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Breeding Bird Survey 2003, Manor Farm, Wellow, Isle of Wight

Report to Terance O' Rourke

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1 Introduction

This survey of breeding birds at Manor Farm, Wellow, Isle of Wight was commissioned by Terrance O' Rourke Ltd to provide baseline information on breeding birds which can be used in undertaking an environmental impact assessment. The study site was situated in the west of the Isle of Wight, to the south of the village of Wellow. It occupies a gently undulating north sloping plateau composed of Bembridge Limestone. This is traversed by a series of streams and ditches that flow northwards to the Thorley Brook, a tributary of the River Yar. At its southern edge the land rises to approximately 70m AOD descending to around 20m AOD at Wellow. The land has a long history of arable cultivation with evidence of prehistoric crop marks evident (Margham, 1990)[1] and early Bronze Age barrow ring-ditches marking substantial early Bronze Age activity in this area (Tomalin, 1991)[2].

The survey site extends to an area of some 320 hectares. This comprises mostly open arable fields with few hedges or field boundaries. The site also contains some small areas of broadleaved and mixed woodland, the largest being Hummet Copse which extends to an area of some 1.1 ha.

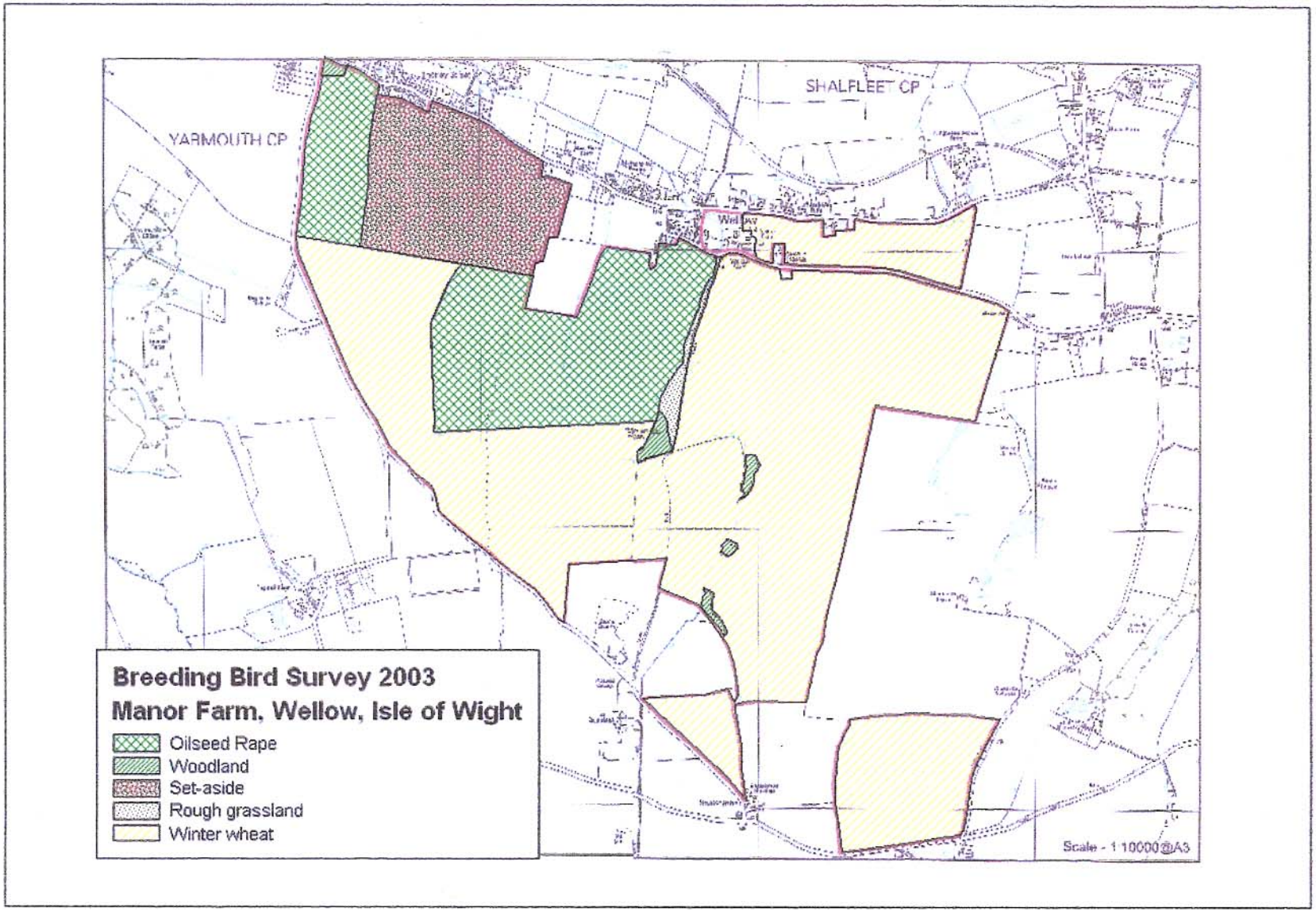
Land-use at the time of survey is shown in figure 1. This comprised the following:-

	Hectares
Winter wheat	217.4
Oil-seed Rape	63.7
Set-aside	34.5
Rough grassland	2.2
Woodland	2.8
Total	**320.6**

In addition to providing the results of the 2003 breeding bird survey, this report seeks to put the results into context by reference to other surveys and records of farmland birds on the Isle of Wight, national studies of farmland bird ecology and the current status of birds recorded in 'Birds of Conservation Concern' (RSPB, 2002)[3].

[1] Margham, J. 1990. Thorley – a parish survey. *Proc. I.W. Nat. Hist. & Arch. Soc.* Vol. 10.
[2] Tomalin, D.j. 1991. Combe-cluster barrow cemeteries in the Isle of Wight; a location prediction model. *Proc. I.W. Nat. Hist. & Arch. Soc*. Vol. 11.
[3] RSPB, 2002. The population status of birds in the UK: Birds of conservation concern: 2002–2007

Figure 1: Landuse at Manor Farm, Wellow, 2003



2 Methods

A total of 12 survey visits were undertaken between 10th April and 21st June 2003. These comprised a total of 10 morning surveys between 06:00 and 12:00 and two evening surveys between 19:00 and 20:00 (surveys E and I, appendix 1).

All apart from two of the surveys were undertaken by Keith Marston with the remaining two being undertaken by Dave Hunnybun (surveys B and C).

Surveys were undertaken at 7 to 10 day intervals, the interval being determined largely by weather conditions.

Only survey J had to be abandoned due to a deterioration in weather conditions and was completed the following morning.

The morning surveys were undertaken following a 10km route. This brought within sound and sight all birds within the boundaries of the study site. The evening surveys followed a shorter route taking in parts of the study site likely to be favoured by crepuscular and nocturnal species.

All field boundaries with suitable habitat for nesting were included in the survey route, notably hedgerows.

The order in which the route was walked was intentionally varied between visits to ensure that peak bird activity was observed in each part of the land over the survey period.

Bird activity and behaviour was recorded onto 1:5,000 scale base maps during each survey using the BTO Common Bird Census nomenclature. Records were then transposed onto separate 1:5,000 scale base maps for each species or group of species.

Details of survey dates and weather conditions are shown in appendix 1.

2.1 Limitations of survey

On three occasions the visibility was moderate, reducing the number of Skylarks in song and grounding some over flying birds. However, only on one occasion was a survey postponed due to poor visibility.

Some species were on the edge of their territory within the farm boundaries with the nest site being outside the survey area. This applied especially to a small number of singing Skylarks. These birds were not recorded. Some species ranged onto the survey area, but were outside of their breeding territory, notably the doves, pigeons, corvids and hirundines.

The analysis of the territories of certain species was complicated by post-breeding movement of family groups within the survey area but outside their breeding territory. This applied to the following species in particular: Skylark, Linnet and Goldfinch.

The opportunities to obtain records of the game birds establishing when the crops were low were limited by the starting date of the first survey. Hence, there is likely to be a slight under-recording of Grey partridge, Pheasant and Red-legged partridge. Crop spraying between surveys may have influenced the distribution of the territories of ground-nesting birds.

The surveys were confined to one breeding season and there has been no systematic recording of breeding birds on this land prior to 2003. There is therefore no indication of how typical the results from these surveys are with this particular cropping regime.

3 Results

The results of the survey are tabulated below and shown in map form in maps 1 - 32. Species are listed in alphabetical order for ease for reference. Comments on the habitat preferences and distribution of each species are given in the tables. A total of 48 species were recorded during the survey of which 27 species were resident (holding breeding territories). Red and Amber listed species are highlighted with appropriate colours in the following tables.

3.1 Resident birds

Species	Number of territories	Comments
Blackbird	16	Hedgerows or woodland
Blackcap	4	Woodland
Blue tit	8	Woodland
Buzzard	1	Seen during the breeding season flying out of Hummets Copse and the woodland to the east, but not sufficient evidence to confirm nesting. In addition, a pair holding territory in Stony Copse, outside, but adjacent to the eastern boundary
Carrion crow	4	Woodland
Chaffinch	17	Woodland or hedgerows
Collared dove	1	In vicinity of Manor Farm
Dunnock	5	Hedgerows
Goldfinch	1	No firm evidence of breeding; small groups widespread in June
Great tit	3	Hedgerows or woodland
Greenfinch	7	Margins of the land, near habitation
Grey Partridge	3	2 pairs include set-aside land in territory
House sparrow	4	Hedgerows
Lapwing	2	Set-aside land. An additional territory on a field outside but adjacent to the southern boundary
Linnet	6	A flock of up to 140 birds feeding in rape field in June. Unripe oil seed rape is known to provide an important food source for breeding linnets[4]. Small flocks widespread across the land in June
Magpie	2	Woods
Red-legged partridge	9	margins of arable fields
Reed bunting	2	Overgrown ditch and weedy grassland, in particular rough area north of Hummet Copse. In addition a male in song in hedgerow on northern boundary
Robin	7	Woodland
Rook	1	One rookery with 7 nests in north-west corner of farm
Skylark	56	Majority of territories in autumn-sown wheat fields; a smaller number in rape fields and in set-aside fields
Starling	1	Family groups feeding on the farmland from territories outside of the farm
Swallow	1	One pair nesting in farm buildings; other birds feeding over land on passage or from nest sites outside of farm boundaries

[4] Moorcroft, D and Wilson, J.D. 2000. The ecology of Linnets *Carduelis cannabina* on lowland farmland. In Ecology and Conservation of Lowland Farmland Birds. Eds; Aebisher, N.J., Evans A.D., Grice, P.V. and Vickery, J.A. British Ornithologists' Union. 2000.

Species	Number of territories	Comments
Whitethroat	20	16 in hedgerows, 4 in rape fields
Wood pigeon	13	9 in woods, 3 in isolated trees and 1 in a hedgerow. In addition small groups roosting in woods
Wren	17	Woods and hedgerows
Yellowhammer	25	Hedgerows and overgrown ditches. 32 birds in single flock in early March outside of farm boundary, in adjacent field. Spilt grain at grain-store also provided additional food source. Rough vegetation north of Hummet Copse also provided important feeding habitat.

3.2 Birds feeding, hunting or resting, but not holding territory

Species	Total number	Comments
Buzzard	20	Birds hunting over land coming in from woods to north, south and east
Feral pigeon	32	Single flock feeding on spilt grain at barn
Green woodpecker	2	Apparently not resident in any of the woodland areas
Goldcrest	1	Possibly holding territory in Hummets Copse
Hen Harrier	2	Probably the same bird seen on the 19th May and 13th June, hunting low over wheat fields on the first and rising out of a rape field at 6.45 a.m. on the second occasion where it may have spent the night roosting
House martin	6	Holding territory in villages along northern boundary
Jackdaw	15	Feeding on Set-aside land
Jay	1	Recorded once in March
Kestrel	9	4 separate birds hunting in different parts of the land
Meadow pipit	10	All but one recorded in March; 1 male in song at the end of April
Mistle thrush	1	Single record in March
Pied Wagtail	1	Seen near the farm buildings
Shelduck	4	4 birds in single group landed on rabbit warren in wheat field
Song thrush	2	Two birds singing, each on one occasion
Sparrow hawk	3	3 separate birds hunting in different parts of the land
Stock dove	37	Small groups feeding on the Set-aside land from the end of May; flock of 17 on same fields in late June
Swallow	17	A combination of passage birds and birds nesting in adjacent areas

3.3 Birds over-flying or on passage

Species	Total number	Comments
Chiffchaff	3	
Golden plover	1	Calling in field outside of farm boundaries but adjacent to southern edge
Grey heron	1	Overflying
Raven	2	Overflying
Spotted flycatcher	1	On passage, feeding from woodland edge
Swallow		Passage birds feeding low over the land
Swift	1	Passage birds remain high over the land
Wheatear	2	Recorded in April and May both on set-aside and field north of Chessil Quarry (outside of the survey area).
Whimbrel	1	On passage

3.4 Status of breeding birds

The status of breeding birds has been assessed in Birds of Conservation Concern. This places species into three categories based on levels of threat and rarity; Red, Amber and Green.

Red list species are those that are Globally Threatened according to IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery.

Amber list species are those with an unfavourable population status in Europe; those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations.

Species that fulfil none of the criteria are **green-listed**.

A total of 40 species are included on the Red list and 121 on the Amber list.

The survey identified a total of seven Red list species and three Amber list species holding breeding territories (Red list; Grey partridge, House sparrow, Linnet, Reed bunting, Skylark, Starling, Yellow hammer. Amber list; Dunnock, Lapwing, Swallow). All of the seven Red list species have undergone dramatic populations declines of >50% in the UK in the past 25 years. The Amber list species have undergone moderate population declines of between 25 – 49% in the UK over the past 25 years.

In addition, the survey area was used for feeding, hunting or resting by an additional two Red list and two Amber list species (Red list; Hen harrier, Song thrush. Amber list; Green woodpecker and Goldcrest).

Finally, one Red list and one Amber list species were recorded on passage (Red list; spotted flycatcher. Amber list; Whimbrel).

4 Species and habitat assessment

4.1 Assessment of resident Red and Amber list species

The survey area does not appear to have attracted much attention by ornithologists on the Isle of Wight. Reference to the Isle of Wight Bird Reports (1998 – 2002) has been made to identify records of resident Red and Amber list species which have been referred to in the following species accounts. In addition, a breeding bird survey of farmland along the 10.5 miles of the Military Road between Compton and Chale was undertaken in 2002 by Dave Hunnybun which provides some interesting comparisons with this survey[5].

4.1.1 Grey partridge *Perdix perdix* *Red List*

A total of three grey partridge territories were identified in the survey. Two of these were associated with areas of set-aside land in the north of the survey area, the third being to the south of Hummet Copse.

Grey partridge have not been previously reported from the Manor Farm area in the Isle of Wight in the Isle of Wight Bird Reports. However, the Reports make repeated reference to the decline in the population on the Island. In recognition of this the 1999 Report states; 'Due to the national conservation concern for this species all records are included.' None of these were from the Manor Farm area.

The Military Road breeding bird survey undertaken in 2002 recorded only two sightings of Grey partridge. Farmland along the length of the Military Road was once a stronghold of this species with coveys of up to 25 birds recorded outside of the breeding season in the mid 1990s. The apparent decline of Grey partridge in this part of the Island is of some concern.

4.1.2 Skylark *Alauda arvensis* Red List

The 2003 survey of Manor Farm, Wellow recorded a total of 56 skylark territories. These were distributed throughout the survey area with most being located in winter wheat. The greatest density of skylark territories was also within the winter wheat with a surprisingly low number of territories entirely within the set-aside. However, six territories occupied the boundary between the set-aside and oilseed rape fields where they were presumably utilising this combination of land-use types.

The total of 56 skylark territories within 315.6 hectares of arable land (including set-aside) equates to 0.177 territories per hectare. This is considerably more than the national density for skylark territories in cereals of 0.108/ha given by Donald and Vickery, 1999[6]. Excluding those territories that were largely or totally within oilseed rape and set-aside the density of territories is even higher with some 0.193/ha.

The total of 56 skylark territories within the Manor Farm study area also compares well with the Military Road survey undertaken in 2002. This recorded a total of 132 territories over the 10.5 miles of coastal farmland along the Military Road. Density calculations have not been provided to make comparisons with the Manor Farm survey but it would appear that Manor Farm supports roughly equivalent densities to those found along the Military Road.

These results suggest that arable farmland on the Isle of Wight still supports good densities of breeding Skylark and that these are apparently greater than the national densities.

[5] Hunnybun, D.J. 2002. Breeding Bird Survey of the Military Road, Isle of Wight. Report to the Island 2000 Trust.

[6] Donald, P.F. & Vickery, J.A. The importance of cereal fields to breeding and wintering skylarks *Alauda arvensis* in the UK. In Ecology and Conservation of Lowland Farmland Birds. Eds; Aebisher, N.J., Evans A.D., Grice, P.V. and Vickery, J.A. British Ornithologists' Union. 2000.

The breeding success of skylark within cereals has been considered by Donald and Vickery (1999) who conclude that;

'nest survival rates were significantly higher in cereals than in other crops, including set-aside, owing primarily to lower rates of predation. This meant that nests in cereals were the most productive in terms of the number of chicks produced per nest, despite their slightly lower average clutch sizes. The reasons for this are unclear but stem largely from the high predation rates in set-aside, possibly the result of density dependent predation.'

4.1.3 Starling *Sturnus vulgaris* Red List

Only one pair of Starling were recorded nesting in the survey area. These were associated with the buildings of Manor Farm. Other Starling were seen collecting food within the survey area but flying out of it to the buildings within the villages of Wellow and Thorley. It is difficult to assess the value of this feeding resource for Starling nesting in the nearby villages.

4.1.4 House sparrow *Passer domesticus*

A total of four House sparrow territories were identified from the survey. These were all associated with hedges bordering houses in the north of the survey area. As with the Starling, it is likely that House sparrow utilise the survey area for feeding to a greater extent than this number of territories would suggest. A winter bird survey would provide useful information on the use of the survey area for wintering House sparrow and Starling.

4.1.5 Linnet *Carduelis cannabina* Red List

Six Linnet territories were recorded from the survey area of Manor Farm. These were all associated with hedges and areas of rough grassland. Most of this habitat was found at the edges of the survey area with an additional territory associated with the rough grassland north of Hummet Copse.

The large flock of 140 Linnets present in oilseed rape in June (survey L) is likely to be composed of juvenile and post breeding adult birds feeding on the unripe oilseed rape seed.

The total of 86 Linnet territories recorded from the Military Road survey in 2002 reflects the much greater availability of suitable nesting habitat along the Military Road. However, the provision of oilseed rape within the Manor Farm survey area may provide an important food source for the breeding Linnet population in this part of the Isle of Wight.

4.1.6 Yellowhammer *Emberiza citronella* Red List

The total of 25 Yellow hammer territories recorded from the survey is considered quite significant. These birds were associated with strips of rough grassland and scrub. The most important of these was that to the north of Hummet Copse and the course of the small stream that drains north across the survey area. Along these strips of good nesting habitats Yellow hammer territories were closely spaced emphasising the importance of these narrow habitat features for this species.

Elsewhere on the Island this species is still regarded as a widespread and common breeding bird. The Isle of Wight Ornithologist Group (IWOG) breeding bird survey of 34 1 km squares undertaken in 2002 recorded Yellow hammer present in 17 squares and territories held in 14.

The impressive total of 65 territories recorded from the Military Road survey again emphasises the value of the nesting habitat in this part of the Island for scrub and rough grassland nesting birds.

4.1.7 Reed bunting *Emberiza schoeniclus* Red List

Only two reed bunting territories were identified from the survey. These were both located in the centre of the survey area associated with tall grassland and wetland vegetation associated with drainage ditches.

Elsewhere on the Isle of Wight this species is considered a locally fairly common breeding bird. The IWOG breeding bird survey of 2002 recorded this species as being present in 11 out of the 34 I km squares covered.

The Military Road breeding bird survey recorded only 6 territories of this species. These were also associated with drainage ditches supporting tall wetland vegetation.

4.1.8 Dunnock *Prunella modularis* Amber List

A total of four dunnock territories were identified from the survey of Manor Farm. These were closely associated with hedgerows and woodlands, particularly those to the north of Hummet Copse.

Elsewhere on the Isle of Wight, Dunnocks remain a very common and widespread species and do not appear to have undergone the populations declines recorded elsewhere in the UK. This is largely due to the generally diverse countryside on the Island which still contains many well structured hedges and areas of scrub. The IWOG 2002 breeding bird survey of 34 km squares on the Island recorded Dunnock territories from 30 km squares with several squares recording 10-14 territories. This is a considerably greater density than recorded within the Manor Farm survey which covered an area of over 3 km squares.

4.1.9 Lapwing *Vanellus vanellus* Amber List

Two Lapwing territories were recorded. These were both associated with the area of set-aside in the north of the survey area. A third pair was also present just outside of the survey area adjacent to Chessil Quarry.

Lapwing nest in two contrasting habitats, wet grassland and arable farmland. In both habitats they are associated with short open vegetation often with patches of bare ground. Lapwing breeding in arable farmland have not been well surveyed as their density in this habitat is generally low, but given the much greater area of this habitat, the total population of Lapwing breeding on arable land is thought to be much greater than that occurring in wet grasslands.

The population of breeding Lapwing on the Isle of Wight is considered to be small and declining. It was recorded from only six of the 34 km squares surveyed as part of the IWOG 2002 breeding bird survey. Most of these were from wet grassland sites.

The Military Road breeding bird survey recorded only one Lapwing territory, this was associated with arable farmland.

4.1.10 Swallow *Hirundo rustica* Amber List

A single pair of swallows was recorded within the survey area. These were associated with in the farm buildings. However, in common with several other Red and Amber list species recorded, Swallows were regularly seen feeding over the survey area, both during the breeding season and on passage. Most of these sightings were associated with the perimeter hedges, woodlands and areas of rough grassland where invertebrate densities are likely to have been greater.

4.2 Non-resident species

In addition to the breeding bird fauna, a number of other bird species were recorded either hunting or feeding during the breeding season but nesting outside of the survey area or utilising the survey area during the spring migration as a resting/feeding site. Of the species nesting outside of the survey area, perhaps the most notable were the birds of prey. These included four species; Buzzard, Kestrel, Sparrow hawk and Hen harrier (one pair of Buzzards also nested within the survey area). Again, the areas of rough grassland and tall wetland vegetation associated with hedges and drainage ditches proved to be very important for this group of birds. The records of Red listed Hen harrier were of particular interest as this species normally breeds on upland moorlands in the north and west of Britain. Its presence on the Isle of Wight during the breeding

season is therefore unexpected and inexplicable. There are no comparable records of Hen harrier on the Isle of Wight during the summer in the I.W. Bird Reports although small numbers regularly winter on the Island or are seen as passage migrants.

Song thrush was recorded on two occasions. On the last survey visit on the 21st June a bird was heard singing from three locations in Hummet Copse and the woods to the east of it. An additional bird was also heard singing on the 30th April on the boundary of the survey area north of Manor Farm. These single registrations do not constitute sufficient evidence of territory holding.

During the spring passage a number of migrants were recorded that were of interest including the Red listed Spotted flycatcher, Amber listed Whimbrel as well as Wheatear, Blackcaps, Chiffchaffs, Whitethroats, Swallows, Swifts and House Martins.

4.3 Brown hare *Lepus capensis* BAP priority species

Although not part of the bird survey, the numbers of brown hare *Lepus capensis* seen during the survey were notable and a record was made of their location and numbers. The peak hare counts were of 12 on 10th April and 16 on the 9th May. There was an interesting shift in the distribution of hares through the survey. In the early spring hares were common in the south of the survey area around Shalcombe, however, numbers in this part of the survey area declined and there was a shift towards the woodlands, in particular Hummet Copse, and the areas of set-aside later in the spring, with a peak count of 8 on the set-aside on 13th June. The numbers of hare recorded on each survey visit are shown in appendix 2. Location of hare records and those of other mammals are shown on map 34.

4.4 Habitat assessment

4.4.1 Arable farmland and set-aside

The vast majority of the survey area consists of arable farmland. During the 2003 survey this was mainly sown with winter wheat with smaller areas of oilseed rape and some set-aside. Bird use of these three different arable types was markedly different.

The extensive area of winter wheat was clearly a preferred breeding habitat for Skylarks with a density considerably above that recorded nationally. The reason for this is difficult to determine without considerably more research but it is possible that winter survival rates of Skylark on the Island are greater than nationally or that the generally diverse land-use surrounding the survey area provides good feeding habitat. Whatever the reasons, given their Red list status, the winter wheat at Manor Farm provides an important habitat for breeding Skylark, both in an Isle of Wight and national context.

Oilseed rape was by contrast less attractive to Skylark and was apparently little used by most breeding birds. The only exception to this was the Whitethroats which held three territories entirely within the oilseed rape crop. Perhaps the most significant feature of the oilseed rape was is value for feeding Linnets. The large post breeding flocks of these birds feeding on oilseed rape seed suggests that it may be important for the maintenance of breeding Linnet populations in this part of the Isle of Wight. These large flocks may well comprise birds that have bred on the adjacent chalk downlands where there is excellent nesting habitat.

The relatively small area of set-aside to the north of the survey area consisted of wheat stubble that had been treated with herbicide. However, despite, or perhaps because of this, the area provided good habitat for a number of important species. A total of six Skylark territories were partly associated with the set-aside suggesting that the combination of arable crop (winter wheat or oilseed rape) and uncultivated set-aside provided attractive breeding habitat. Only one Skylark territory was entirely within the set-aside. Set-aside was also important for Grey partridge with two of the three territories recorded from the survey be associated with it. The set-aside was also used

by two pairs of breeding lapwing. Given the scarcity of records for breeding Grey partridge and Lapwing from elsewhere on the Isle of Wight and their national status as Red and Amber listed birds of conservation concern the set-aside at Manor Farm clearly provides an important habitat for breeding farmland birds. The set aside also proved an important habitat from Hares, especially in the late spring with up to 8 present at one time.

4.4.2 Drainage ditches and rough grassland

Three main drainage ditches traverse the survey area from springs arising from the limestone aquifer. These occupy deeply incised channels through the arable crops. The vegetation associated with these channels is generally tall and rank consisting of species such as false oat-grass *Arrhenatherum elatius*, greater willow-herb *Epilobium hirsutum*, hemlock water-dropwort *Oenanthe crocata*, nettle *Urtica dioica* and meadow sweet *Filipendula ulmaria*. In places, the drainage ditches are flaked with scattered hawthorn *Crataegus monogyna*, elder *Sambucus nigra* and bramble *Rubus fruticosus*. This combination of tall rank vegetation and scattered low scrub provided ideal nesting habitat for a number of bird species. Most significant was the population of Yellow hammer that were largely confined to these features. In addition, Reed bunting, Whitethroat and Dunnock were also strongly associated with these habitat features.

4.4.3 Woodland and hedgerows

The largest block of woodland within the survey area was Hummet Copse. This appears to be a secondary mixed woodland composed of ash *Fraxinus excelsior*, sycamore *Acer pseudoplatanus*, poplar *Poplus canadensis* over a rather sparse understorey of hazel *Corylus avellana* and hawthorn. Other small patches of woodland occur along the ditch line to the east of Hummet Copse. These have a more semi-natural character being composed of pedunculate oak *Quercus robur* and ash with a much denser understorey of hazel and willow *Salix cinerea*. The remaining area of woodland was in the far north west of the survey area. The woodlands provided the focus of breeding activity for a large number of bird species including Wood pigeon, Blackbird, Robin, Wren, Blue-tit, Great tit, Blackcap, Jay, Magpie, Rook and Carrion crow. However, these are all common and widespread species whose national populations are stable or increasing. The only species of conservation concern associated with the woodland was the Amber listed goldcrest territory associated with Hummet Copse.

Hedges border the survey area in a few places although it would appear that many hedges have been removed, particularly in the west and central parts of the area. The open landscape this creates may be beneficial to some species such as Skylark. However, where hedges occur a much greater abundance and diversity of breeding birds was recorded. This was especially so where hedges combined with areas of woodland and rough grassland. The hedges within the survey area were composed mostly of hawthorn often with elder, hazel, bramble and dog rose *Rosa arvensis*. Many were in a rather poor condition resulting from regular trimming and have become gappy and invaded with elder.

There is some overlap between species associated with woods and hedges, but a distinctive community of hedge nesting species can be identified including Blackbird, Linnet, Whitethroat, Dunnock, Greenfinch, Goldfinch, and Yellow hammer. It is noticeable that several of these are Red and Amber list species in contrast to the more strongly woodland associated species which do not include birds of conservation concern.

4.4.4 Farm buildings

Farm buildings have been identified as a specific bird habitat within the survey area. To this could also be added other buildings within the villages of Wellow and Thorley that were outside of the survey area but were clearly used by birds that fed within the area.

Farm buildings provided both nest sites and feeding habitat for breeding birds. Species particularly associated with buildings for nesting were Starling, House sparrow and Swallow – all three being Red or Amber listed species. The grain stores to the east of Wellow also provided a source of food for feeding birds, most notably Yellow hammer as well as more common species such as feral pigeons and pheasants.

5 Conclusions

Manor Farm is an extensive arable farm composed of large open arable fields. During the 2003 survey much of the area was used for growing winter wheat with a smaller area of oil-seed rape and some set-aside. Habitat diversity is provided by a few small areas of woodland, some hedges - mostly around the perimeter of the farm and areas of rough grassland and tall wetland vegetation associated with drainage ditches. These relatively small areas of habitat proved to be of disproportional importance to the breeding bird assemblage and in particular for a number of species of conservation concern.

The breeding bird fauna associated with this range of farmland habitats was of considerable interest containing a number of species that have undergone significant population declines in the UK over the past 50 years. These have been identified as Red or Amber listed species of conservation concern. In all a total of seven Red list and three Amber list species held breeding territories within the survey.

The arable farmland and in particular the extensive area of winter wheat was of particular importance for breeding Skylark, supporting a total of 56 territories at a density 0.177 territories per hectare. This is greater than the national density for Skylark in all crop types other than set-aside. Excluding those territories largely or totally within oilseed rape or set-aside gave an even greater density of 0.193/ha which is significantly higher than the nationally recorded density for cereal crops of 0.108/ha. The large number and relatively high density of breeding Skylark within the survey area is considered to be of considerable importance.

Significant breeding populations of other species of conservation concern within the survey area included Grey partridge, Lapwing, Yellow hammer, Linnet and Reed bunting. Grey partridge and Lapwing were particularly associated with the area of set-aside. Linnet, Yellow hammer and Reed bunting were all associated with edge habitats, in particular areas of rough grassland and wetland vegetation associated with ditches and hedges. Other habitat features such as the oil-seed rape crop and spilt grain associated with the grain stores also provided additional feeding habitat for Linnet and Yellow hammer.

Given the dramatic and widespread population declines in these species within the UK, the overall assemblage of breeding farmland birds within the survey area is considered to be of high importance.

The survey area also provided feeding and hunting habitat for a number of species that did not hold breeding territories. This included a number of birds of prey, notably Kestrel, Sparrow hawk, Buzzard (one nest site was within survey area but other birds also utilised the survey area from outside) and Hen harrier. A number of other species that breed in or around buildings also used the survey area for feeding including House sparrow, Starling, Swallow, Swift and House martin. An additional group of birds were recorded during the spring migration that used the survey area for resting and feeding.

Although not specifically part of the survey brief, the population of brown hares recorded as part of the survey were notable. Their presence supports the conclusion that the survey area is important for a range of typical farmland species that have undergone dramatic declines in national populations over recent decades.

6 Recommendations

This survey provides a good indication of the bird use of Manor Farm during 2003 and can be used as a baseline against which to monitor future changes in bird populations. With predicted changes in funding for farming support the results of this survey could be used to monitor the impact of such changes on farmland bird communities or the impact of other land-use changes.

The reason why Manor Farm has proved to be of such value for farmland birds is difficult to determine from this survey. However, it has been shown that winter survival of farmland birds is of particular importance to maintaining populations. Further survey during winter months would therefore help explain the value of the survey area for this group of birds.

Farm management is critical to the value of farmland habitats for birds and other wildlife. A number of habitat features should be maintained or if possible extended to maintain and further enhance the value of Manor Farm for farmland wildlife, in particular:-

- Areas of weed rich stubble and set-aside should be maintained and if possible increased.
- An area of cultivated but unsown land could be left as fallow.
- The number and quality of hedges could be increased, particularly along the eastern side of the survey area.
- A reduction in the area of winter cereals and introduction of spring sown cereals would further enhance the value of cereal crops for Skylark.
- Under sowing of arable crops would increase the availability of invertebrate food for Skylark and Grey partridge.
- The provision of grassy headlands around arable fields would particularly benefit Grey partridge
- Ditches could be re-profiled to create pools of value for drinking birds and additional tall wetland vegetation of value of nesting species such as reed bunting.
- Woodland management could be undertaken to increase the availability of dead wood habitat, increase understorey density and possibly provide nest boxes for barn owls and other tree hole and crevice nesting species.

Appendix 1:
Survey dates and weather conditions

Survey	Date	Weather and visibility	Cloud cover
Survey A	10.4.03	Frosty and clear skies until 08.30	0 oktas
		Cloud obscured sky from 09.30-10.00	8 oktas
		10.00 – 12.00 skies cleared	2 oktas
		Force 2 wind from ENE	
		Good visibility	
Survey B	17.4.03	Clear skies	0 oktas
		Force 2 wind from E	
		Good visibility	
Survey C	23.4.03	Early mist, then sunny intervals	3 oktas
		Force 3 wind from E	
		Good visibility	
Survey D	30.4.03	Low cloud until 10.45 then	7 oktas
		Sunny intervals	4 oktas
		Force 3 wind from SW	
		Good visibility	
Survey E (evening survey)	5.5.03	Clear skies throughout	0 oktas
		Force 3 wind from WSW	
		Good visibility	
Survey F	9.5.03	Sunny intervals	2 oktas
		Force 2 wind from NW	
		Good visibility	
Survey G	19.5.03	Overcast, but dry until 09.00	8 oktas
		Showery rain from 09.15	
		Force 3 wind from SW	
		Moderate visibility	
Survey H	29.5.03	Sunny intervals	2 oktas
		Force 2 wind from ESE	
		Good visibility	
Survey I (evening survey)	2.6.03	Low cloud off English Channel	7 oktas
		Force 2 wind from SW	
		Moderate visibility	
Survey J (06.00 - 09.00)	6.6.03	Sunny intervals until 08.45	4 oktas
		Rain from west 09.00	8 oktas
		Force 3 wind from SW	
		Good visibility, then poor from 09.00	
(09.00 - 12.00)	7.6.03	Misty	8 oktas
		Force 2 wind from SW	
		Moderate visibility	
Survey K	13.6.03	Sunny	0 oktas
		Force 1 wind from N	
		Good visibility	
Survey L	21 .6.03	Sunny intervals	4 oktas
		Force 2 wind from E	
		Good visibility	

Appendix 2:
Numbers of brown hare recorded on each survey visit

Survey Visit	Date	No. of Hares
Survey A	10.4.03	12
Survey B	17.4.03	5
Survey C	23.4.03	4
Survey D	30.4.03	9
Survey E	5.5.03	5
Survey F	9.5.03	16
Survey G	19.5.03	1
Survey H	29.5.03	5
Survey I	2.6.03	2
Survey J	6.6.03 and 7.6.03	4
Survey K	13.6.03	9
Survey L	21 .6.03	10

7 Maps

7.1 Species territory maps (1-12)

Map 1	Grey partridge and Red legged partridge
Map 2	Skylark
Map 3	Wren
Map 5	Blackbird
Map 6	Whitethroat
Map 7	Blue tit and Great tit
Map 8	House sparrow and Dunnock
Map 9	Chaffinch
Map 10	Green finch and Reed bunting
Map 11	Linnet
Map 12	Yellowhammer

7.2 Species registration maps (13 – 33)

Map 13	Pheasant
Map 14	Grey partridge and Red legged partridge
Map 15	Buzzard, Sparrow hawk, Kestrel and Hen harrier
Map 16	Lapwing
Map 17	Wood pigeon
Map 18	Skylark
Map 19	Swallow, House martin, Swift, Spotted flycatcher, Wheatear
Map 20	Wren, Stock dove, Collard dove, Feral pigeon
Map 21	Robin, Golden plover, Grey heron, Pied wagtail, Whimbrel
Map 22	Blackbird
Map 23	Blackcap, Chiffchaff, Song thrush
Map 24	Whitethroat
Map 25	Blue tit, Great tit
Map 26	Starling
Map 27	Carrion crow, Rook, Jackdaw, Magpie, Raven
Map 28	House sparrow, Dunnock
Map 29	Chaffinch
Map 30	Greenfinch, Meadow pipit
Map 31	Reed bunting, Goldcrest, Green woodpecker, Mistle thrush
Map 32	Linnet. Goldfinch
Map 33	Yellow hammer

7.3 Key to survey dates

Survey	**Date**
Survey A	10.04.03
Survey B	17.04.03
Survey C	23.04.03
Survey D	30.04.03
Survey E	05.05.03
Survey F	09.05.03
Survey G	19.05.03
Survey H	29.05.03
Survey I	02.06.03
Survey J	06.06.03
	07.06.03
Survey K	13.06.03
Survey L	21.06.03

7.4 Key to species notations

These standard British Trust for Ornithology conventions are used:


Male Robin


Female Robin


Pair of Robins


Robin calling

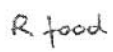

Robin giving alarm calls thought to have territorial significance

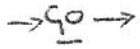

Robin in song


An aggressive encounter between two Robins


An occupied nest of Robins


Robin carrying nest material


Robin carrying food


A calling Goldfinch flying over


A Skylark flying up and singing


A Yellowhammer moving between two perches


Two Wrens singing at the same time


A Buzzard perched then flying away (not seen to land)

N.B. When all symbols on a map refer to a single species the abbreviation for the bird is omitted and just the letter indicating the survey date is used