is a need for an explanation of terms such as 'high-quality environment' and 'good average wildlife values'. Also the future of wildlife conservation must be fully discussed. I hope that this article does indicate that much forethought is required before attempting to undertake conservation. It is for this reason the definition begins with "The wise managements of ...." Wildlife conservation should now be based on ecological principles; the days of haphazard preservation of rare plants and animals are, hopefully, over. The article does not cover every aspect of wildlife conservation, and each paragraph could be expanded into a whole chapter. If this article helps the man in the street or the armchair naturalist to understand wildlife conservation, the effort of writing it will have been more than worthwhile. It is a sad fact that, in this respect, they often find that they "can't see the wood for the trees."

Acknowledgements

I should like to thank those who read my notes and amended my spelling and grammatical mistakes. Special thanks to John Kelcey for his advice on various issues.

FOXCOTE WILDFOWL REFUGE 1974

B MANDALE

In 1963 an informal agreement was reached between the Berkshire, Buckinghamshire and Oxfordshire Naturalists' Trust and the Buckinghamshire Water Board to establish what was believed to be the first inland wildfowl refuge of a country trust. In 1974 the Trust negotiated a twenty-one year lease of the resevoir from the Bucks Water Board.

The resevoir is wardened by the Trust, and a hide is open to members on two Sunday mornings per month during winter, by appointment, with numbers limited to twelve. The water can be seen from the road and, as the area is a wildfowl refuge, one is asked to adhere strictly to the 'no-entry' ruling so as to cause no disturbance to the birds, and comply with water board regulations.

The Lake

Foxcote Resevoir lies to the north of the Buckingham to Leckhamstead road. A stream course was dammed in 1952 at the southern end of the lake, flooding farm land to form a water area of fifty-six acres with a maxmimum depth of eighteen feet. It lies on high open ground with unprotected banks which suffer serious erosion from the prevailing westerly winds. A narrow strip of land borders the water and this is grazed by sheep throughout the year, and an annual hay crop is taken off part.

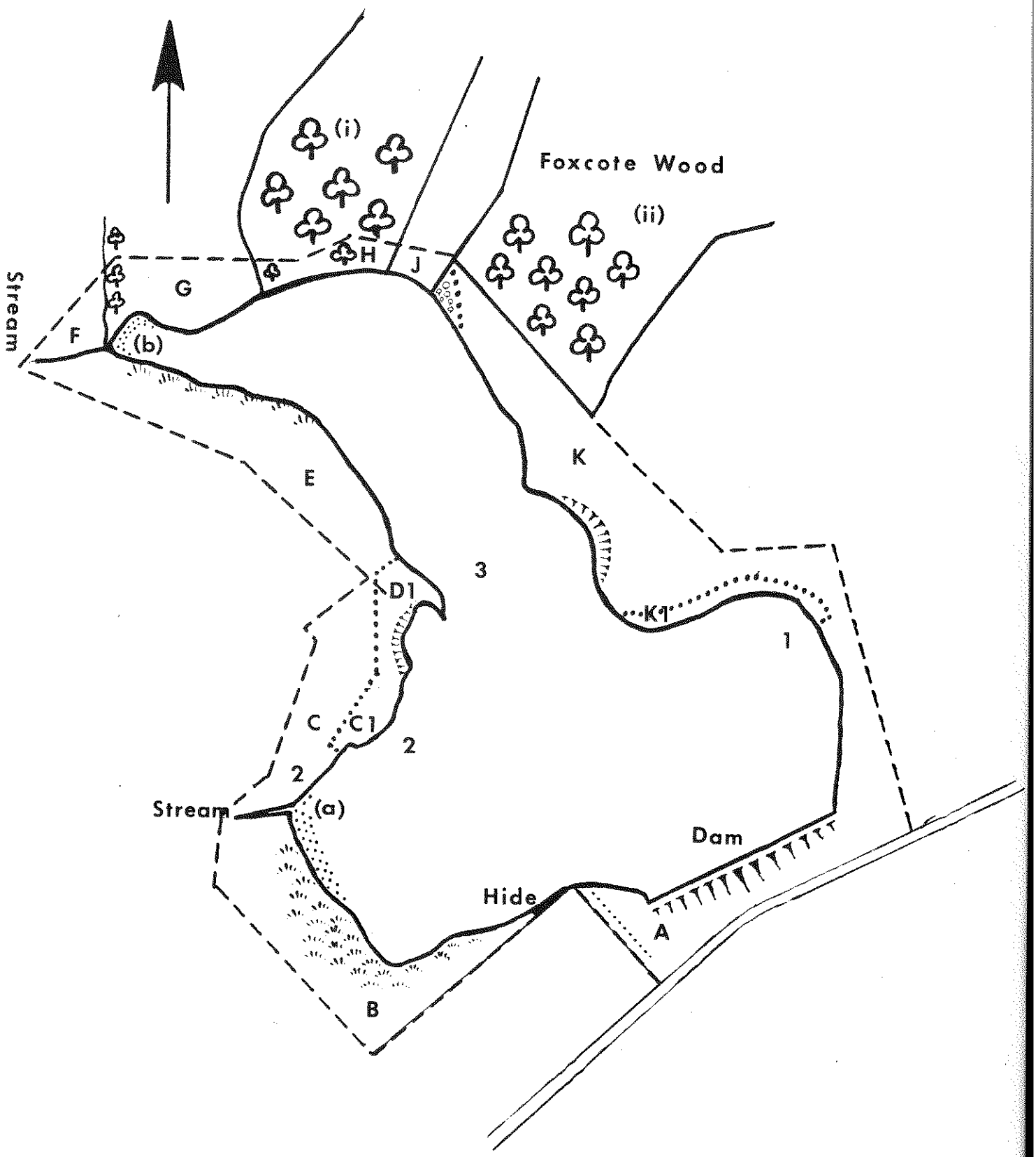
Because of the unstable banks, emergent plants have difficulty in becoming established. The chief waterside colonizer is soft rush (Juncus effusus) which provides nest cover on the leeward west bank, but this plant is on the decrease on the east side. Two small streams enter the resevoir and, at these points, silting-up takes place and here the emergent vegetation is at its most prolific, forming beds of great pond-sedge (Carex riparia) and bur-reed (Sparganía ramosum) at one point (a) (Figure 1), bull-rush (Schoenplectus lacustris), reed-mace (Typha latifolia) and yellow iris (Iris pseudacorus) at the other (b).

At the extreme north end of the water is Foxcote Wood, owned by a local farmer, in which pheasants are reared and shot occasionally. The wood is in two parts (i) and (ii), separated by a strip of agricultural land.

Figure 1 (i) The dominant tree in this part is Aspen (Populus tremula), of which there are fine specimens on the lake edge. The shrub layer consists mainly of hawthorn, hazel and willow, with occasional privet and dogwood. There is an abandoned hazel coppice on the west side with maple and oak standards. On the east is an oakwood with ash, again hawthorn, hazel, willow and privet form the shrub layer. The field layer is mostly bramble, bluebell, primrose and wood sorrel. Dogs' mercury is dominant in patches.

Figure 1 (ii) This wood consists mainly of oak, ash, hawthorn and hazel with an occasional birch. The end nearest the lake is mainly willow, but also hawthorn and dogwood. Behind this, an area has been cleared and planted with pine, some standard oak have been left. The field layer is bluebell, dogs' mercury and primrose.

A small strip of wood (i) on the bank of the reservoir is leased by the Trust and is kept overgrown to afford cover for nesting birds. Among its botanical interest are orchids, herb paris and midland hawthorn. At the southern end, in area B, at low water can be seen roots of trees that once formed a small wood prior to flooding. Wood anemone (Anemone nemorosa) still grows here on the bank.



FOXCOTE WILDFOWL REFUGE

FIG 1

Work started in January 1974 on the erection of a hide, and in February through to spring, working parties of the National Conservation Corps, the Milton Keynes Conservation Corps and the Milton Keynes Natural History Society fenced off areas of bank to exclude sheep from the waterside vegetation, and so encourage the growth of the grasses and rushes to provide breeding habitats. Planting of willow, silver birch, and alder began this year in an attempt to stabilise the banks and provide food.

Disturbance

The Buckingham Angling Association are allowed by the Water Authority to fish and net the reservoir during late August, September and early October. The earlier of these dates being acceptable as it is the quietest period and likely to cause the least disturbance to the wildfowl. It can be noted, however, on the population graph Figure 2, that Foxcote received its winter 1974 influx of mallard 1,200 on 19 September, bringing with it the first wigeon of the season. Netting took place on 21 September and the number dropped to 50. Numbers built up again to the year's maximum of 1,400 on 1 October, only to drop again, this time to 100 when fishermen were present on 5 October. In 1973, the last netting day was 1 September, two weeks before the first Wildfowl County Day and before the winter mallard had arrived. It is shown on the Wildfowl Trust Count Day Table, Figure 3, that the mallard numbers were much higher in September, October and November of that year. On the Wildfowl Count Days at Linford Gravel Pits, the mallard numbers were higher in 1974 than 1973. Apart from the allocated fishing/netting days, fishing is forbidden because of the open aspect of the reservoir, there being no bank cover whatsoever. Human disturbance would be a great problem if the reservoir were opened to any other active group as the water is not large enough for multi-recreational use.

As mentioned earlier, access is restricted to the hide, which is approached by a fenced-off walk from the road. This walk will eventually provide cover all the way to the hide area. From the hide and approach way can be seen the majority of the water surface and, therefore, most of the birds present, the furthest away at perhaps 750 yards.

One is fortunate at times, when the farmer is working in the wood not making enough disturbance to cause the birds to fly, but enough to send them across the water in front of the hide, to gain benefit from a little disturbance.

The numbers of wildfowl throughout the winter are extremely variable. This is, in many cases, due to disturbance. It is seen that, if birds are present in large numbers they will remain. However, if disturbed, many will leave and it will be several days before the numbers build up again. There is considerable local movement in the tufted and pochard population between the reservoir and Hyde Lane Gravel Pits. Linford Gravel Pits and Willen Balancing Lake both hold fairly large winter populations; it would seem, therefore, most unlikely if there was not movement between these waters. Both Linford and Willen are scheduled for future development as multi-recreational areas, therefore their importance as wintering wildfowl waters may be in danger, and the importance of Foxcote will be greatly enhanced in the coming years.

The Wildfowl

Breeding successes are disappointingly low. The lack of suitable nest sites and a high predation rate are primarily to blame. Inadequate cover and lack of offshore islands makes nests easily accessible to predatory animals. Predatory birds also account for a large number of eggs, and human predation is not to be discounted. Predators are not controlled by the Trust, but the farmer shoots the wood in an attempt to safeguard the breeding game birds.

Mallard breed regularly, three or four broods being successfully hatched each year. The numbers of ducklings in each clutch suffer drastic reductions, probably due to the large numbers of pike in the reservoir. Tufted duck being late breeders have suffered in the past from having their nests destroyed when the hay crop was out. It is hoped that the fencing off of areas K1 and D1/C1 will provide safe areas for this species, although in 1974, the only two nests found were outside these areas, and only two duckings were seen, which did not survive. It is hoped that continuing management in these areas will provide more satisfactory conditions in future years.

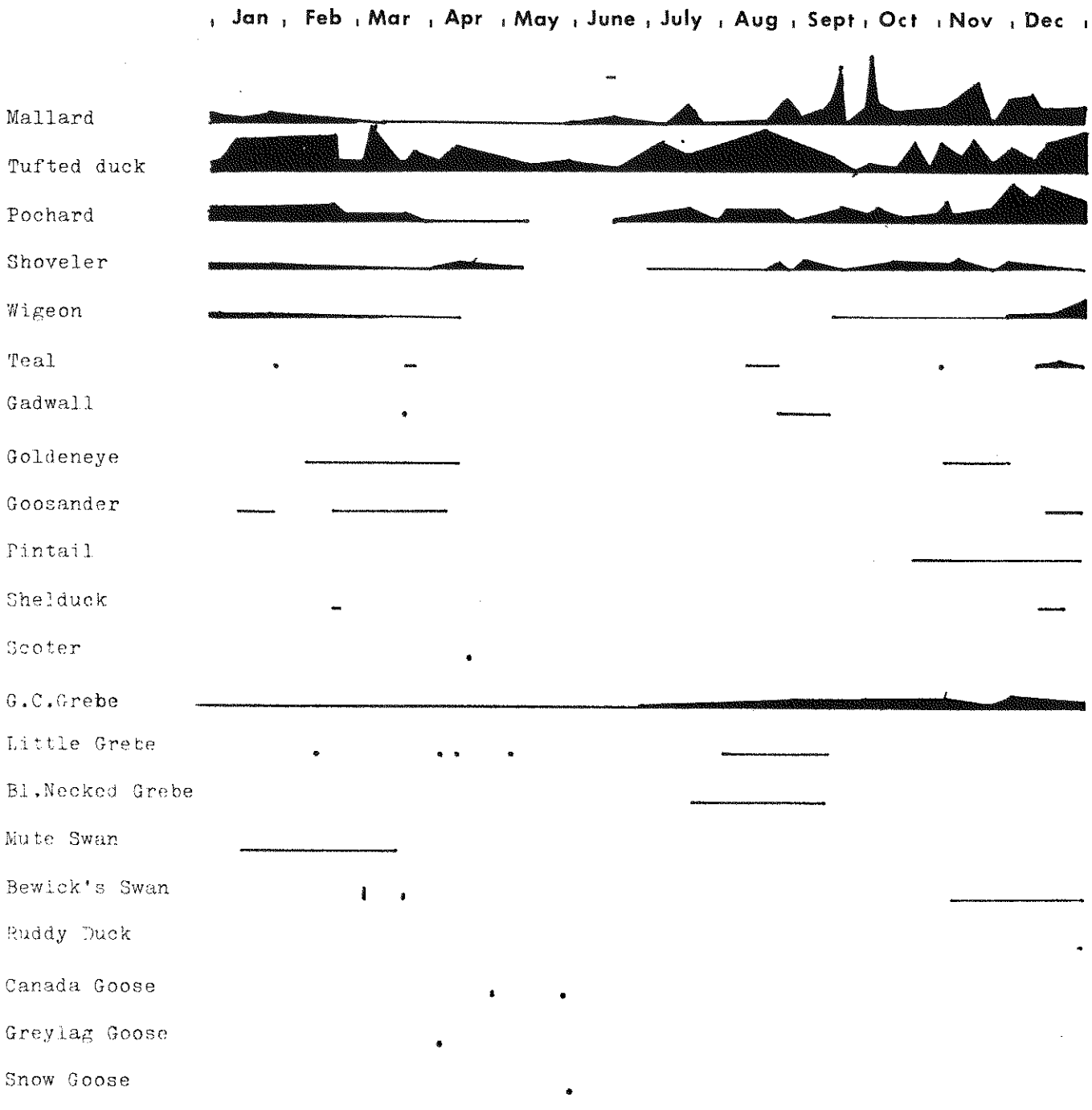
Coot and moorhen breed extensively, but are heavily predated; no more than one clutch of each become fledged.

The great crested grebe probably suffers most from lack of suitable nesting sites. Shallow water around the shore line and a shortage of vegetation to provide cover prove each year to be most unsuitable for the breeding pairs present. Future management plans are hoped to be beneficial to the grebe.

It is as a winter wildfowl refuge that the reservoir shows its importance. From the graph can be seen, not only the increase in numbers per species, but also the increase in numbers of species. A good indication is given as to what time of year one can expect to see the rarer species, or see the commoner species in large numbers.

With a water area of only 56 acres, and most of this being visible from the hide, it is unnecessary to point out where best to look for different species. There are, however, certain areas for which some species show a preference. The most notable ones being mallard and shoveler area 1, wigeon area 2, and diving ducks (tufted and pochard) area 3.

The managment programme for Foxcote in the coming year is to create new habitat which will provide food for the wintering wildfowl and encourage breeding. The latter will greatly improve the status of the reservoir, enabling it to serve a more useful function for the full twelve months of the year. To the exciting passage of terns and waders in spring and summer, add a large resident breeding population, and the effort involved in the creation of a reserve becomes a most worthwhile venture.



1974 WILDFOWL POPULATION

Scale

Mallard	1000
Tufted	200
Pochard	
Other Species	100

FIG 2

FIGURE 3

FOXCOTE RESERVOIR WILDFOWL TRUST COUNT DAYS - SEPTEMBER 1973 TO JANUARY 1975

	Sept 16	Oct 14	Nov 18	Dec 16	Jan 13	Feb 17	Mar 17	Sept 15	Oct 13	Nov 17	Dec 15	Jan 12
G C Grebe	8	8	26	7	2	16	21	15	30	15	26	-
L Grebe	-	-	-	-	-	-	-	2	2	-	-	-
Mute Swan	2	1	-	-	1	1	1	-	7	-	-	-
Bewick's Swan	-	-	-	-	-	-	-	-	-	4	1	1
Mallard	1042	1240	1022	255	68	67	10	550	288	810	319	495
Teal	34	-	-	-	-	-	-	-	-	-	5	8
Gadwall	-	-	-	-	-	-	-	1	-	-	-	-
Wigeon	2	-	150	38	-	17	-	-	-	26	24	29
Pintail	-	3	-	2	-	-	-	-	-	1	-	-
Shoveler	15	19	95+	39	21	13	8	40	8	40	11	14
Pochard	20	23	42	66	63	71	12	24	19	121	122	51
Tufted	59	25	28	31	107	155	40	72	19	78	114	148
Goldeneye	-	-	-	-	-	-	1	-	-	-	-	-
Shelduck	-	-	-	1	-	-	-	-	-	-	1	-
Goosander	-	-	-	-	3	-	2	-	-	-	1	-
Scaup	-	-	-	-	-	-	-	-	1	-	-	-

POLICY FOR THE PROTECTION OF BADGERS IN THE DESIGNATED AREA OF MILTON KEYNES

B C Frewin (Mammal Recorder) - M Hayle - Miss A Burton

The following document was presented to the Milton Keynes Development Corporation on 16 November 1974 as a guideline for dealing with badgers affected by development. The policy has been accepted by the Corporation and they are preparing an abbreviated version for internal circulation. The Natural History Society feels that this policy could be usefully applied by other natural history societies and organizations dealing with badgers in similar circumstances.

The Mammal Section of the Milton Keynes Natural History Society has been studying and recording the badger sets in the designated area as part of a more general survey of badger population, distribution and activity in North Bucks.

The Society is anxious that the Milton Keynes Development Corporation should have a well-formulated policy regarding the treatment of badger sets in developing areas of the new city. To this end, the Mammal Section of the Society has been making enquiries, particularly of the London Natural History Society, in order to discover what degree of tolerance badgers have towards disturbance around their sets, and how they adapt to an urban environment.

The Section has also been investigating the methods of removal of badgers from a threatened set with a view to using the most efficient methods of removal, should this become necessary.

The results of thes enquiries have shown that some badgers have a very high tolerance to disturbance around their sets during the day. This conclusion is, to some extent, borne out by evidence of the Section's own survey.

As to adaptation to an urban environment, badgers are known to exist within urban areas in such situations as golf courses, parks and occasionally in large, private gardens. The main determinant to adaptation is probably access to some open country so that they can forage for food. One square kilometre of grassland containing lots of earthworms would be about the area needed to supply enough food for a badger colony. If the badgers do not have access to a foraging area of this sort, they may make a nuisance of themselves in gardens near the set.

Where badger sets are located in areas destined to be part of a linear park or golf course, they can safely be left and hopefully badgers will remain at these sets as the rest of the city grows. Some steps might have been taken to ensure their safety, both during and after development; eg fencing round a set to protect it during development of a golf course, or a tunnel under a road cutting across a badger's main pathway.

Where a badger set is located in the middle of an area designated as a housing estate, the Section believes that such a set cannot survive. Even if the set was not situated in the path of a road or a line of houses, it is unlikely that construction work could be carried out without danger of damage to or destruction of the set. If a set entrance was located near the site of a proposed house, it is likely that the tunnels of the badgers might run under the site. As it is difficult to determine the length and direction of such passages, in all cases where a set entrance is situated within fifty yards of a proposed house site, there would be a danger that construction work would destroy the passages and trap any inhabitants. In such cases, the Section believes that the policy should be to wait as long as

possible in the hope that initial building work will disturb the badgers to the extent that they leave the set of their own accord. If they do this, there is always the danger that they will then set up 'house' in another area due for development and might have to be persuaded to move again. However, as it is known that badgers do not always occupy the same set over a whole year, but may sometimes move to another nearby set of their own volition, then it is thought that having to move more than once because of disturbance would not cause them undue distress. In any case, the second area might not be scheduled for development immediately, and the badgers could have two or three years to settle, and possibly breed, before having to move again.

The Section believes that physical removal of badgers should only be attempted as a last resort. Whenever possible, the badgers should be encouraged to remove themselves. The Section has investigated ways of persuading badgers to leave a set, and a good method would appear to be to go to the set at night when you are sure that the badgers have left to forage for food, and to stuff all the holes with sacking or old newspaper soaked in diesel oil, and fill the entrance loosely with grass. The badgers will not re-enter a set treated in this way, and after a few days, if the grass has not been disturbed, the set can be heavily blocked. This method of preventing badgers from returning to a set has already been used successfully by the Society within the development area.

This method should be used shortly before development on the set site starts; if there is too long a period of time between the set blocking and set destruction, the smell of oil will wear off and the badgers may return and re-open the set. It is, therefore, important for the success of this method that the Section be kept informed of the timetable of development. At least two weeks' notice and preferably three would be the minimum period of notice required of the start of developmental work.

This method cannot be used in the period January to April inclusive, when there are likely to be cubs in a set. In fact, any disturbance of a set at that time of the year should be avoided at all costs.

During the waiting period, the set would obviously have to be kept under very close observation to determine whether or not the badgers have returned. The Section would undertake the responsibility for this surveillance.

The Section would need to agree a deadline point with the contractors and the Corporation by which time physical removal of the badgers would become necessary if the above method failed. Physical removal might also be necessary if, for some reason, there is no time to employ this method. It must be emphasised again that the necessity for physical removal should be avoided as far as it is possible, because it cannot be carried out without the danger of damage to the badgers and would, in all cases, subject them to great distress. However, the Section has recruited an experienced team who would be willing to carry out removal if it was absolutely necessary.

Badgers successfully removed in this way would be taken to unoccupied sets outside the city boundary. There are several reasons for this decision. Most of the badger sets within the designated areas are occupied and it would be unwise to introduce strange badgers to an occupied set. The badgers would have to be taken at least ten miles away from the original set to prevent any possibility of their returning to it. Also, as there would be control of where the badgers go, it seems sensible

to place them where they will not be disturbed again.

Under the Badger Protection Act, badgers can legally be moved from a set if the reason for the removal is valid and the owner of the land on which the set is situated has given permission for removal.

Obviously, there will be some borderline cases, where the badger sets are neither situated in an open area, nor on the site of a housing estate, but perhaps in a bank or hedgerow on the edge of a road, housing or industrial estate. Such cases will have to be dealt with according to their individual circumstances, eg safety from construction work, nearness to houses, access to food sources. A set might be located on the side of a proposed H or V road and, as these roads are being constructed with such wide verges, it might be assumed that such a set could be allowed to remain. But this would depend on how far the set was away from the roadside, or whether it would interfere with any roadside landscaping, or whether the contractors could carry on the work of road construction whilst still avoiding the site of the set, or whether the badgers still had access to sufficient grassland for foraging. If the only available grassland was on the opposite side of the road from the set, it might be necessary to construct a tunnel under the road to ensure that the badgers would have safe access to food sources. (The Corporation has already been given, and agreed to, a policy on tunnel construction.)

The Section believes that it would not be in the interests of the badgers to publicise any action taken over badger sets. Any advertising of the whereabouts of badger sets should be avoided.

The success of this proposed policy will depend on close co-operation between the Milton Keynes Natural History Society and the Milton Keynes Development Corporation. The Society has information regarding the position and activity of sets in the designated area; the Corporation has information regarding the details of development plans. In order to determine exactly where the sets are located in relation to planned development, this information will need to be co-ordinated and the Corporation and the Mammal Section of the Society will need to consider together what action should be taken with regard to each individual set. It is possible that the contractors may discover a set which has not previously been recorded by the Society. If the Corporation is informed of such an event, it is important that the Society be told immediately so that they and the Corporation can give immediate consideration to determining the best plan of action.

The Mammal Section would like to acknowledge the help and advice of the following:

Dr E G Neal (Author of 'The Badger')
Mr W A Teagle (Ex-London Badger Recorder)
Mr R Cowlin (Essex Badger Recorder)

BOVINE TB IN BADGERS

At the request of the Bradwell Abbey Sub-Committee on Natural Sciences, the Mammal Section of the Milton Keynes Natural History Society has made enquiries to discover:

(a) if tests for TB are necessary before physical removal of a badger is undertaken;
(b) if tests for TB are necessary, how they should be carried out.

The Section contacted the Mammal Society, the Ministry of Agriculture, Fisheries and Food and the University Federation of Animal Welfare. All these bodies have

a firm policy that no badger should be moved unless tests for TB have first been carried out.

Dr Neal put the Section in touch with Mr J A J Venn, the Regional Veterinary Officer of the Agricultural Development and Advisory Service in Bristol.

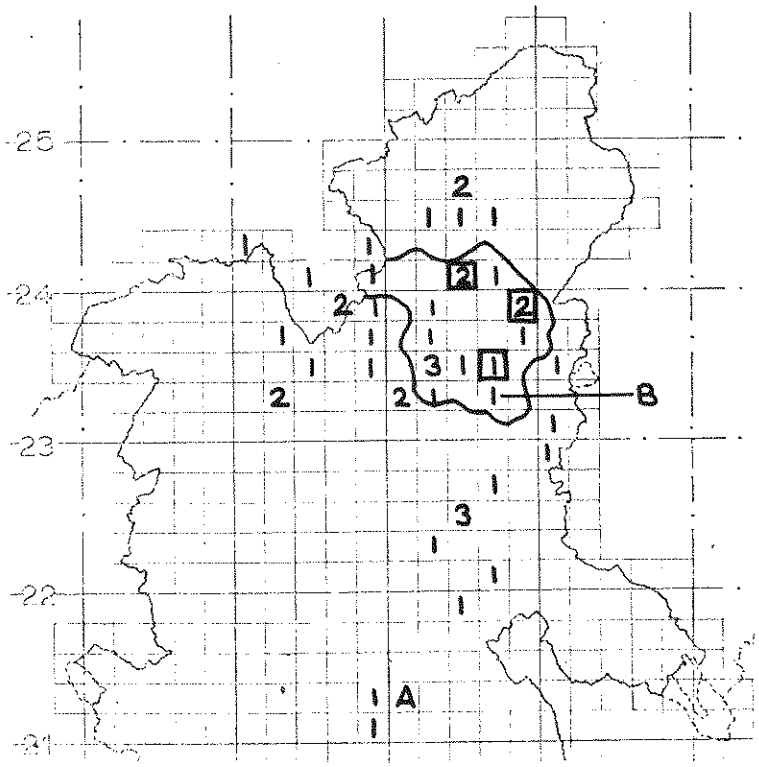
It has been arranged that a survey will be conducted over a period, in which faecal samples from each badger set within the designated area of Milton Keynes will be analysed. If the results are negative (ie, if no TB bacteria are found) the area will be considered to be free of TB for a period of one year. The survey can be repeated if necessary.

BADGERS IN MILTON KEYNES

The following table shows the position regarding badger sets in the designated area of Milton Keynes for the five years from October 1969 to October 1974.

Number of sets located	Year	Sets lost through development
3	1969	
5	1970	
1	1972	3
3	1973	2
3	1974	
15		5

In January 1975 there were ten sets in the designated area of the new city. Of these, five were active and five were non-active at that date. Of the five non-active sets, four were active up until July 1974.



MAP OF NORTH BUCKINGHAMSHIRE

Number of badger sets known in each 2 Km^2 January 1970 to December 1974

Designated area of Milton Keynes

Sets lost 1972 - 1974

B Bletchley

A Aylesbury

NORTH BUCKS BIRD REPORT 1974

COMPILED BY C EMARY

I should like to thank the following people for supplying records for this report: R Arnold; G Balkwill; R M Mandale; J Mander; H Mayer Gross; N Scarfe; N Stone.

GREAT CRESTED GREBE (Podiceps cristatus) Resident, breeding species

All Count Tables treat the winter 1973-74 as a whole

	SEPT	OCT	NOV	DEC	JAN	FEB	MAR
Calvert Gravel Pit	0	7	4	5	4	8	8
Foxcote Reservoir	8	8	26	7	2	16	24
Hyde Lane Gravel Pit	7	7	0	1	4	5	5
Linford Gravel Pit	16	22	15	0	9	27	25

Other Notes: Breeding recorded at Mount Farm, Bletchley, two young seen 18 May; Calvert Gravel Pit, five young (one pair with three young); Hyde Lane Gravel Pit, Newport Pagnell Gravel Pit and Blue Lagoon, Bletchley. Two birds were noted at Willen Balancing Lake on 20 October.

BLACK NECKED GREBE (Podicops nigricollis) A single bird at Foxcote Reservoir between 25 August and 14 September.

LITTLE GREBE (Tachybaptus ruficollis)

Counts

	SEPT	OCT	NOV	DEC	JAN	FEB	MAR
Calvert Gravel Pit	0	1	1	0	0	1	0
Hyde Lane Gravel Pit	0	0	0	0	0	3	0
Linford Gravel Pit	6	16	0	0	0	0	1

Other Notes: Breeding was only proved at Calvert Gravel Pit where two young were noted. Breeding was suspected at Linford Gravel Pit and New Foundout, Bletchley. Two birds were seen building a nest at Great Brickhill. Birds were also recorded at Foxcote, River Ouse between Padbury and Buckingham. Two at Mount Farm, Bletchley 6 September.

CORMORANT (Phalacrocorex carbo) Occasionally seen in North Bucks. Calvert Gravel Pit, one on 12 October and one on 8 December; Foxcote Reservoir, one on 28 April, two on 3 May and 4 May, thirteen on 18 August and one on 29 December.

SHAG (Phalacrocorex aristotelis) One was found in Buckingham on 9 September in an exhausted state. The bird was looked after by a local naturalist and released on 12 September.

GREY HERON (Ardea cinerea) Recorded in all months. Nine at Bletchley Sewage Farm on 29 August. Thirteen on 25 August increasing to sixteen on 26 August at Mount Farm, Bletchley.

MALLARD (Anas platyrhynchos) Common winter visitor and breeding species

	Counts						
	SEPT	OCT	NOV	DEC	JAN	FEB	MAR
Calvert Gravel Pit	268	77	15	60	73	84	0
Foxcote Reservoir	1040+	1240	1020+	255	68	67	17
Hyde Lane Gravel Pit	2	0	0	8	2	0	8
Linford Gravel Pit	574	230	719	314	367	262	55

Other Notes: Breeding was noted at Foxcote Reservoir where a female was noted with eight young on 23 April. Linford Gravel Pit, Hyde Lane Gravel Pit; Blue Lagoon, Bletchley: one nest was found at Calvert Gravel Pit with ten eggs, but this was predated. A maximum of 563 were recorded at Willen Balancing Lake on 27 October.

TEAL (Anas crecca) A winter visitor

	Counts						
	SEPT	OCT	NOV	DEC	JAN	FEB	MAR
Foxcote Reservoir	34	0	0	0	0	0	0
Linford Gravel Pit	1	6	5	43	5	11	0

Other Notes: Bletchley Sewage Farm, 87 on 6 January and 130 on 14 December. Willen Balancing Lake, a maximum of 180 on 14 November.

GARGANEY (Anas querquedula) Only two records received, a male and female at Linford Gravel Pit on 30 and 31 of March and two at Calvert Gravel Pit on 28 July.

GADWALL (Anas strepera) Recorded at Foxcote Reservoir, Willen Balancing Lake, Hyde Lane Gravel Pit, and Linford Gravel Pit with sightings in January, February, September and October.

WIGEON (Anas penelope) Winter visitor to the area

	Counts						
	SEPT	OCT	NOV	DEC	JAN	FEB	MAR
Foxcote Reservoir	2	0	150	38	0	17	0
Linford Gravel Pit	0	0	47	301	152	600+	180

Other Notes: Birds were also recorded at Hyde Lane Gravel Pit; Calvert Gravel Pit, where a maximum of 260 was recorded on 4 December; Willen Balancing Lake had a maximum of 100 on 10 November. A late record of a male at Foxcote Reservoir was received.

PINTAIL (Anas acuta) A winter visitor in small numbers. Birds were recorded at Willen Balancing Lake with a maximum of 6 on 14 November; Foxcote Reservoir and Calvert Gravel Pit with a maximum of 40 on 29 December.

SHOVELER (Anas clypeata) Although recorded in all months of the year, this species is mainly recorded in any number during the winter months.

	Counts						
	SEPT	OCT	NOV	DEC	JAN	FEB	MAR
Foxcote Reservoir	15	19	95+	39	21	13	8
Linford Gravel Pit	0	0	0	2	0	0	0

Other Notes: Willen Balancing Lake had a maximum count of 25 on 10 November. Birds have also been recorded at Hyde Lane Gravel Pit and Calvert Gravel Pit.

SCAUP (Aythya marila) Only two records. A female at Foxcote Reservoir on 14 and

15 October, and a male at Willen Balancing Lake on 5 December.

TUFTED DUCK (Aythya fuligula) Resident, breeding species and winter visitor.

	Counts						
	SEPT	OCT	NOV	DEC	JAN	FEB	MAR
Calvert Gravel Pit	29	46	24	35	38	23	17
Foxcote Reservoir	59	25	28	31	107	155	40
Hyde Lane Gravel Pit	65	64	143	139	27	24	61
Linford Gravel Pit	93	199	135	152	124	170	63

Other Notes: Breeding was noted at Foxcote Reservoir, Linford Gravel Pit, Newport Pagnell and suspected at Blue Lagoon, Bletchley. Willen Balancing Lake had 58 on 30 October, Mount Farm, Bletchley had 17 on 19 October.

POCHARD (Aythya ferina) Mainly a winter visitor, but records for all months of the year.

	Counts						
	SEPT	OCT	NOV	DEC	JAN	FEB	MAR
Calvert Gravel Pit	3	14	30	52	44	21	1
Foxcote Reservoir	20	23	42	66	63	71	12
Hyde Lane Gravel Pit	0	9	17	9	3	0	3
Linford Gravel Pit	8	97	54	56	88	66	5

Other Notes: Willen Balancing Lake had eight on 15 December; Mount Farm, Bletchley had 45 on 4 November.

GOLDENEYE (Bucephala clangula) A winter visitor in small numbers. Counts of interest were Foxcote Reservoir with two males and one brownhead on 7 March and one brownhead on 19 April. Linford Gravel Pit had one male and five brownheads on 10 March, three males and three brownheads on 24 March, two males and five brownheads on 21 April. Calvert Gravel Pit had one male and one female on 9 and 10 March. Willen Balancing Lake had one male and one brownhead on 24 November. Hyde Lane Gravel Pit had two brownheads during most of February.

COMMON SCOTER (Melanitta nigra) Foxcote Reservoir had two males and one female on 17 April.

GOOSANDER (Mergus merganser) Regular winter visitor in small numbers. Counts of interest were Hyde Lane Gravel Pit with four on February; Calvert Gravel Pit with three on 20 January; Foxcote Reservoir with four on 27 January and six on 20 March. The latest record was of a single bird at Linford Gravel Pit on 15 April. The first recorded bird of the 1974/75 winter was at Foxcote on 15 December.

SHELDUCK (Tadorna tadorna) Records of single birds from Calvert Gravel Pit, Foxcote Reservoir and Linford Gravel Pit. Five at Foxcote Reservoir on 22 February. Willen Balancing Lake had two birds on 22 September, increasing to eight birds between 11 and 15 November and decreasing to a single bird on 24 November.

CANADA GOOSE (Branta canadensis) Resident, breeding species.

MUTE SWAN (Cygnas olor) Resident, breeding species.

	Counts						
	SEPT	OCT	NOV	DEC	JAN	FEB	MAR
Foxcote Reservoir	2	1	0	0	1	1	1
Hyde Lane Gravel Pit	1	3	0	0	0	0	0
Linford Gravel Pit	10	7	3	6	8	11	10

Other Notes: Mount Farm had twenty birds on 19 October including five juveniles. A family party containing nine juveniles was noted on the river at Newport Pagnell.

WHOOPER SWAN (Cygnus cygnus) Rare winter visitor. Three arrived on the River Ouse near Hyde Lane Gravel Pit on 24 November and then moved to Deanshanger on 8 and 9 December, but returned to Hyde Lane and remained until early 1975. Ten birds were noted at Willen Balancing Lake on 22 December.

BEWICK'S SWAN (Cygnus Berwickii) Winter visitor. Linford Gravel Pit had two adults and three juveniles on 13 January. Foxcote reservoir had 27 on 4 March and fourteen on 30 March. A large flock of 46 birds, including two juveniles, flew into Willen Balancing Lake on 30 October. Four at Foxcote Reservoir in November and one at the same place in December were the only records.

BUZZARD (Buteo spp) One circling very high and moving eastwards over Old Wolverton on 14 July.

OSPREY (Pandion haliaetus) One on autumn passage at Calvert Gravel Pit on 22 September.

KESTREL (Falco naumanni) Resident.

WATER RAIL (Rallus aquaticus) Heard at Newport Pagnell in November and December. A single bird was seen at Calvert Gravel Pit on 4 November. One at Great Brickhill on 14 December.

MOORHEN (Gallinula chloropus) Resident, breeding species. 130+ at Bletchley Sewage Farm on 10 March.

COOT (Fulica atra) Resident, breeding species.

	Counts (NC = no counts)						
	SEPT	OCT	NOV	DEC	JAN	FEB	MAR
Calvert Gravel Pit	196	118	103	95	95	45	NC
Foxcote Reservoir	NC	NC	NC	NC	37	NC	NC
Linford Gravel Pit	NC	NC	204	NC	270	240	NC
Hyde Lane Gravel Pit	NC	NC	NC	NC	82	17	NC

Other Notes: Mount Farm, Bletchley had 46 on 4 November.

LAPWING (Vanellus vanellus) Resident, breeding species and winter visitor. Large flocks were noted at Linford ; 400+ on 17 February; Hyde Lane 3000 (estimated) on 26 December; Buckingham 1000+ on 28 December; Marsh Gibbon 3 to 4000 on 29 December.

Ringing Recovery			
Ring No	Age	Date	Place
DA 03649	pullus	13-6-73	Linford Gravel Pit
	'Taken'	10-2-74	Sidi Smail, El Jadida, Morocco

RINGED PLOVER (Charadrius hiaticula) Attempted to breed at one site in North Bucks. Birds were recorded at Bletchley Sewage Farm with one on 7 April and one on 11 to 29 August. Willen Balancing Lake had one on 17 October and one on 5 December.

LITTLE RINGED PLOVER (Charadrius dubius) First record was of one at Linford Gravel Pit on 30 March where numbers built up to twelve in May and June. Although nesting was noted, no young birds were seen. Foxcote Reservoir had one on 30 April and one on 7 May; Bletchley Sewage Farm had two on 12 May, five on 11 August, two on 15 August and one only on 22 August.

GREY PLOVER (Pluvialis squatarola) One at Linford Gravel Pit on 16 May.

GOLDEN PLOVER (Pluvialis apricaria) One at Great Horwood on 31 January; one at Willen Balancing Lake on 5 December and 108 at Marsh Gibbon on 29 December.

TURNSTONE (Arenaria interpres) One at Linford Gravel Pit on 16 April.

COMMON SNIPE (Gallinago gallinago) Recorded at Linford Gravel Pit; Newport Pagnell Gravel Pit, where twelve were noted on 20 January. Bletchley Sewage Farm where twenty-one were present on 14 April and a maximum of 35+ on 29 August; Willen Balancing Lake with two on 13 October; Calvert Gravel Pit had a maximum of nine on 24 October; Foxcote Reservoir and Hyde Lane Gravel Pit.

JACK SNIPE (Lymnocryptes minimus) This species was only recorded at Bletchley Sewage Farm.

WOODCOCK (Scolopax rusticola) Records from Linford Gravel Pit, Howe Park Wood, Bletchley, Bow Brickhill and Great Brickhill.

CURLEW (Numenius arquata) Sightings at Foxcote Reservoir with a maximum of five on 20 March. Hyde Lane Gravel Pit had two on 30 April and one was seen flying over Linford Gravel Pit on 6 May.

BAR TAILED GODWIT (Limosa lapponica) A single bird at Foxcote Reservoir on 30 April.

GREEN SANDPIPER (Tringa ochropus) Wintering birds were noted at Bletchley Sewage Farm and Linford Gravel Pit. Passage birds were recorded at Foxcote Reservoir in April; Linford Gravel Pit from June to September and Bletchley Sewage Farm from July to August with counts of three on 25 July and ten between 11 and 15 August and five on 25 August.

WOOD SANDPIPER (Tringa glareola) A single bird on autumn passage at Bletchley Sewage Farm on 11 August.

COMMON SANDPIPER (Tringa hypoleucos) Passage migrant. Spring records start with a single bird at Hyde Lane Gravel Pit on 22 March. A maximum of three at Foxcote Reservoir on 3 May; one at Mount Farm on 30 April; a single bird at Linford Gravel Pit between 28 April and 12 May. Autumn passage birds were noted from 29 June with a single bird at Foxcote Reservoir. Maximum counts were Bletchley Sewage Farm with five on 25 August; Foxcote Reservoir with four on 18 August; Linford Gravel Pit with four on 8 August. The last report was of a single bird at Linford Gravel Pit on 29 September.

REDSHANK (Tringa totanus) Wintering birds were noted at Buckingham, Foxcote Reservoir, Bletchley Sewage Farm and Linford Gravel Pit. Breeding was only recorded at Linford Gravel Pit. Two birds at Bletchley Sewage Farm on 25 July was the only record of autumn passage. Willen Balancing Lake had two on 5 December.

SPOTTED REDSHANK (Tringa erythropus) Spring passage - a single bird was noted at Linford Gravel Pit on 16 April, 28 April and 9 May. Bletchley Sewage Farm had one bird on 7 April. Autumn passage - a single bird was reported at Bletchley Sewage Farm on 26 August.

GREENSHANK (Tringa nebularia) Spring passage - Linford Gravel Pit had one on 30 April. Autumn passage - Willen Balancing Lake, one was heard on 15 September. Bletchley Sewage Farm had three on 15 August, four on 20 August rising to eight on 15 September.

DUNLIN (Calidris alpina) Single birds were recorded at Foxcote on 9 May, 20 July and 20 September. Bletchley Sewage Farm had one from 10 to 17 March and one on 7 April with two on 14 April. Three were seen on 15 August and 22 September. Linford Gravel Pit had one on 15 April rising to three on 21 April and two on 9 May rising to three on 12 May, with a single bird on 27 June. Willen Balancing Lake had a first recording of a flock of fourteen noted on 19 September, by the end of the year over thirty birds were present.

RUFF (Philomachus pugnax) Spring passage - Single birds were recorded on 31 March and 15 April. On 26 April, three birds were noted, one with a black ruff, one a chestnut ruff and one with a whitish ruff. The bird with the black ruff was still present on 2 May and the white ruff bird still present on 6 May. Autumn passage was recorded at Bletchley Sewage Farm with two on 8 August, three+ on 15 August, six+ on 20 August, five on 26 August, three on 29 August, one on 8 September, two on 21 September. A single bird was present at Willen Balancing Lake from 13 October to 27 October.

GULLS (Laridae spp) Roosts were noted at Calvert Gravel Pit, Foxcote Reservoir, Linford Gravel Pit and Willen Balancing Lake where 6000+ were seen, of which 1000+ were Herring, Lesser Black Backed and Great Black Backed and 5000+ were Black Headed Gulls. Two Herring Gulls seen at Calvert Gravel Pit on 7 February had been marked with a yellow dye by the Ministry of Agriculture at Worplesdon, Surrey.

LITTLE GULL (Larus minutus) Calvert Gravel Pit had two on 19 April and a single bird on 28 April. Foxcote Reservoir had single birds on 3 May, 9 May and 24 August. Bletchley Sewage Farm had single birds on 1 July and 22 September.

BLACK TERN (Chlidonias niger) Spring passage - birds were noted at Hyde Lane with a maximum of two on 4 May. Foxcote Reservoir had a maximum of fifteen on 17 May. Linford Gravel Pit had a maximum of five on 9 May. Calvert Gravel Pit had a maximum of two on 4 May. Three birds were seen at Foxcote Reservoir on 14 June. Autumn passage - birds were noted from 8 August. A large influx was noted on 15 September with counts of 76 at Calvert Gravel Pit, 17 at Hyde Lane Gravel Pit, 21 at Foxcote Reservoir and 17 at Linford Gravel Pit. Records were also received from Newport Pagnell of two on 31 August and from Mount Farm of two from 27 to 30 September.

COMMON/ARCTIC TERN (Sterna hirundo, Sterna paradisaea) The spring passage commenced with a single bird at Foxcote Reservoir on 16 April. Large numbers of birds passed

through Foxcote during April and May with highest counts being twenty on 19 April, 62 on 27 April, 53 on 3 May and thirty on 7 May. Records were also received from Calvert Gravel Pit with a maximum of fifteen on 4 May. Linford Gravel Pit had three on 28 April; Mount Farm had one on 28 April; Hyde Lane Gravel Pit had a maximum of eight on 4 May. Autumn passage birds were recorded at Foxcote Reservoir, Hyde Lane Gravel Pit, Calvert Gravel Pit, the last being noted on 16 September.

SANDWICH TERN (Sterna sandvicensis) Two at Calvert Gravel Pit on 7 July.

CUCKOO (Cuculus canoris) Summer visitor. First recorded at Akeley on 12 April, then one at Foxcote on 19 April. Three watched flying low over grass and scrub as if searching for nests at Linford Gravel Pit in the early summer. Breeding only recorded at Newport Pagnell.

BARN OWL (Tyto alba) Four records only. Bletchley - one on 20 January. One between Padbury and Buckingham 1 March. One seen in September and October on A5 near Fenny Stratford.

LITTLE OWL (Athene noctua) Only two reported sightings. One on telephone wires at Hillesden on 2 July. One at Foxcote on 3 July.

TAWNY OWL (Strix aluco) Regularly heard and seen at Whalley Drive, Bletchley. One at Foxcote on 6 August. One mobbed by Corvidae at Mount Farm on 2 December. Howe Park Wood had one on 19 December.

SHORT-EARED OWL (Asic flammeus) A single bird being mobbed by Corvidae and starlings at Calvert Gravel Pit on 10 November.

SWIFT (Apus apus) First at Foxcote Reservoir on 19 April. Last at Foxcote Reservoir on 1 September.

KINGFISHER (Alcedo atthis) Breeding records from Linford Gravel Pit and Newport Pagnell Gravel Pit. Records from Mount Farm of one on 25 August; Cosgrove of two on 15 December; New Foundout, Bletchley; Calvert Gravel Pit; Hyde Lane Gravel Pit; Foxcote Reservoir.

Ringing Recovery			
Ring No	Age	Date	Place
SE 35534	pullus	7-6-73	Linford Gravel Pit
	Found dead	5-2-74	Lode, Bottisham, Cambs 65 Km ENE

GREEN WOODPECKER (Picus viridis) Sightings at Foxcote, Hyde Lane, Calvert and Howe Park Wood.

GREAT SPOTTED WOODPECKER (Dendrocopos major) Regularly heard and seen at Howe Park Wood. Two in January at Lenborough Wood, Buckingham. Also recorded at Newport Pagnell.

LESSER SPOTTED WOODPECKER (Dendrocopos minor) Records received from only two localities. Foxcote Reservoir and Wood, and a single sighting of one at Newport Pagnell on 20 June.

SWALLOW (Hirundo rustica) Common summer visitor. The first sighting was at Foxcote Reservoir on 28 March. Last records - one at Wing on 12 October and two at

Simpson on the same date.

HOUSE MARTIN (Delichon urbica) Common summer visitor. The first sighting was of a single bird at Foxcote Reservoir on 19 April and the last at Maids Moreton on 13 October.

SAND MARTIN (Riparia riparia) Common summer visitor. Earliest record - one at Hyde Lane Gravel Pit and one at Foxcote Reservoir on 12 April. The only reported nesting site was a small colony at Linford Gravel Pit.

CARRION CROW (Corvus corone corone) Common breeding species.

Ringing Recovery			
Ring No	Age	Date	Place
FS 09775	pullus	14-6-70	Whaddon Park
	shot	9-3-74	Thornton, 5Km west

FIELDFARE (Turdus pilaris) Common winter visitor. Last date was a small flock at Foxcote on 2 May. The first was seen near Hyde Lane Gravel Pit on 3 October. A large flock of 400+ was observed at Linford on 10 November.

REDWING (Turdus iliacus) Common winter visitor. The first autumn records were one at Newport Pagnell on 3 October and a flock of 40+ over Calvert Gravel Pit on the same day.

WHEATEAR (Oenanthe oenanthe) Spring records commenced with a single bird at Foxcote on 20 March. Two were also present in the later part of April. A single record of a bird at Linford Gravel Pit on 20 June. Autumn passage birds were recorded at Foxcote on 11 July, two were also present on 18 August.

STONECHAT (Saxicola torquata) Single birds were recorded at Hyde Lane on 7 March; Foxcote on 25 March; Willen Balancing Lake had a male from 13 to 17 October. Bletchley Seweage Farm had two males and a female on 17 October. A male and female were also recorded at Linford Gravel Pit on 10 November.

WHINCHAT (Saxicola rubetra) Bletchley Sewage Farm had one September record. A female at Willen on 13 October. These were the only sightings.

COMMON REDSTART (Phoenicurus phoenicurus) Only two records received. A male at Linford Gravel Pit on 27 June and a bird heard at Whaddon on 16 September.

GRASSHOPPER WARBLER (Locustella naevia) A single bird at Calvert Gravel Pit on 30 April and 13 May reeling.

REED WARBLER (Acrocephalus scirpaceus) Summer visitor and breeding species. Breeding records from Hyde Lane Gravel Pit, Newport Pagnell Gravel Pit, Linford Gravel Pit and the Grand Union Canal.

Ringing Recovery			
Ring No	Age	Date	Place
JX 61287	pullus	17-8-74	Newport Pagnell Gravel Pit
	controlled	21-9-74	Linford Gravel Pit 4 Km SW

SEDGE WARBLER (Acrocephalus schoenobaenus) Summer visitor and breeding species. First record - one at Hyde Lane Gravel Pit on 19 April. Breeding records from Newport Pagnell Gravel Pit and Hyde Lane Gravel Pit.

BLACKCAP (Sylvia atricapilla) Common summer migrant and breeding species. A male was seen at Howe Park Wood, Bletchley on 23 January.

GARDEN WARBLER (Sylvia borin) Only one record received of a single bird at Calvert Gravel Pit on 19 September.

COMMON WHITETHROAT (Sylvia communis) Summer visitor. Earliest record was a single bird at Bletchley Sewage Farm on 14 April. Small numbers were present along the Grand Union Canal. Last recorded at Calvert Gravel Pit on 12 September.

LESSER WHITETHROAT (Sylvia curruca) Summer visitor. Records from Newport Pagnell Gravel Pit and Calvert Gravel Pit.

WILLOW WARBLER (Phylloscopus trochilus) Common summer visitor. First record - one singing at Hyde Lane on 28 March. One at Foxcote Reservoir on 5 April.

CHIFFCHAFF (Phylloscopus collybita) Common summer visitor. First record - Hyde Lane on 23 March. Also early records from Foxcote Reservoir of one on 4 April and Great Brickhill with one on 7 April. Last records - one at Buckingham on 1 October. Two at Calvert Gravel Pit on 3 October.

GOLDCREST (Regulus regulus) Present throughout the year.

SPOTTED FLYCATCHER (Muscicapa striata) Summer visitor. Only one breeding record received which was from Newport Pagnell Gravel Pit. Last record - one at Thornborough on 14 September.

PIED FLYCATCHER (Ficedula hypoleuca) A male was observed at Howe Park Wood, Bletchley on 23 April.

DUNNOCK (Prunella modularis) Very common resident.

MEADOW PIPIT (Anthus pratensis) Recorded in all months. Willen Balancing Lake had 80+ on 6 October.

PIED WAGTAIL (Motacilla alba) Common breeding species. 50+ to roost at Newport Pagnell Gravel Pit on 29 September.

Ringing Recovery			
Ring No	Age	Date	Place
JR 48255	pullus	20-5-73	Linford Gravel Pit
	controlled at roost	30-7-74	Grimsbury Reservoir Banbury, Oxon 38 Km west

GREY WAGTAIL (Motacilla cinerea) Winter visitor in small numbers.

YELLOW WAGTAIL (Motacilla flava) Summer visitor and passage migrant. The first reported was at Foxcote Reservoir on 9 April, increasing to six on 10 April. Young seen at Newport Pagnell. Last report was at Calvert Gravel Pit on 13 October.

STARLING (Sturnus vulgaris) Very common resident. A large roost at Shenley Wood was estimated to have approximately 10,000 birds.

SISKIN (Carduelis spinus) Winter visitor. Records only from the Brickhill area.

LINNET (Acanthis cannabina) Common resident. 100+ at Bletchley Sewage Farm on 17 October.

REDPOLL (Acanthis flammea) Resident and winter visitor. Small flocks recorded in the Brickhills. Records also received from Newport Pagnell, Hyde Lane and Calvert.

BRAMBLING (Fringilla montifringilla) Winter visitor Only one record, a male at Linford Gravel Pit on 28 February. Absent from the usual Buckingham site because of tree-felling.

CORN BUNTING (Emberiza calandra) Various records from Foxcote Reservoir, Hyde Lane and Willen Balancing Lake. Three at Tingewick on 3 February. Winter roost at Newport Pagnell Gravel Pit of 50+.

ESCAPES Flamingo, Snow Goose, and Ruddy Duck all at Foxcote Reservoir. An Ibis (Sacred) at Calvert Gravel Pit.

Other species recorded in the North Bucks area during the year were:

Red-legged partridge; partridge, pheasant; common gull; stock dove; collared dove; skylark; rook; jackdaw; magpie; jay; great tit; blue tit; coal tit; marsh tit; willow tit; long-tailed tit; nuthatch; treecreeper; wren; mistle thrush; song thrush; blackbird; robin; greenfinch; goldfinch; bullfinch; chaffinch; yellowhammer; reed bunting; house sparrow and tree sparrow.

In the tables, the winter of 1973-74 is treated as a whole. Count dates were as follows:

16 September; 14 October; 18 November; 16 December; 13 January; 17 February; 17 March. No counts are indicated by NC.

The order followed in the systematic list is that of:

A Species List of British and Irish Birds (BTO Guide Number 13, published in 1971).

o - O - o o - O - o o - O -

SHENLEY WOOD

M TOWNS - J COUSINS - S TOWNS

Introduction

Shenley Wood is situated in the designated area of Milton Keynes, west of the A5 in the vicinity of the villages of Shenley Brook End and Shenley Church End. The wood is approximately 60 acres in extent and lies on chalkey boulder clay similar to that of neighbouring Howe Park Wood. Formerly a deciduous wood, it is now managed under a Forestry Commission Dedication Scheme, and a considerable acreage of conifer has been planted. However, there has been no formal management of the conifer crop and it has, for the most part, been swamped by a rampant growth of deciduous trees and shrubs. A belt of deciduous woodland of varied age and composition has been retained along the western and northern edge.

The pathway system in the wood has dissected it into a number of regular compartments which has simplified the planning of the survey. Numbered stakes have been sited at all junction points as an aid to location for those unfamiliar with the wood. In an

attempt to impart a sense of familiarity with the woodland, we decided to name the compartments and pathways, rather than use a numerical or alphabetical system. There are still some names to be assigned and we hope that they will be retained when the Development Corporation eventually purchase the wood for recreational purposes.

Aims and Methods of the Survey

(i) A vegetational analysis of the woodland linked, where possible, with details of past management;

(ii) a common bird census of the woodland, comparing in particular the original deciduous woodland with the conifer/deciduous thickets;

(iii) random sampling of some invertebrate groups.

This paper gives some preliminary details of the vegetational analysis undertaken so far:

After initial reconnaisance and staking, the survey commenced in the summer of 1974 and two compartments, Merle Wood and Two Bird Wood were surveyed before the winter season.

A 'quartering' method was used in Merle Wood to yield data on spatial distribution of trees and shrubs, and the heights and girths of trees were also noted. In Two Bird Wood, line transects were employed for tree and shrub analysis and heights of all trees and bushes were recorded. The girths of trees over 30 feet in height were were also noted.

In quartering, a compass bearing is taken through the wood and at intervals along the line (in this case 50 feet) , further bearings along four points of the compass are taken and the distance to the first tree on each bearing recorded.

With line transects, a tape is laid along a compass bearing and each shrub touching the tape, or within 6 feet of the right-hand side of the tape, is recorded.

Merle Wood

This compartment is a mature stand of oakwood (Quercus robur) with some ash (Fraxinus excelsior) and maple (Acer campestre), with elder (Sambucus nigra), hawthorn (Cratageus monogyna) and hazel (Corylus avellana) understorey. It appears to have suffered considerable disturbance, and several trees at the edge of the wood in close proximity to modern farm buildings are dead. In the past, chickens were kept in pens under the trees nearest the farm (Stag Lodge) and an old pen still remains. The woodland floor here is bare of shrubs and has a poor herb layer, mostly of nettle (Urtica dioeca). Elsewhere the shrub layer is denser and the herb layer contains species such as hedge woundwort (Stachys sylvatica) and blue-bell (Endymion non-scriptus).

Merle Wood was probably planted by a previous land-owner and the presence of dead and fallen pines amongst the oak would seem to confirm this. There were very few seedlings or saplings, and Figure 1 shows the heights and girths of the sampled trees. The largest tree was a magnificent ash, near the edge of the wood, 90 feet tall and with a girth of almost 9 feet.

Two Bird Wood

Five transect lines were laid through Two Bird Wood on a north/south bearing at

intervals of 100 feet. The diagrams (Figure 3) show the spatial distribution and density of some individual species. This compartment is clearly separated into at least two distinct vegetational types, probably related to managment and illustrated by the northern and southern distribution of oak and ash respectively. Much of the timber in this compartment was felled, particularly in the 'ash sector', and there are a number of trees which have regenerated from stumps. Examination of these stump regenerations indicates that felling took place during, or very soon after, the war of 1939-1945. In consequence, although a few large standards remain which are mostly oak, the age structure of the trees is varied and contrasts with that in Merle Wood (Figure 1). The eastern side of the ash sector appears to have been a mixed coppice of predominantly hazel and willow, but is now neglected. The diagrammatic illustration of the line transects (Figure 2) shows the greater variety, and generally lower age, of the ash sector compared to that of the oak sector. Apart from hawthorn and hazel which are ubiquitous, the dominant shrub in the oak sector is blackthorn. It forms dense thickets of both living and dead material and, in many places,there are single stems, 30 to 35 feet high.

The woodland floor varies considerably, with good variety under the coppice site to a bare leafy floor under the blackthorn. The blackthorn litter carried several plants of a helleborine species. A positive identification was not obtained because each time a stem was about to come into flower, it was eaten! Muntjac are suspected.

Conclusion

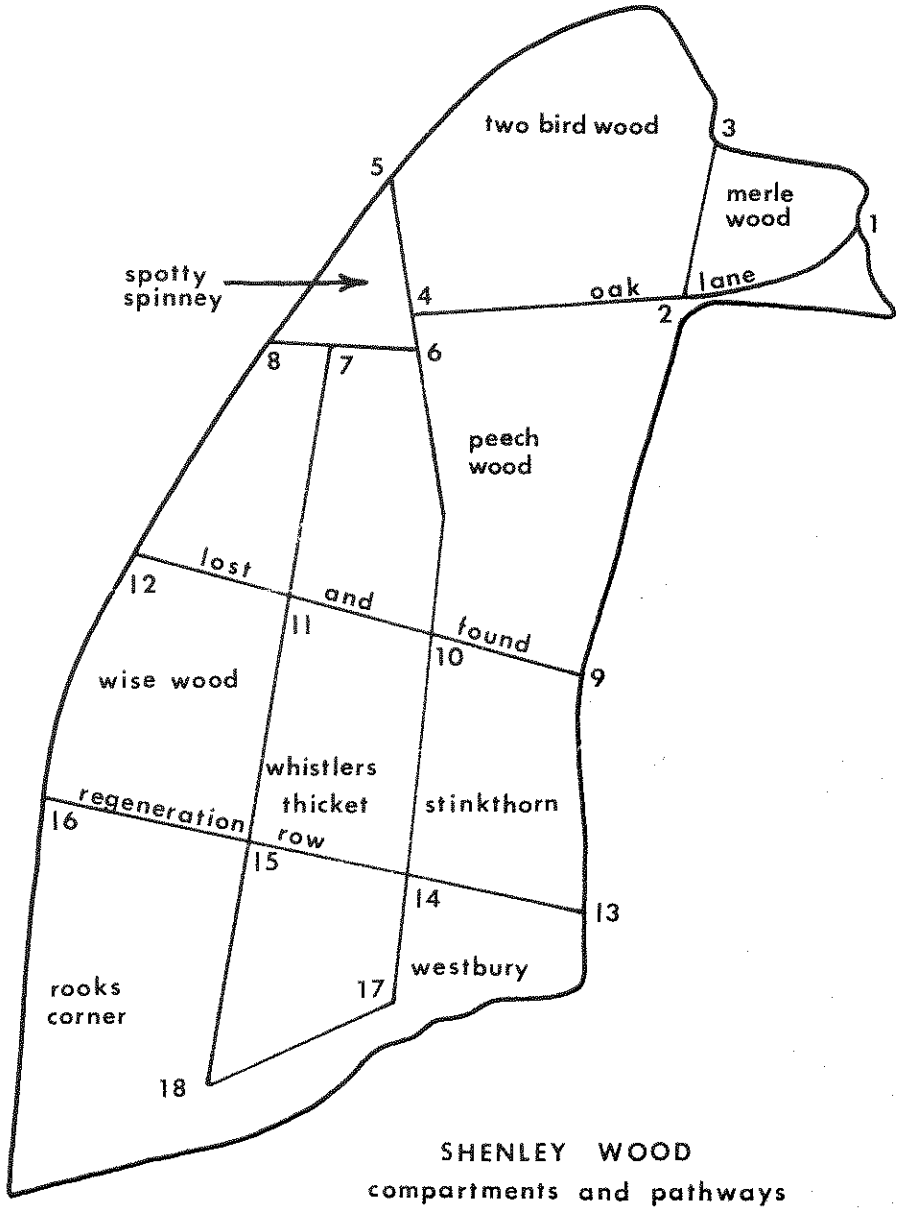
From the results so far, it seems that Shenley Wood has a great variety of habitat. It is hoped that the vegetational survey, by pinpointing these habitats, can assist in the planning of future work in the wood, particularly on invertebrates.

Acknowledgements

We would like to thank Margaret Kitchener and Mary Hine for help with the field-work and Mr Johnson for allowing us to work in the wood.

List of tree and shrub species recorded from Merle Wood

Acer campestre	Field Maple
Cratagous monogyna	Hawthorn
Corylus avellana	Hazel
Fraxinus excelsior	Ash
Quercus robur	Oak
Rubus sp	Bramble
Sambucus nigra	Elder
Viburnum opulus	Guelder Rose



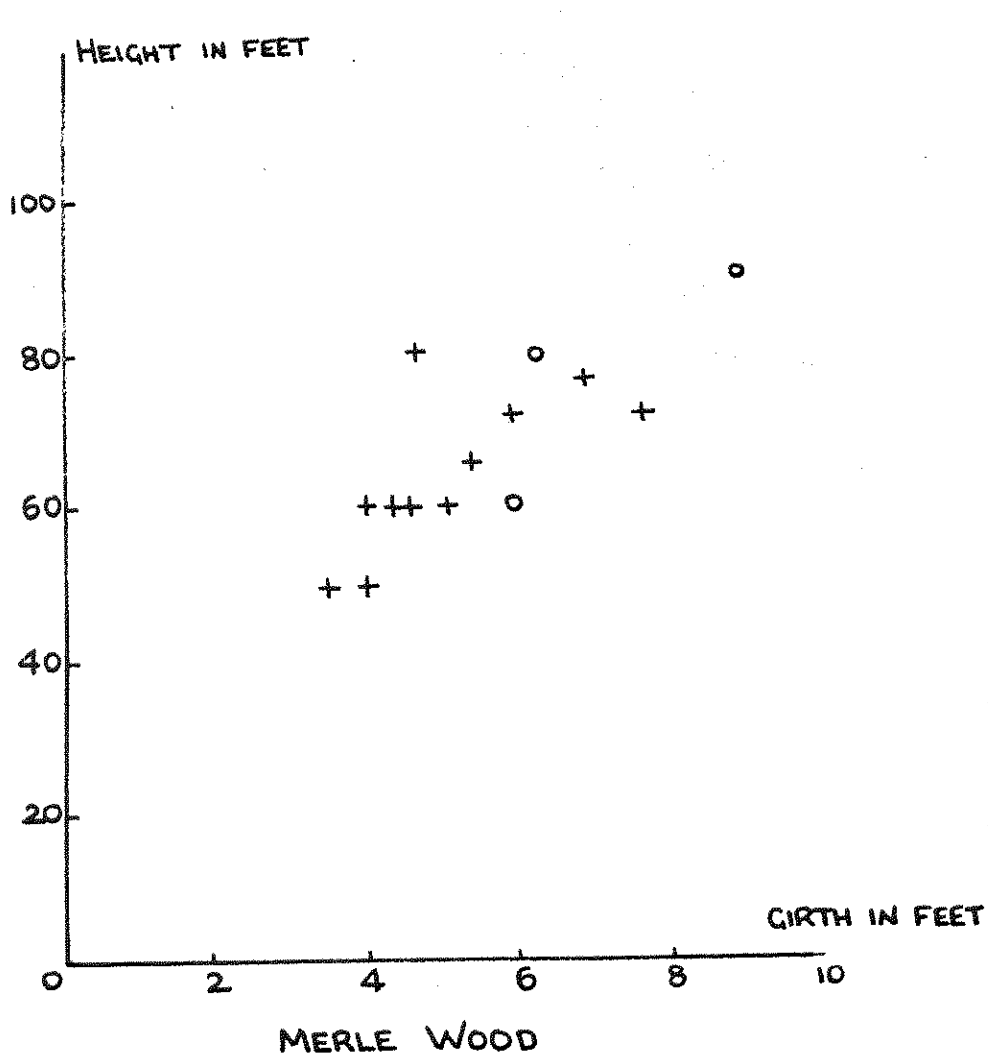
SHENLEY WOOD
compartments and pathways

List of tree and shrub species recorded from Two Bird Wood

Acer campestre	Field Maple
Crataegus monogyna	Hawthorn
Corylus avellana (c)	Hazel
Fraxinus excelsior (c)	Ash
Ligustrum vulgare	Privet
Lonicera periclymenum	Honeysuckle
Prunus spinosa	Blackthorn or Sloe
Populus tremula	Aspen
Quercus robur	Oak
Rosa canina	Dog Rose
Rubus sp	Bramble
Salix caprea (c)	Goat Willow
Salix atrocinerea (c)	Grey Willow
Sambucus nigra	Elder
Swida sanguina	Dogwood
Viburnum opulus	Guelder Rose

(c) indicates species recorded from coppice stools

FIGURE 1


HEIGHT IN FEET
100
80
60
40
20
0
2
4
6
8
10
GIRTH IN FEET
MERLE WOOD

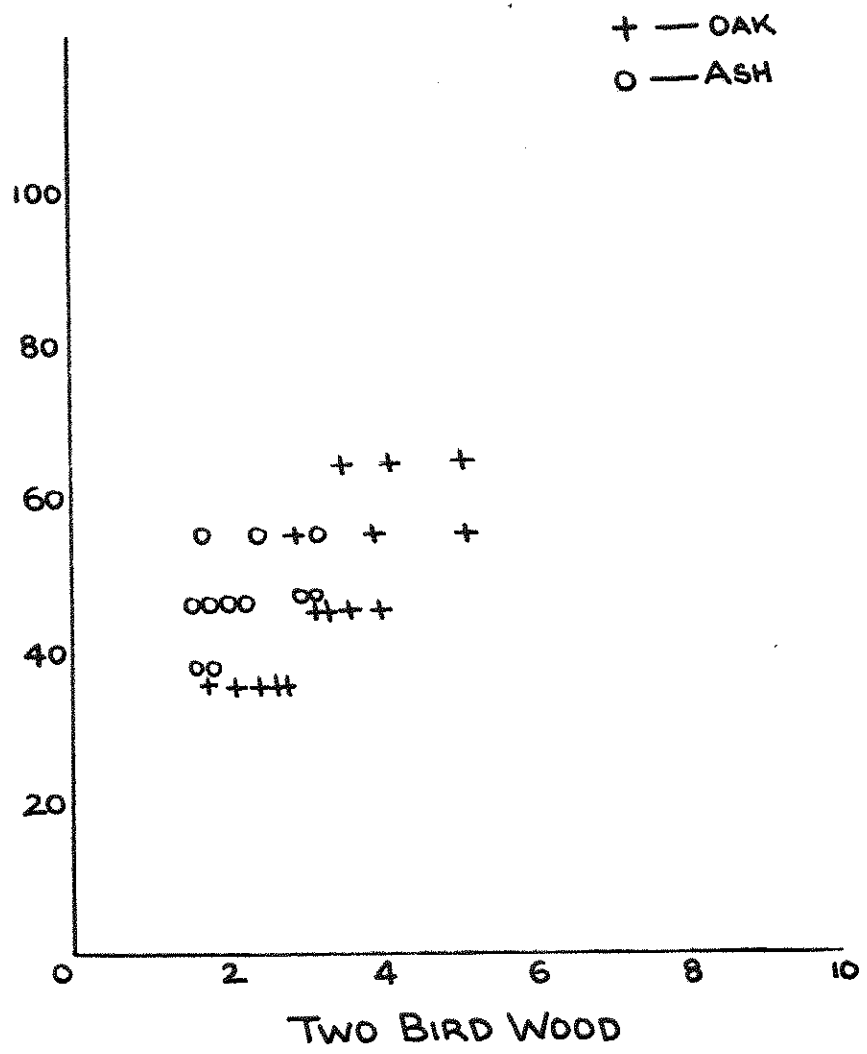
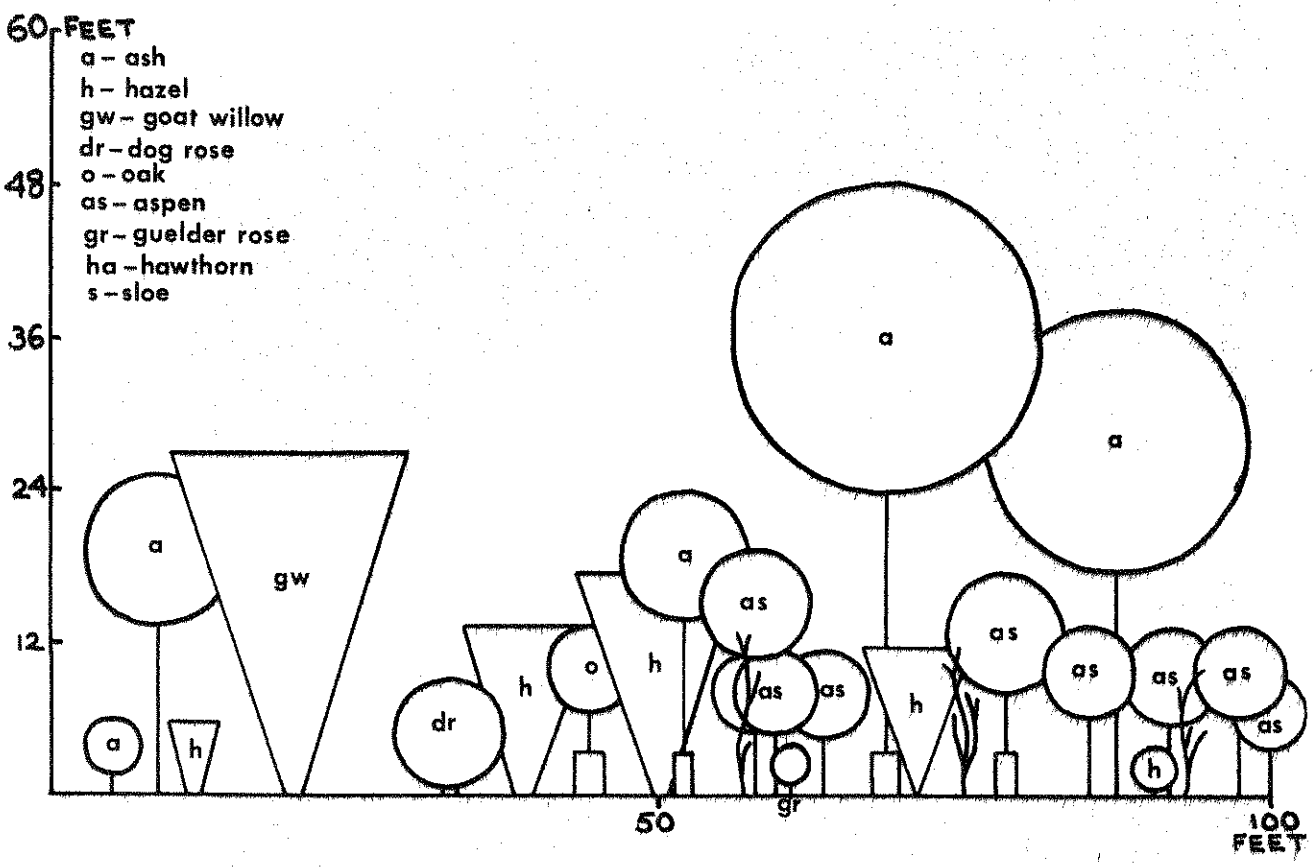

+ — OAK
o — ASH
100
80
60
40
20
0
2
4
6
8
10
TWO BIRD WOOD

Figure 2
The blocks show trees which have regenerated from stumps



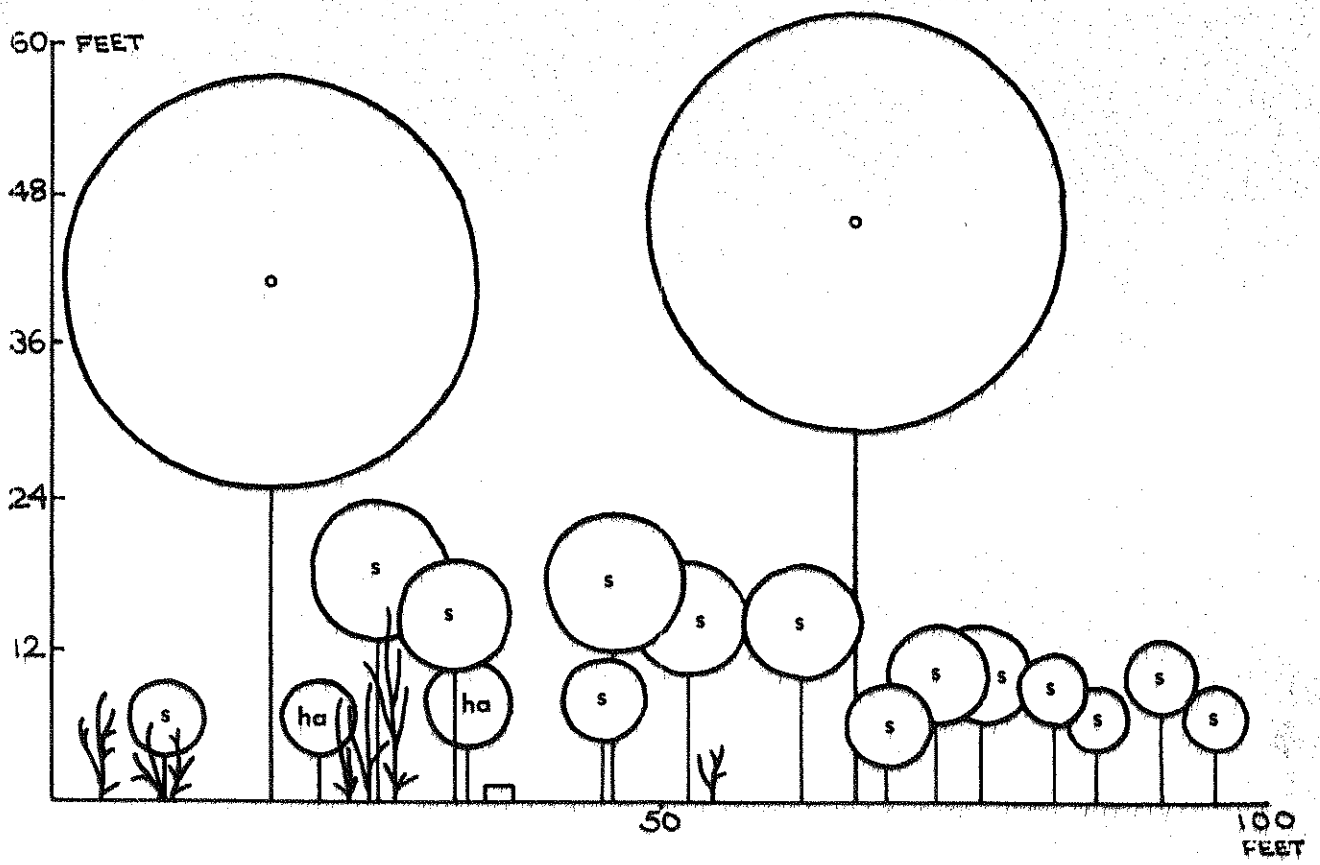
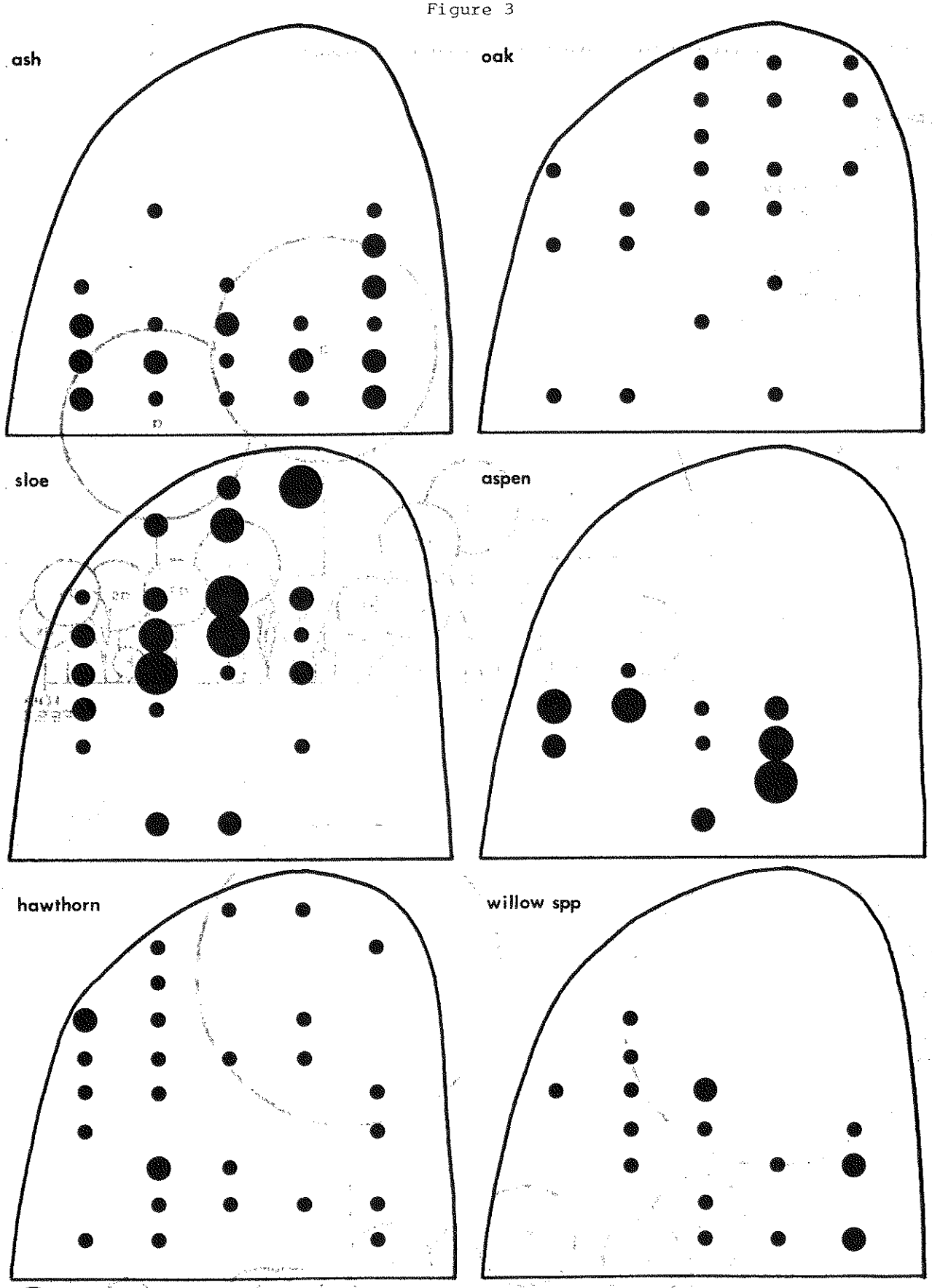


Figure 3



The diagram shows the distribution of individual species as recorded on the line transects. The dots indicate the number of plants recorded for every fifty feet of the transect. The figures include saplings but not seedlings.

Instructions for contributors

Manuscripts should be in the hands of the editor by February of each year. Typescripts would be preferable, but neat handwritten copies are acceptable. At the present time, photographs cannot be included. Diagrams should be large and clearly labelled. We shall accept papers on any natural history topic from the North Buckinghamshire area, but inclusion is at the discretion of the editor.

For further information contact:

Mr M Towns
The Editor
Milton Keynes Natural History Society
11 Jubilee Terrace
Stony Stratford
MK11 1DU

CONTENTS

The Breeding Birds of Howe Park Wood 1970-1975 — Page 1

N. Scarfe

The Plants of Howe Park Wood — Page 5

R. Maycock

Records of Mammal Population, Distribution and Activity in Howe Park Wood 1969-1974 — Page 12

B. Frewin

Wildlife Conservation — Page 18

P. Chapman

Foxcote Wildfowl Refuge 1974 — Page 23

R. Mandale

Policy for the Protection of Badgers in the Designated Area of Milton Keynes — Page 29

B. Frewin, M. Hayle, A. Burton

North Bucks Bird Report — Page 33

C. Emary

Shenley Wood — Page 42

M. Towns, J. Cousins, S. Towns