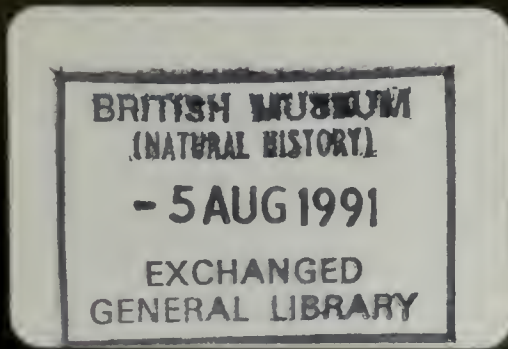


# Norfolk Bird & Mammal Report 1990



# Norfolk Bird Report — 1990

*Editor:* MICHAEL J. SEAGO  
*County Recorders:* P. R. ALLARD, D. A. DORLING, P. J. HEATH & P. D. KIRBY  
*Editorial Assistants:* M. S. CAVANAGH, P. R. CLARKE, G. E. DUNMORE,  
M. I. ELDRIDGE, A. HALE, J. B. KEMP, K. B. SHEPHERD &  
A. M. STODDART

Editorial	81
White-tailed Eagles in Norfolk	84
Red-backed Shrikes in Breckland	88
Barn Owls in north Norfolk	91
Cley 1990 'Plenty in Reserve'	96
Status and Habits of Whooper Swans	99
White-fronted Geese in Norfolk	101
Grey Partridges in Norfolk	103
Wildfowl Counts	106
Birds of Estuary Enquiry	107
Pink-footed Geese in Norfolk	110
Kelling Water Meadows	112
Grey Herons in Norfolk	114
The October 1990 Fall	115
Ringing Report	117
Classified Notes	123
Contributors, Photographers & Artists	153

# Norfolk Mammal Report — 1990

*Editor:* REX HANCY

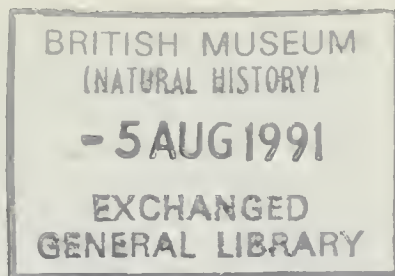
Editorial	155
Red & Grey Squirrels at Thetford Forest	157
Classified Notes	160
Contributors	168

Published by THE NORFOLK & NORWICH NATURALISTS SOCIETY, Castle Museum, Norwich NR1 3JU (*Transactions* Volume 29 Part 2 August 1991) in conjunction with NORFOLK ORNITHOLOGISTS ASSOCIATION, Aslack Way, Holme-next-Sea, Hunstanton PE36 6LP. ISSN 0375 7226.

*Back numbers are available from Mrs M. Dorling, 6 New Road, Hethersett NR9 3HH.*

**Price £3.50**

# NORFOLK BIRD REPORT 1990



## Editorial

The Council of the Norfolk & Norwich Naturalists Society, in conjunction with Norfolk Ornithologists Association, is pleased to present the annual report on the birds of Norfolk.

### Review of the Year:

**January** was the mildest for seven years. It was also sunnier and drier than normal. At the opening of the year an unprecedented total of 42,950 Pink-footed Geese had collected in the north-west of the county. Welney Washes held over 2,700 Bewick's and 600 Whooper Swans. A small influx of Waxwings which began during the previous month continued with parties of up to 12 visiting a number of localities. Among other highlights were White-tailed Eagle, Peregrine (sadly found shot), the long-staying Red-breasted Nuthatch (which lingered until early May) and unseasonal Spoonbill and Hoopoe.

**February** was the mildest since 1945, but the wettest since 1977. A quiet month, although a White-tailed Eagle began a lengthy stay in the vicinity of Haddiscoe Island. Cley Marsh contained 20 Water Pipers.

**March** was the mildest since 1957 and the driest since 1976. A good find was a Dartford Warbler at Waxham. Other notable reports were Green-winged Teal at Berney Marshes and Cley, Grey Phalarope at Salthouse and Storm Petrel and American Wigeon both at Cley.

**April** was a cooler month although sunshine and rainfall totals were above normal. Attention was focussed temporarily away from the coast by the brief appearance of 2 Black-necked Grebes in full summer plumage at Lyng. Continuing the picture there was a short-staying Cattle Egret, a flighty White Stork, a Hoopoe which toured the county coastline and Dartford Warbler at Cromer cliffs.

**May** was sunnier and warmer than normal with rainfall well below normal. The opening days saw a massive influx of Black Terns, together with an impressive passage of waders. Ruffs, Spotted Redshanks and Greenshanks were especially abundant. One of the main stars of a star-studded month was a Subalpine Warbler on Blakeney Point supported by a Short-toed Lark there, Little Egrets at Welney/Denver Sluice, Night Heron and Red-footed Falcon both at Cley, Marsh Sandpiper at Lakenheath Flashes and Burnham Norton, Red-rumped Swallows at Cley and Cromer and Red-throated Pipit briefly at Kelling Quags.

**June** was drier than normal, but the first month of the year with below average sunshine totals and below normal temperatures. Late southerly drifters included Black Stork, Red-footed Falcon, Kentish Plover and Honey Buzzards. A Blue-winged Teal first found at Cley later moved to Titchwell where it lingered until early October. A Marsh Warbler at Hempstead Mill was an unexpected find as was an Icterine Warbler singing in Wells Town. Coinciding with reports further north of a Crossbill irruption, first arrivals locally put in an appearance on 10th.



**July** sunshine was well above average. It was the driest for 7 years. Prize bird of the month must be the dazzling Great White Egret which travelled the county for most of the month but remained elusive. A Caspian Tern appeared briefly off Cley and then Sheringham. Among returning waders at Cley a baffling stranger appeared showing characters of both Pectoral and White-rumped Sandpiper. It was thought to be a hybrid. Observers not wishing to express an opinion contented themselves by watching 2 superb Red-necked Phalaropes.

A survey of Fulmars gave a total of 114 young on the ledges. The county's only Cormorant breeding colony increased to 14 nests. Bitterns continue to give cause for concern.

**August** was the warmest since records began, the sunniest since 1976 and the driest for 7 years. A temperature of 34.5C (91.4F) was the hottest August day since 1932. A month for wader buffs and Cley was the place to be with a notable quartet including Pacific Golden Plover (the second county example following the first in 1989), White-rumped, Pectoral and Broad-billed Sandpipers. Temminck's Stint and Red-necked Phalarope also featured amongst a host of more regular passage waders. Other exciting arrivals included Cory's Shearwater, Sabine's Gull, Tawny Pipit and Icterine Warblers.

**September** was the coolest for 4 years and the cloudiest for 6; it was the first month since April with above-average rainfall. Crossbill arrivals continued. Admiration must go to the observers who first picked-out the splendid male Two-barred Crossbill at Sandringham. Other vagrants noted were 26 Long-tailed Skuas, 7 Richard's Pipits, 6 Barred Warblers, 2 Sabine's Gulls, Long-billed Dowitcher, Siberian Stonechat and Nightingale (a rare autumn migrant). Perhaps the most intriguing sighting was an all-dark petrel species fluttering off Cley.

**October** was the mildest since 1969, the sunniest for 9 years, but rainfall was equal to long-term averages. Many observers will recall the arrival of very large numbers of Thrushes from the 18th. Goldcrests were also involved in the fall. These tiny bundles of feathers were much in evidence as they squeaked their way inland through countless gardens. The catalogue of highlights at this time included Cory's Shearwater, Sociable Plover, Buff-breasted Sandpiper, Red-rumped Swallow, Olive-backed Pipit, Pied Wheatear, Radde's Warbler, 2 Dusky Warblers, Penduline Tit, Parrot Crossbills and Arctic Redpolls. A White-tailed Eagle was observed briefly between Walcott and Sea Palling, Shorelarks were again very thin on the ground.

**November** was the duller and mildest for 3 years; it was also the wettest since 1974. At the beginning of the month during north-westerly gales little auks delighted sea-watchers; 105 were noted off Sheringham on 3rd with 170 there next day. Holkham Bay has become renowned as a haunt of rarer grebes. This year was no exception with up to 19 Slavonians on show. Trilling groups of Waxwings — most beautiful of visitors — arrived in increasing numbers. The much sought-after White-tailed Eagle finally settled at Hickling and a second Two-barred Crossbill was discovered at Lynford. Other birds of interest were 3 more Dusky Warblers (making 1990 a record year), more Parrot Crossbills and Black-winged Stilt.

**December** temperatures and sunshine totals were near to normal, but rainfall was below average. Sea-watching proved highly profitable during the 10th in a north-easterly gale when star sightings included a total of 1,800 Little Auks and 16 Leach's Petrels all passing Sheringham. Last but by no means least, the Lynford Two-barred Crossbill continued to pull the crowds until the end of the year. (Summary by M. Fiszer).

**Recording:** Records should be submitted to Michael J. Seago, 33 Acacia Road, Thorpe St. Andrew, Norwich NR7 0PP *by the end of January*. It is regretted that some observers are still failing to comply with this deadline which is essential to meet printing schedules. All observations should be prepared in the Voous order as in previous *Norfolk Bird Reports*. It will be appreciated that notes submitted in diary form cannot be considered. In order to minimise the work involved records will not normally be acknowledged, but names of all contributors will be published. Records of national rarities considered by the British Birds Rarities Committee need to be submitted to the Editor with full details *as soon as possible after observation* and not left until the year-end. There are several omissions in the classified notes of national rarities as decisions are still awaited.

As a result of decisions by the above-named Rarities Committee to no longer consider certain nationally rare species, the County Records Committee (Giles Dunmore, Steve Gantlett, Steve Joyner, John Kemp and Richard Millington) have again considered the list of 'semi-rare' birds last published in the 1988 Report. In order to keep the work of the local Committee to a manageable size several species have been deleted. The following is the list of species and sub-species for which records will be considered by the local Records Committee as from January 1991:

Black-throated and Great Northern Divers; Black-necked Grebe, Cory's and Yelkouan Shearwaters; Storm Petrel, Little Egret, Purple Heron, White Stork, Black Brant, Green-winged Teal, Ferruginous Duck, Surf Scoter, Honey Buzzard, Red Kite, Goshawk, Buzzard, Rough-legged Buzzard, Peregrine, Spotted Crake, Corncrake, Kentish Plover, Buff-breasted Sandpiper, Red-necked and Grey Phalaropes; Long-tailed Skua, Sabine's, Ring-billed, Yellow-legged Herring and Iceland Gulls; Roseate Tern, Black Guillemot, Bee Eater, Hoopoe, Richard's and Tawny Pipits; Continental races of 'flava' wagtail (not Blue-headed), Bluethroat, Siberian Stonechat, Savi's, Icterine, Barred and Pallas's Warblers; Red-breasted Flycatcher, Golden Oriole, Woodchat Shrike, Raven, Serin, Common Rosefinch and Ortolan Bunting.

Field descriptions will not, of course, be needed for records of semi-rarities seen by many observers, but requests for descriptions will normally be made (if no such details are submitted with the record) where birds are only seen by one or two observers. This will apply particularly to species such as Black-throated and Great Northern Divers, Black-necked Grebe, Goshawk, Peregrine and Long-tailed Skua which are often, in the opinion of the Committee, incorrectly identified in flight, (especially at long range) and which are responsible for the greater proportion of rejected records.

In order to obtain as complete a coverage as possible of the bird-watching year, records are extracted from the publications of Cley Bird Club, The Bird Information Service (Birdline and Birding World), Norfolk Ornithologists Association and Nar Valley Ornithological Society. Records of semi-rarities appearing in such publications will *not* be published in the *Norfolk Bird Report* unless details including the name of the observer(s) have been submitted. All observers are therefore requested to submit their records of semi-rarities direct to the *Norfolk Bird Report*.

**Acknowledgements:** Thanks are due to the following artists and photographers: N. Arlott, N. Borrow, R. Chittenden, C. Donner, E. A. Fisher, A. L. Howes, B. W. Jarvis, R. Jones, C. R. Knights, C. Lansdell, R. Millington, R. Powley, M. S. Read, the late R. A. Richardson, J. P. Smith and A. M. Stoddart. Details appear on page 154.

Thanks are also due to The Bird Information Service, Cley Bird Club, English Nature, Nar Valley Ornithological Society, National Trust, Norfolk Naturalists Trust, Rare Bird Photographic Library, RSPB, Wildfowl & Wetlands Trust, G. E. Dunmore (for liaising with 'British Birds' Rarities Committee and acting as Secretary/Chairman of the Local Records Committee), Mrs M. Dorling, Mrs S. F. Seago, and all other contributors.



# White-tailed Eagles in Norfolk

*John R. Williamson*



An immature White-tailed Eagle was reported battling against force 8 winds along the north-west coast of Norfolk on 10th January 1990, moving from Scolt Head, past Tit-chwell, Holme, Hunstanton and Snettisham. However, no further sightings occurred and birders hopes appeared dashed. Few realised that almost six months of the year would see a White-tailed Eagle resident in the county.

Before the coastal sightings, a bird had already taken up residence in the north-west of the county. An immature, probably a second-year bird, was first seen on 1st January at Westacre Trout Farm, near King's Lynn, remaining in the county until at least 15th March. This individual settled into the Westacre estate area and wandered locally to East Walton, Rougham, Bradmoor on 20th January, Massingham Heath on 24th, 29th and 30th January and Narford Lake on 28th January and — when finally seen in the area — on 1st February.

Sightings of an immature in Suffolk on 4th February indicated that the bird had left the county. However six days later it was relocated, being observed from a Lowestoft-Norwich train on Haddiscoe Island. The following morning it was still present, but an unconfirmed sighting indicated the bird had flown north-west over Cantley. Between 13th-16th February the eagle was again seen in Suffolk. Remarkably, it again appeared at Haddiscoe, on about 20th February, remaining in the area until at least 7th March when noted flying over Breydon towards Reedham. Reports of an eagle flying in from the sea on 11th March between Hopton and Corton on the Norfolk/Suffolk border added more intrigue to the story when it was seen heading towards Fritton Lake and appearing at Walberswick, Suffolk, the same day. March 12th-13th again saw records in Suffolk, yet on 14th it was flying over Berney levels towards Haddiscoe. The next day saw the last confirmed sighting, heading from Reedham, over Halvergate marshes, then Mautby marshes and finally, still gaining height and drifting eastwards, over West Caister.

A third individual, a bird-of-the-year, took up residence in east Norfolk in October and was to stay into December. The first sighting on 27th October was off Snettisham. There were four reports of 'huge birds of prey' in the Walcott/Lessingham/Sea Palling/Sutton areas before confirmation came when the bird was located at Sea Palling, on Brograve level, on 5th November. On the 9th it was observed going to roost near Martham and the following day was relocated near Eastfield farm, east of Hickling village. Here it remained until 2nd December. On the latter date the bird was noted at sea off Waxham, heading south-east along the coast, returning over Martham. On 3rd it was heading out to sea over Winterton dunes. Further records relate to 14th December when presumably the same bird was noted at Walcott and Happisburgh. No other reports have been forthcoming.

The lengthy stays of two individuals provided an opportunity to obtain many interesting notes. A summary of these follows:

**Habitat:** The second-year bird showed a preference for open grassy fields with nearby large wooded areas, resorting to Narford Lake only when shoots disturbed it from Westacre. The open expanse of Massingham Heath also attracted the bird on several occasions. When present in the Haddiscoe area, open marshland was preferred, although excursions into Suffolk around Minsmere and Walberswick, with much woodland and open marshland in the area, indicated a preference for these habitats. The site fidelity shown by this bird when it frequented the Haddiscoe area was remarkable, regularly wandering into Suffolk, but apparently always returning to the same area. The bird at Hickling also frequented open farmland and marshland adjacent to large expanses of woodland, apparently avoiding the large areas of water nearby, and was only rarely watched flying near Hickling Broad or Horsey Mere.



**Roosting:** Whilst at Westacre, the second-year bird regularly roosted in Sigone Wood on Westacre estate; indeed no records of roosting elsewhere were received. In the Haddiscoe area it roosted regularly in large fir plantations on Fritton Warren. Again, no other roost sites were recorded.

The Hickling bird differed however. It roosted regularly at Martham north broad in alders, but was also found roosting at the south broad, in oaks on one occasion, being disturbed on at least one other occasion; Horsey Brayden reedbed adjacent to roosting Merlins; Heigham Holmes, once in an isolated tree and near Eastfield farm, in an isolated oak. The Martham north broad site was regularly favoured, but not used exclusively.



**Prey:** The second-year bird was recorded feeding on carrion, including rabbits and a pike, provided at Westacre, and also on rabbit at Haddiscoe Island. Apparently no prey was seen to be taken by any observer. Amazingly, this bird also seized a decoy Woodpigeon just in front of a startled estate worker on a shoot at Westacre.

The first-year bird was noted feeding on rabbits, often returning to corpses, also on a young pheasant. Again no kills were witnessed.

The immature off Titchwell made repeated strikes at a Goldeneye, hovering over the sea in a stiff wind. The Goldeneye escaped capture by both diving and swimming in circles, ducking its head at each attempted strike.



**Habits:** At Westacre and Haddiscoe, the unmistakably huge and ponderous birds were admired soaring on several occasions, at times for up to 30 minutes.

The Hickling individual, once settled, could regularly be found in fields near Eastfield farm appearing quite content, having fed, to sit in fields for the remainder of the morning. Afternoons however, were not so predictable, the bird often disappearing beyond Stubb mill. On two occasions the first-year bird was noted adopting a Cormorant-like wing-drying posture when perched in heavy rain.



**Interactions with other species:** The Hickling bird was noted being mobbed by Hen Harriers, Marsh Harriers, Merlins and Corvids. Whilst feeding near Eastfield farm the bird was permanently accompanied by local magpies which took great delight in harassing the eagle, pulling its tail feathers in attempts to steal food. On one occasion the eagle was escorted in flight by a Marsh Harrier as 6 Common Cranes were flying in to roost.

In north-west Norfolk, the second-year bird was mobbed by Hen Harrier, Common Buzzard, Rough-legged Buzzard, Corvids and a Great Black-backed Gull.

The Titchwell bird was pursued by a flock of gulls including Herring Gulls.

These records are the first for Norfolk since an immature was seen in the Holme-Titchwell area between 16th-19th November 1985. The reported increasing strength of the North European population and an increasing tendency for over-wintering in the Low Countries indicate that they will not be the last local observations relating to this magnificent raptor.

This summary is compiled from notes kindly received from P. R. Allard, H. Birkbeck, R. Dawson, J. Hampshire, J. Kemp, M. Robertson, K. Robertson, R. Starling and T. Strudwick.

*RARE BIRD PHOTOGRAPHIC LIBRARY*

Catalogues available from Robin Chittenden,  
65 Sandringham Road, Norwich NR2 3RZ (Tel. 0603 633326)

# Red-backed Shrikes in Breckland 1974-1990

*R. Hoblyn*

For most of this century the Red-backed Shrike has undergone a continuous and eventually catastrophic decline as a British breeding species. During the last two decades Breckland was its final remaining stronghold. Intensive observations in the region over the past seventeen years have revealed a maximum of 30 breeding pairs in 1974 dwindling to a solitary breeding pair in 1988, with odd birds occurring in 1989 and 1990. There will have been pairs during this period that were not located so the information contained in the table is a slight under-estimate and figures in general could possibly be increased by up to 10%.

During the five-year period 1974-1978 inclusive a fairly stable breeding population existed with an annual average of 28 pairs. In the following ten-year period, however, totals dropped dramatically to around seven pairs from which precarious situation the population had little chance of recovery.

The massive reduction was a great tragedy. When one investigates breeding success over the period it is apparent the species was quite capable of rearing reasonable numbers of young. In some years output was excellent and from 1974 onwards a total of 491 young are known to have been reared to the flying stage.

<i>Year</i>	<i>Pairs Present</i>	<i>Pairs Successful</i>	<i>Young Reared</i>	<i>Av. No. Young Reared Per Pair</i>
1974	30	27	86	3.19
1975	28	15	48	3.20
1976	29	23	87	3.78
1977	29	17	51	3.00
1978	24	12	24	2.00
1979	19	15	45	3.00
1980	16	9	23	2.56
1981	7	6	19	3.17
1982	9	9	32	3.56
1983	8	7	25	3.57
1984	9	5	16	3.20
1985	6	6	22	3.67
1986	4	2	6	3.00
1987	1	1	4	4.00
1988	1	1	3	3.00
<i>TOTALS</i>	<i>220</i>	<i>155</i>	<i>491</i>	<i>3.17</i>

There has long been debate as to the reasons for the decline of the Red-backed Shrike. It is likely that a combination of several inter-related factors are involved, each of some significance and together resulting in a situation over which no control is possible. The bird is a single-brooded summer visitor to Britain normally one of the last to arrive and amongst the first to depart with the earliest arrival date in Breckland being May 3rd and the latest remaining at a breeding site August 31st. On average the extent of the breeding season in Breckland was the three-month period from mid-May to mid-August and it required at least two of these months to raise independent young. That it bred successfully at all was due in large part to its innate ability to lay repeat clutches if others have been

lost. This has to some extent balanced the effects of natural and unnatural predation. In 1974 for instance the female of the pair which bred at St. Helen's Picnic Site, Santon Downham, laid a total of 22 eggs in five nests before eventually raising four young — an astonishing feat.

Secondly there is the question of loss and fragmentation of habitat. A great deal of habitat has been lost over the years but of course the Red-backed Shrike never occupied all available sites anyway. In fact it did not require a specialised habitat at all. In Breckland it utilized a wide variety of situations ranging from dry breck and heath to quite wet areas along river courses. An almost limitless choice was available as indicated by the following selected habitats: dry breck and heath; bushy commons; scrub; rough hedgerows; open woodland; young conifer plantations; waste and marginal land; railway embankments; overgrown marl-pits; old disused gardens; riverine pasture with scrub and edges of fen and carr.

Breeding habitat for Red-backed Shrikes requires the presence of bushes and/or scrub trees in which to place nests. These may be as an under-story amongst taller trees or of a more scattered nature on open ground. Provided the site is not too densely overgrown — open space is needed in which to hunt for food — then the actual composition is unimportant. In this respect it is interesting to note the following 18 species of shrub/tree in which nests have been found in Breckland since 1974:

<i>Nest Tree Species</i>	<i>Total Nests</i>	<i>Percentage</i>
Hawthorn	148	51
Elder	38	13
Bramble	38	13
Dog Rose	24	8
Privet	9	3
Gorse	7	2
Broom	6	2
Blackthorn	4	1
Oak	4	1
Sallow	3	1
Sycamore	2	5
Plum	2	
Birch	1	
Barberry	1	
Buckthorn	1	
Oregon Grape	1	
Raspberry	1	
Lawson Cypress	1	
	291	100%

It is unlikely that habitat fragmentation has had an adverse effect. The Red-backed Shrike appears to be equally at home on a small patch of thorn scrub at a busy picnic site as it is on a large expanse of Breckland heath. It is in fact very often a bird of fragmentary habitat and marginal land.

A third factor in the decline is the relationship between climate and availability of food. Changing weather patterns have prompted suggestions that a reduction in the numbers of large flying insects adversely affects the breeding success of Red-backed Shrikes. Although this may be so to some extent the wide variations in summer weather experienced over the last two decades have shown that a hot, dry, summer does not necessarily mean the best breeding results. At risk of repetition the species is well adapted to rearing reasonable numbers of young even in so-called 'bad' summers. But there are many other



factors which influence success or failure. Quite important apparently is the timing of cold, wet, summer spells. If these coincide with a critical stage in the breeding cycle (newly-hatched young for example) they may have a more detrimental effect than if they arrive during incubation or when adults have large young. Analysis of the 291 nest and egg Record Cards shows emphatically that mortality in juvenile Shrikes most frequently occurs during the first few days after hatching.

The diet of the Red-backed Shrike is extremely varied. In addition to large flying insects (bees, wasps and dragonflies) which are caught on the wing, much food is taken from the ground. It will prey on small mammals (shrews and mice), a wide variety of nestling passerine birds and even adult birds of the size of Wren and Willow Warbler. Lizards and small grass snakes are also favoured food items. Thus during inclement weather when there may be a shortage of insects the Shrike may resort to an alternative and possibly prolific food supply thereby considerably reducing the risk of brood failure.

The Red-backed Shrike has long been a prime target for egg-collectors not only because of the beauty and infinite variety of its eggs, but also for their ever-increasing rarity value. There is no doubt that this persecution has had a most serious effect on an already threatened species, especially at ancestral and semi-colonial sites where as a result no young were reared in a particular year. These activities must be regarded as a major contributory cause in the acceleration of the decline in the later years. Equally serious has been the caging of young Shrikes by unscrupulous aviculturalists. A considerable number of broods disappeared in Breckland during the 1970s in particular and invariably the pair involved failed to rear young for that season.

There are other reasons for the decline: natural predation, migration losses, mortality in wintering areas and contraction of European breeding range. The odds were heavily against this most beautiful bird for a very long time and the end came very suddenly. The solitary males that turned-up in Breckland during the summers of 1989 and 1990 are now the sole survivors.



# Barn Owls in North Norfolk

Paul N. Johnson

*Barn Owl Conservation Officer, The Hawk and Owl Trust*

The information on Barn Owls and conservation recommendations presented here are based upon the findings of a two-year intensive Barn Owl survey and conservation program on farmland and estates across north Norfolk by the Hawk and Owl Trust. All too often the findings of research are presented in journals not always readily available to a wide selection of readers and would-be conservationists. The promotion of on-site creative conservation has been the main thrust of the Trust's Barn Owl conservation program. The publication of findings in this popular report, will, I hope allow the better understanding of Norfolk's Barn Owls by Norfolk people who are in a position to plan the long term conservation of this species in the context of future land, property and road developments. Barn Owls like all other species respond and adapt to their local environment. Therefore, the following conservation recommendations apply to north Norfolk and *may* not be the most suitable for Barn Owl populations elsewhere.

A project description including details of the study area were published in the 1989 *Norfolk Bird and Mammal Report* (Johnson 1990 a). The study area covers 6,672 sq.km. To date 1,984 sq.km (30%) has been intensively surveyed, comprising 43 separate blocks of land covering a wide range of habitats, farming practices and land management priorities. Kelly (1986) reported the Barn Owl to be widespread throughout Norfolk and Shawyer (1987) reported a Norfolk population density ranging from 1 to 9 pairs per 100 sq.km. and a total population of 190 pairs. Both authors confirm a noticeable decline and Shawyer concluded that the decrease was about 56% over the last 50 years. Barn Owl population declines in Norfolk had also been recorded much earlier by Stevenson (1866). The objectives of this study are to establish base line data on the species, as a basis for both consolidating and expanding the existing Norfolk population.

A total of 103 sites frequented by Barn Owls were recorded within the surveyed areas; 92 were confirmed as being Barn Owl breeding sites, the remainder being used as roosting areas during the period of this study.

Of the 92 confirmed breedings sites, 39 (42%) were within agricultural or derelict buildings and 53 (58%) were within tree cavities of various species, (Table 1.) Seventy-six of these breeding sites were used during the two-year study period including five late/double broods. It is interesting to note that Shawyer (1987), found a similar proportion of buildings (50%) and tree (50%) being used in Norfolk as a whole during the Barn Owl Survey of Britain and Ireland.

**Table 1**

**Barn Owl breeding sites located within the surveyed areas of North Norfolk**

<i>Sites in Trees</i>	Oak	20	Beech	2	Willow	1
	Ash	15	Sycamore	1	Poplar	1
	Elm	12	Walnut	1		
<i>Other Sites</i>	Farm Building Structures	17	Farm buildings containing an owl-box	17		
	Churches/Chapels	4	Haystacks	1		

The majority of Oak cavity nesting sites were located in parkland and roadside habitats in the east of the north Norfolk study area and the majority of Ash and Beech tree cavity sites were located in arable and roadside habitats in the west of north Norfolk.





The nesting proximity between Barn Owls and other species was evaluated. Tawny Owls, a species thought to be highly aggressive towards Barn Owls, were found to co-exist without any apparent detriment to breeding Barn Owls and at one site being only 100 m apart; Long Eared Owls utilise old stick nests and were found only 70 m from Barn Owls; and Kestrels a species often closely associated with Barn Owls were found breeding only 30 m away. The availability of cavities was high in all these cases. The tree cavities used by breeding Barn Owls were those offering spacious vertical cavities often in the main trunk.

The extent of tree cavitation found at Barn Owl sites was substantial in many cases. Examination of the trees indicated initial damage had exposed the inner heart wood, or in the case of Ash trees, an open gash in the side of the trunk permitting fungal attack principally by *Armillaria sp.* creating cavities often down to ground level.

Of the many farm barns surveyed, very few offered suitable nesting ledges or cavities for Barn Owls. The high selection of tree cavity nesting sites may be due to the unsuitability of Norfolk agricultural architecture. The majority of buildings occupied by Barn Owls were used for storing hay or straw. Alternatively the structure offered an attic space which was used by the birds. In comparison, Stevenson (1866), makes no comment upon the Barn Owls' use of tree sites and refers solely to Barn Owls using owl windows in barns and church towers. The placement of nesting boxes within farm buildings may not quickly encourage birds from a favoured tree cavity breeding site, but it does provide a roosting bird a secluded site reducing disturbance. The greatest take-up of boxes in buildings was in areas deficient in suitable cavity forming trees, i.e. coastal marshes; Brecklands and areas of Norfolk cleared of trees when used as war-time airfields.

The regional selection of tree cavity nesting sites exposes Norfolk's Barn Owl population to relatively short-term nest site availability. Many Barn Owl sites in buildings are known to have been used for over twenty five years or more. Cavity development to the extent required by Barn Owls are usually found in trees in an advanced state of decay. The loss of Barn Owl breeding and roosting sites during this study are detailed in Table 2.

**Table 2**  
**Barn Owl breeding site losses 1989-90.**

<i>Tree Site Losses</i>	Storm Damage	11
	Felled	4
<i>Barn Losses</i>	Natural Deterioration	3
	Barn Conversions	4
<i>Roost Sites Lost</i>	Trees	4
	Buildings	2

Some tree species, particularly Ash, seem to remain viable even with major cavities in the main trunk. However, this structural weakening increases their exposure to collapse. The storms of January 1990 were the cause of the eleven sites lost. Following conservation advice, only four sites were deliberately felled within the study sites two of which were re-erected in safer areas. Had this advice not been given to the landowners a further



five sites would have been felled for fuel.

The deterioration of Barns through neglect, and the collapse of roofs rendered three sites unsuitable, although the trend to convert barns is a growing phenomenon. The Trust has produced a leaflet which specialises on the conversion of buildings and details the requirements of Barn Owls in this situation (Shawyer & Johnson 1990). Current legislation protects Barn Owls only during the breeding season. Modernisation of barns used by Barn Owls can only be undertaken during the non-breeding season.

In Norfolk, many other quiet barns used as roost sites during the non-breeding season have been converted. The impact of the removal of sheltered winter roost sites on the breeding population is difficult to assess but may result in an increased number of birds winter roosting at their breeding sites.

Records of breeding, sightings and mortality indicate that Barn Owls are still widespread across north Norfolk. Determination of the current county population based on an extrapolation of the breeding population data collected during this study may not be reliable since it would be open to wide local variation. The broad variety of habitats across Norfolk greatly influences territory sizes and breeding success and the localised availability of mature hollow trees providing suitable nesting sites may be limiting factors in exposed coastal areas. However, it would not be unreasonable to assume a current Barn Owl breeding population within the study area of between 150-250 pairs.

The highest reproductive levels and breeding density were found along the coastal marshes. Although this is an area naturally lacking tree cavities, the provision of artificial nesting sites over the past 17 years by enthusiasts, may have increased the density of breeding birds in this area, revealing the importance of matching nesting sites to suitable habitats in conservation.

The highest 'natural' nesting densities were found on the older estates with mature parkland trees. The age of these large estates can determine the condition of the parkland trees, since they were often planted when the great houses were built. On two of the oldest estates where the Oak trees were over 300 years old, one in seven of these trees had a cavity suitable for a Barn Owl.

The release of captive-bred Barn Owls to supplement the wild population is an increasing and alarming national trend. To date, 16 separate reintroduction schemes have been identified operating within the study area alone. Though output will vary from year to year, it is likely that between 50 and 250 captive bred Barn Owls are being released in north Norfolk each year at the present time.

Until recently, very few Barn Owls have been ringed with BTO rings in this area: the high proportion of birds nesting in deep hollows in trees reduces the accessibility of young. The few recoveries available would indicate a tendency for young Barn Owls to disperse in a south-westerly direction.

A sample of accessible natural nesting sites with access together with birds using nesting-box sites have been selected for long-term monitoring in order to increase the data on dispersal in this study area.

Although ringing returns for captive-bred Barn Owls are lower than those of wild birds, they appear to indicate a dispersal direction different to that of the wild-bred birds. All recoveries were north west of the release location, although this trend will require further investigation. Three captive-bred Barn Owls found dead in farm buildings were identified as captive-bred by the presence of British Bird Council rings, one still wearing leather jesses. Unfortunately the origins of these birds could not be determined. The Hawk and Owl Trust has an arrangement with the BTO to ring captive-bred released Barn Owls within the Norfolk study.

The majority (85 %) (n=64), of Barn Owl mortality reports within the study period were

attributable to collisions with traffic. The improved 'A' class sections of Norfolk roads were responsible for most of these recoveries, noticeably along sections of the A148, A149 and the A47 intersecting rivers and grassland habitats. The quieter B class roads with their lower level of traffic, only accounted for 5 reported cases, all of which were juveniles recently fledging from a road-side nesting site.

Drowning in various farm and domestic water containers was reported throughout the area. Water tanks can be boarded over and field drinking troughs can be equipped with a floating plastic raft to prevent floundering birds from drowning. Plastic bread trays were shown to provide ideal floating rafts in drinking troughs (Johnson 1990 b).

Aggression and mobbing of Barn Owls by other species may influence foraging times and distribution in the region. The most interesting observation was between a juvenile Barn Owl and a male Kestrel outside the breeding season. The Kestrel attacked the hunting Barn Owl which was without prey, driving it to the ground; an unusual encounter between two species known to frequently nest in close proximity. Another observation of aggression by a pair of nesting Marsh Harriers appeared to be a deliberate attempt to catch hunting Barn Owls over an area of open coastal marshland. The Owls at this site would approach the nesting site from a very high inward flight-path from the hunting areas, possibly in order to reduce aggressive encounters with Harriers.

Deliberate human persecution of Barn Owls has been an historic practice in Norfolk and could have also influenced their behaviour. Stevenson (1866), even indicated that persecution was responsible for the uncommonness of this species in his time. It is also my conclusion that some small parts of north Norfolk remain dangerous areas for some birds of prey. Persecution can take many forms, ranging from deliberate killing to acts of disturbance during sensitive periods in the nesting season. Unusual behavioural characteristics noted during observations of nesting Tawny Owls could be the result of this birds' historic persecution on Pheasant shoots. Few landowners or Gamekeepers expressed any concern over Barn Owls, though unsupported reports of persecution were reported during this study.

Nesting-boxes were erected in an area if a traditional site was being or had been, removed, or competition was likely with other hole-nesting species. Other areas were blanketed in boxes in order to evaluate take-up rates and the influences of site deficiency on breeding densities. A total of 97 nesting boxes have been erected throughout the study area. In view of the lack of suitable ledges in many barns and the high natural selection of tree cavity breeding sites, boxes were mounted in barns and exterior grade boxes were mounted in suitable trees. The use of boxes is currently 28%, although this percentage is likely to increase with time. Barn Owls will continue to utilise perceptively sub-standard nesting sites despite the provision of boxes, unlike Tawny Owls which will readily abandon tree cavities and move into boxes (Southern 1956). Tawny Owl competition for tree holes is the most likely cause of restricting Barn Owls. It is known to have resulted in the use of a Barn Owl box by Barn Owls in 1990, five years after its erection (C. Knights pers. comm.).

A weatherproof exterior nesting/roosting box designed to be mounted in a tree or on a pole has been field-tested in the study area with encouraging results. Plans are freely available from the Hawk and Owl Trust.

Nesting boxes erected in barns have a life expectancy of ten years, exterior boxes between five and ten. For the longer term provision of nesting sites, the planting of cavity-forming trees as far away from busy roads as possible would provide the best sites in this area. Ash, Walnut and Beech are all relatively quick-growing. Ideally planted along field hedgerows; in rough corners between fields, and on the south-eastern edges of new plantings and existing woodlands they would ensure suitable breeding sites in future years.

Although Barn Owls in Norfolk have been seen to forage over field crops at certain



times of the year, permanent rough grassland is still the main hunting habitat. Traditional coastal grazing marshes and lightly grazed parklands are the obvious hunting areas locally. In the north-west, the provision and retention of old drove roads with extensive side verges provide an important foraging habitat particularly in intensive arable areas. Eleven metre-wide verges have been recorded either side of drove roads leading into the Burnhams.

A study of hunting activities and habitat selection in the north-west of Norfolk revealed that the quiet grass verges provide the main winter hunting areas. One Barn Owl was seen to catch seven small mammals within a 200 metre section in 27 minutes. Cutting these verges in late May and again in autumn is vital to reduce rank vegetation which obstructs Barn Owls hunting efficiency. Cutting a swathe along the outer edge next to the roadside with mower heads set at 10 cm, would reduce the impact on vole species and increase their exposure to Owls. A two-metre wide strip should however be left uncut along the hedgerows.

Rodenticides are used on most farms, either being applied by the farmer or by a contractor. The guidelines for the safe use of modern second generation anticoagulants should reduce the risks of accidental contamination of other rodent-eating species outside the baited area. Some second generation anticoagulants clearly state that they are only to be used in indoor situations.

However, the damage caused to sugarbeet seed by the more nocturnal Woodmouse, has led to many farmers placing rodenticides in the open fields drilled with sugarbeet seed. This practice can increase the chance of secondary contamination of Barn Owls which hunt the hedgerows of sugarbeet fields at night. Large-scale damage can be the work of a few families of Woodmice and could be controlled by trapping. Owls could also be encouraged by placing suitable nesting-boxes in the marl pits in the fields. If rodent baiting is to be undertaken, then only those compounds cleared for external use should be used and the directions for their use should always be followed (Brazil & Shawyer 1989).

Finally, there is a less tangible result derived from this type of conservation programme. Just as important as the number of sites located, barns protected and nesting boxes erected is an increased awareness by landowners, farmers, and gamekeepers of a more considerate view of the Barn Owl's reliance upon us in the many aspects of its behaviour and future well-being.

## References

- JOHNSON, P. N. (1990 a) The Barn Owls of North Norfolk. *Norfolk Bird and Mammal Report* 1989, p. 430-431. KELLY, G. (1986). The Norfolk Bird Atlas. *Norfolk and Norwich Naturalists Society*, Occasional Pub. No. 1. SHAWYER, C. R. (1987) The Barn Owl in the British Isles, its Past, Present and Future. *The Hawk Trust*, London. STEVENSON, H. (1866) *Birds of Norfolk*, Vol. 1. JOHNSON, P. N. (1990 b) Reducing the drowning of Owls and Raptors. *BTO News*, No. 170, p. 7. SOUTHERN, H. N. (1956) Nestboxes for Owls. *Countryman* 52, (1): 108-114. SHAWYER, C. R. & JOHNSON, P. N. (1990) Building for Barn Owls. *Hawk and Owl Trust*, London. BRAZIL, M. A. & SHAWYER, C. R. (1989). The Barn Owl, the farmers friend needs a helping hand. *The Hawk Trust*, London.

**Acknowledgements:** The Hawk and Owl Trust kindly acknowledge the Goldfields Environmental Trust and the MacTaggart Third Fund in support of this project of creative conservation and research.

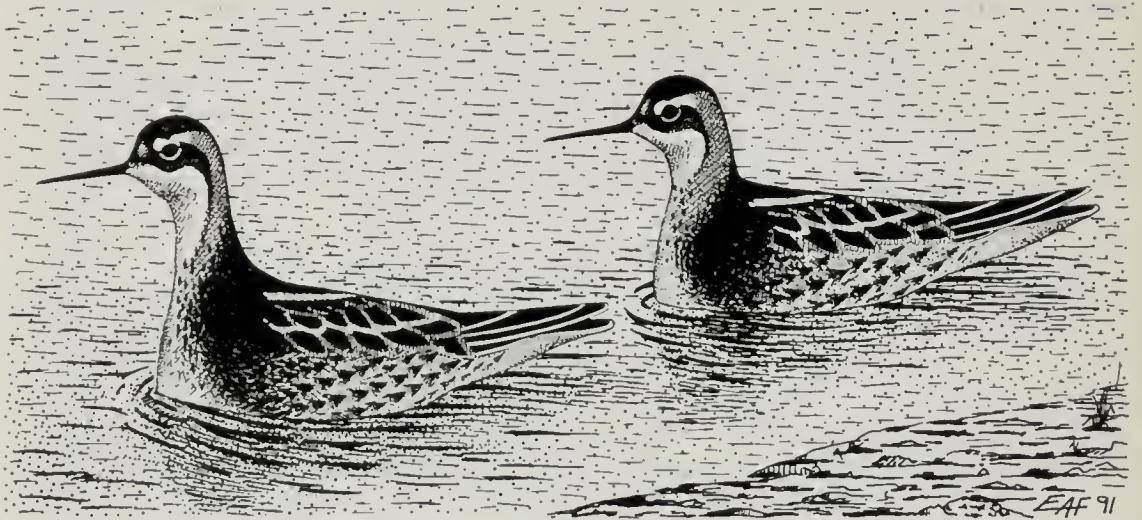
In a study of this kind the co-operation of established local enthusiasts is essential. To everyone who has contributed information I would like to take this opportunity to record my sincere thanks.

I would also like to thank Dr. P. J. K. Burton, D. Cobham, C. Fox, A. Hale, J. Hall, H. Hems, Hilleshog U.K. Ltd., J. Kinsley, C. Knights, D. Lyles, B. Martin, K. McDougall, Mr. & Mrs. R. Monteath, R. Playford, R. Perowne, D. Thorne and West Norfolk Conservation Volunteers for their support and assistance in the field and H. Hems and C. R. Shawyer for making valuable comments on an earlier draft.



# Cley 1990 — 'Plenty in Reserve'

Mark A. Golley



Cley seems to have a special something. When I first visited the reserve as a wide-eyed thirteen year old, the spell was cast. Indeed, the following years showed the allure of North Norfolk to be almost intense. This may have had something to do with Little Whimbrel, Greater Sand Plover and of course, the delightful Ross's and Slender-billed Gulls! However, in 1990 I had the pleasure of wardening and birding the reserve for almost eight months, day in, day out during a scintillating season.

I arrived on 31st March and once settled into my salubrious 'penthouse' I was soon into the swing of things. The first month was generally quiet, though being from the depths of Devon it gave me ample opportunity to enjoy home-county scarcities such as Rough-legged Buzzard and Water Pipit. A White Stork was the first of many high quality birds to appear and as the month progressed summer migrants began to trickle through. Three Cranes at the end of April whetted the appetite for the merry month of May.

The first day of May was fascinating. As the 'frets' rolled in and out, wading birds just kept appearing. The total of Ruffs leapt from 20 to well over 160, mainly stunning males. There was a perceptible rise in numbers of Bar- and Black-tailed Godwits, while 4 Wood Sandpipers '*chiff-if*'-ed their way round the reserve. Best of all were the 18 Black Terns in the early evening. Little did I realise what an insignificant total this was to be, in the light of events next day. I was up bright and early, a little bleary eyed, but I soon became aware of the large numbers of Black Terns shooting swiftly eastwards. By around 9 a.m. I had seen well over 150 and they kept coming. As I opened the N.N.T. Visitor Centre, a vast sooty squadron swarmed over Pat's Pool, easily 300 birds! A stunning spectacle which many marvelled at during the day. Quite how many birds were involved is almost impossible to say; four figures was not out of the question. If this was not enough Dotterel, Garganey and a good selection of Little Gulls put in appearances. 400 more Black Terns delighted the next day and by the end of May's first week another Dotterel had appeared, followed by Temminck's Stint, Spoonbill, Curlew Sandpiper and a singing Savi's Warbler. This is what I expected! A day on the reserve was now very consistent birdwise and I was more than happy. The situation improved yet further with a fly-over Red-footed

Falcon on 20th May.

'Flaming June' was something of a misnomer. The first few days of the month were distinctly cold, damp and unpleasant. The weather affected many newly hatched Avocet chicks; the price you pay for a thriving population? 6th June was especially unpleasant, driving rain for most of the day. Despite my best efforts to remain in the Beach Cafe, I was drawn onto the reserve. I splashed my way out to Daukes Hide, and I was confronted with a brilliant Broad-billed Sandpiper. I had bored many of my colleagues at home when I longed to find a 'BBS' while in Norfolk. And there it was. I was delighted with myself. The month progressed with plenty for me to keep my eyes on, not just passage migrants, but more importantly the breeding birds. Avocets, despite setbacks, were now fairing well, Bitterns were starting to make regular fly-pasts, Bearded Tits were constantly whirring back and forward along East Bank and after one failure the lovely Little Ringed Plovers were trying again. Added to this the high numbers of common breeders like Reed and Sedge Warblers and things looked very good. Passage waders still present included exquisite Black-tailed Godwits, their gorgeous 'whickers' filling the air. Little Gulls sallied the pools, while unseasonal Merlin and Short-eared Owl graced the air. Had I passed on and gone to an avian heaven? Maybe, just maybe. 19th June saw me finding a Kentish Plover in front of Daukes' (my run was picking up), and on 22nd I had the good fortune to find a Blue-winged Teal on North Scrape. This bird swelled the coffers of the Trust over the next few weeks, and that was just the start! As the weather got hotter, so did the birding.



Numbers of waders on the reserve had been fluctuating throughout May and June, but by the early days of July numbers were on the up and up. Spotted Redshank, Little Ringed Plover, Green Sandpiper were all showing respectable figures. These regulars were supplemented by occasional Temminck's Stints and then two superb spinning Red-necked Phalaropes, with the first of three Pectoral Sandpipers thrown in for good measure. By mid-month, the sense of anticipation was laying heavily for me. Ruffs, Black-tailed Godwits and Curlew Sandpipers were all increasing in total. A briefly massive Caspian Tern added to my excitement, which climaxed on 27th July with a World first! I had the (mis)fortune of discovering a perplexing *Calidrid* on Pat's Pool which had everyone guessing that evening. One minute it looked like a White-rumped Sandpiper (without a white rump), then the next it would look like a miniature Pectoral. All sorts of names were branded about, 'Cox's', 'Cooper's' or even Dunlin. I suggested a hybrid between White-rumped and Pectoral. Despite comments to the contrary, this is what I shall say forever and a day.



Far easier to cope with was the season's second Broad-billed Sandpiper, the flock of 64 Curlew Sandpipers — everyone a brick red beauty — and on the last day of July a breathtaking adult Long-tailed Skua.

Into August and a pattern was becoming clear. As soon as one 'star-bird' departed another would come along to ease the pain. It had happened with the Kentish Plover, with the Teal, the Phalaropes and now the Broad-billed. No sooner had this left, when in stepped a fine adult White-rumped Sandpiper (a real one!). The scrapes were in superb condition and despite the high temperatures, we still had enough water in the dykes to keep the mud attractive to a vast array of species. Birds could be encountered anywhere, not least out to sea where another Long-tailed Skua and a Cory's Shearwater were personal highlights, the 'big Shear' almost made me feel homesick for the South-West. The end of August's first week was marked with Cley's first and Norfolk's second Pacific Golden Plover. Andy Stoddart's prediction of last year was only a few days out. But not to worry, the Plover obliged allcomers in its brief but glorious stay. 'Commoner' species still entertained: almost 40 Spotted Redshanks, numerous juvenile Bitterns and Garganeys all provided ingredients for a good day out. If the reserve proved quiet on occasions the sea was now well worth investigating with menacing packs of Arctic Skuas in constant conflict offshore. The month closed with another Red-necked Phalarope and some questionable Ruddy Shelducks.

September storms were frequent events in 1990. Thankfully the wind was occasionally in the North-west and did it produce some pelagic plunder. Long-tailed Skuas will always be one of my absolute favourites. Seeing eight in the month was almost beyond description. Several hundred Arctic and Great Skuas were seen during the month as well as some really handsome Pomarines. I shall never forget the gales on 25th September, when a perfect pale phase Pomarine bustled its way past my 'living quarters', as a great grey wall of spume spitting, cold, uninviting North Sea raged as a backdrop — pure pictorial poetry. Far more forgettable were the frustrating views of one of 'the' dark-rumped Petrels which are haunting our waters. The rest of the month was made up of high counts of Little Stints and one of my favourite spectacles — wildfowl pouring in off the sea to roost and all against a glowing autumnal sunset. Arctic Terns were noted on odd occasions offshore and new arrivals such as Snow and Lapland Buntings became more obvious as the month drew to a close. The fourth Red-necked Phalarope of the year blew onto Arnold's Marsh late in the month, and bobbing brilliance arrived in the form of up to 6 Jack Snipe. Truly captivating birds, beautiful to look at and a joy just to watch as their golden braces gleamed in even the dullest light. The end of the month signalled a vast flypast of Bearded Tits off the East Bank, 47 ping-pong past me and plummeting into the reedbed.

My final weeks at Cley were interrupted with my annual sojourn to one of my absolute favourite birding spots: the Isles of Scilly. As a consequence I missed *the* fall. Hopefully we may get a similar happening in 1991. However, I was not complaining as on my return good birding was still available. I was treated to over 6,000 Wigeon (what a spectacle), Pink-footed and Barnacle Geese, a fabulous Iceland Gull that flew past the bedroom, a '*schreep*'-ing Richard's Pipit off the East Bank, a '*tac*'-ing Dusky Warbler in the village and well over 100 Little Auks. My personal delight was the gleaming Arctic Redpoll, close enough to touch, near the North Hide. My one real disappointment of the season was failing to find Norfolk's first Ring-billed Gull. But it's only a minor quibble.

My sojourn at Cley ended with a blizzard of Snow Buntings, thousands of wildfowl making use of some newly developed flashes and a juvenile Pomarine Skua in semi-residence on Arnold's. What better way to end a tremendous season; a season which had one of the best autumn wader passages ever recorded at Cley, a season full to the brim with high quality rarities and, most important of all, a highly successful breeding season for common and scarcer species alike. As close as you can get to British birding perfection? I think so.



# Status and Habits of Whooper Swans in Norfolk

*J. B. Kemp*

Whooper Swans breed in Iceland and from Scandinavia to western and eastern Siberia. The Icelandic population, estimated at 16,700 birds in January 1986 primarily concerns Norfolk. These birds winter mostly in the Irish Republic, Britain and Northern Ireland with a proportion remaining in Iceland. Norfolk has seen a dramatic increase in wintering Whoopers during the last decade. This short essay attempts to update the understanding of status in the county with particular emphasis on the Ouse Washes.

Traditionally the Whooper Swan has been a scarce passage migrant and winter visitor to the county, becoming more widespread during severe weather. It has always been scarce along the north Norfolk coast with rarely more than five to ten individuals involved. Reported sightings of large numbers of Whoopers migrating west in October and November along the Norfolk coast clearly refer to Bewick's Swans which arrive from the east. Nowadays Whooper Swans winter at Hickling/Horsey (up to 90), the Ouse Washes particularly at Welney (up to 686) and at Wolferton (up to 40 erratically). These sites are the most southerly and regular concentrations in Britain.

At Welney Whoopers were initially encouraged by the provision of grain which was already being fed to a proportion of the Bewick's Swans using the Reserve. Numbers grew slowly during the 1960s and 1970s, but did not exceed a hundred until the 1979/80 winter when a peak of 106 was attained. Totals jumped rapidly in the late 1980s leaving most literature completely out of date regarding status in the county. The latest totals coincided with increased tipping of waste potatoes into the Reserve. The species propensity for this particular food source is shown by the swans' reluctance to leave the Reserve while adequate supplies are available. This is in contrast to the bulk of the Bewick's which fly out to feed on arable regardless of the availability of food at Welney. A shortage of waste potatoes in the 1989/90 winter coupled with extremely high flood conditions (making it almost impossible to tip-out potatoes) produced a temporary change in habits for a large proportion of the Whoopers. Normally concentrated on Welney Reserve the birds spread out along the whole length of the Washes, some feeding naturally on aquatic vegetation while large numbers flew onto the surrounding arable land to feed among the Bewick's Swans. Here their food was a mixture of waste potatoes remaining after the harvest, sugar-beet tops and winter cereals. There has in fact been a tendency for a proportion of the Whoopers to remain less dependent on the Reserve during the 1990/91 winter with more birds regularly field feeding and/or spreading out along the Washes. Bewick's Swans regularly fly ten miles or more to feeding areas on arable, but the bulk of the Whoopers are normally found within a mile of the Washes.

Traditionally, Whoopers feed on underwater vegetation up-ending to a depth of a yard or more or alternatively grazing on marshland. At times the Welney birds resort to spells of traditional feeding, especially favouring areas of *Glyceria maxima* in late winter/spring when they appear to grub out the roots and/or shoots. The major part of their diet nevertheless is composed of arable waste either tipped-out on the Reserve for them or gleaned from the surrounding farmland. Although detailed information is lacking, it appears that both the Horsey and Wolferton herds also feed predominantly on arable land.

Ringling in Iceland, especially since 1980, has shown that Norfolk birds are from this country. Up to 10% of this population has been ringed with standard darvic colour-rings and in some instances neck-collars (now fortunately discontinued). A number of these mark-

ed birds have been sighted at Caerlaverock on Solway Firth, Martin Mere in Lancashire and regularly at Welney as well as at Horsey. British ringed birds from Caerlaverock also regularly appear at Welney while Welney-ringed birds have been reported in Iceland. The distance from Welney to Icelandic breeding areas is over 1,000 miles. Colour-ringing has also shown that Icelandic individuals have been visiting Welney annually since 1980/81. It would appear that small numbers of the Scandinavian population occasionally visit Britain especially in hard weather: a Danish-ringed individual was observed at Snettisham during cold weather in February 1985.

Nowadays the first whoopers can arrive at Welney by the end of September although it is usually late October before any significant counts are made. Main arrival is during November with peak totals in December or January. Unlike Bewick's the Whooper Swans are in no hurry to depart in the spring regardless of mild conditions. In spring 1989 for example it was not until the night of 17th/18th March that 200 swans left the Reserve. A mild winter will see relatively few Bewick's lingering on the Washes by the end of February. Whoopers tend to leave on northward migration in the evenings. After a few false starts all head off to the north-west or north. Spring migration of Bewick's Swans from Welney is to the north-east or east-north-east.

Over 700 Whooper Swans are now wintering in the county. The continuing influxes especially that of 1986/87 cannot be accounted for by breeding success alone and clearly there has been some recruitment from other areas. Conditions on the Washes are obviously very favourable providing the two main requirements: an ample food supply and a secure roosting area. The main mortality on the Ouse Washes is due to collisions with overhead power lines which festoon the area. Casualties occur particularly during foggy spells (over 50 Bewick's/Whoopers were killed in November/December 1989) or in gale conditions. Plans are afoot to place markers on the worst offending stretches of lines. Unfortunately, the evening flight of swans returning from the fields takes place virtually in the dark so they are unlikely to see the markers until too late. Similarly, the birds are unlikely to see the markers in time in thick fog. Burial of the worst offending lines is the only complete answer, but it is unlikely to happen in view of the costs involved.

A recent survey over the winter periods 1988/89 and 1989/90 showed that 10% of Whooper Swans were carrying lead shot embedded in body tissue — the result of illegal shooting. This is less than in Bewick's Swans where a sample of 94 birds in the 1989/90 winter revealed 40% carrying shot in their tissues. Substantial education work is required to solve this problem. Despite these worrying situations the immediate future of the Whooper Swan in the county seems assured.

**References:** CRAMP, S., (*et al*) 1977 *Birds of the Western Palearctic*, Vol. 1, Oxford University Press. OWEN, ATKINSON-WILLES, SALMON 1986 *Wildfowl in Great Britain*, 2nd ed. Cambridge. SALMON, D. J., (*et al*) *Wildfowl and Wader Counts 1985-89*, Wildfowl Trust. SEAGO, M. J., 1977 *Birds of Norfolk*, Jarrold and SEAGO, M. J., 1960-1990 *Norfolk Bird Reports*.

**Appendix 1** Ouse Washes Whooper Swan counts 1979/80-1990/91

1979/80	106	1983/84	248	1987/88	582
1980/81	130	1984/85	240	1988/89	603
1981/82	161	1985/86	320	1989/90	686
1982/83	223	1986/87	520	1990/91	600

**Appendix 2** Ouse Washes juvenile Whooper Swan percentages 1985/86-1990/91

1985/86	20%	1987/88	18%	1989/90	11%
1986/87	8%	1988/89	10%	1990/91	16%





The 1990 wader selection included this Sociable Plover at Welney. An autumn influx of Jack Snipe included this arrival at West Acre.







Northern visitors: Arctic Redpoll — surprise event of the 1990/91 winter. At Welney 600 Whooper Swans assembled during January.



# White-fronted Geese in Norfolk

*M. J. Seago*

White-fronted Geese wintering in Norfolk form a small part of the north-west European wintering population breeding across the Arctic Siberian tundra from the Kanin Peninsular to the Kolyma River. There has been an enormous increase in numbers in Holland during the past three decades. The reason appears to have been a substantial shift in population. Formerly very large gaggles wintered in central Europe. Their decline has coincided with the massive Dutch build-up to as many as 300,000 in most winters. Even so, there is the somewhat depressing fact that numbers in this country have declined during past decades. There is no sign of a recovery. Existing haunts should hold more geese and it is disappointing that the North Sea population should have increased so greatly while short-stopping keeps them on the Continent.

Earlier Norfolk writers considered the White-front an uncertain visitor locally, except during spells of severe weather. The birds favour wet meadows close to a secure roost. It was not entirely coincidental that a safe night-time refuge on Scroby Sands began remaining high and dry at all tides shortly before White-front numbers began building-up in south-east Norfolk. The vast acreage of marshland extending westward from Breydon Water attracted ever increasing numbers from the early 1920s. Robin Harrison documented the scene during the 1930s.

On many occasions during that period thousands of acres flooded for weeks at a time — particularly at Halvergate which became the White-fronts stronghold.

**Halvergate and Breydon Levels:** After feeding each short winter day the White-fronts flighted over Yarmouth town to Scroby to roost. During spells of fog and storms the birds avoided heading out over the North Sea, resorting to Breydon estuary or to the more isolated marshes. Halvergate always remained the most important level, but for days or even weeks skeins fed at Wickhampton, St. Benet's, Norton, Thurlton, Buckenham, Claxton, Langley and Haddiscoe Island.

During the 1935/36 winter a maximum of 2,000 was attained followed by a peak of 3,000 during December 1938. War-time restrictions made it impossible to obtain regular estimates of numbers between 1939 and 1945, but in 1946/47 over 2,000 White-fronts wintered. Sadly the year 1947 marked the beginning of a slow but steady decline for Halvergate as a wildfowl resort. The five drainage mills spaced along the length of The Fleet were replaced by a powerful electric pumping station. Inevitably, each succeeding winter saw less and less flooding. A total of 800 spent the 1954/55 winter in the tradi-





tional haunt, but during the following decade numbers never exceeded 500 apart from 1,200 between 18th January and late February 1958. Ever reducing numbers put in appearances each winter between 1964/65 and 1973/74. Then the marshes were abandoned by resident gaggles. So far as the Breydon area is concerned the White-front has reverted to its earlier status and become an uncertain visitor often associated with Continental cold spells. A reminder of former glory returned after the shooting season in February 1989 when 240 White-fronts frequented Berney Marshes Reserve roosting nightly on the main flood.

Two exceptional White-front weather movements are on record — presumably in response to hard weather on the Continent. Early one morning towards the end of January 1947 (and only a few days before the county was to endure six weeks of unbroken frost and deep snow) flight after flight reached Halvergate Marsh. Arrivals occupied almost an hour, the birds — 3,500 to 4,000 in number — appeared to completely cover two marshes. Their stay was very brief. A second abnormal movement was recorded 25th January 1964 when a total of over 4,000 headed westward across Halvergate. That winter the peak number of local birds was only 320.

First arrivals in the Yarmouth area were expected during the second week of October, but the main arrival seldom put in an appearance until December. By the second week of March all had departed unless the winter had been exceptionally severe as in 1963 when some lingered until the 23rd.

Yare Valley: By far the largest number of White-fronts reported between Cantley and Strumpshaw was the impressive total of over 2,000 during the 1936/37 winter. Unusually high numbers of wildfowl were recorded in January 1937 during severe weather conditions.

No *detailed* information for the Buckenham area is available until 30th December 1950 when there were 200 on snow-covered Buckenham marshes. During the remainder of the 1950s largest White-front groups there were 250 sitting in snow 10 inches deep on 21st February 1956 with 160 still present on 3rd March.

In the 1960s small groups of White-fronts remained occasional visitors. It was only in January 1969 when the marshes were deeply flooded due to a pumping breakdown that a flight of 180 put in an appearance. During the next decade numbers again remained low, but at least visits became annual from 1973. A peak of 56 was attained between 18th February 1978 and 5th March with 13 lingering until 9th March. Subsequent peak winter counts (Cantley to Strumpshaw) are as follows:

1982/83	135	1985/86	200	1988/89	310
1983/84	44	1986/87	45	1989/90	255
1984/85	140	1987/88	252	1990/91	296

Unlike the Halvergate White-fronts which flighted out to Scroby Sands, the Yare valley birds most favoured roost-site is a nearby tree-fringed private broad which is shared with Bean Geese.

Upper Thurne: A very discreet population of White-fronts has become established in the upper reaches of the Thurne, often roosting in Heigham Sounds. This group was first reported during the 1975/76 winter with a peak of 250 birds during February and March 1989.

Holkham fresh-marshes: One of the earliest White-front occurrences at Holkham was in December 1851 when 20 arrived. Status apparently remained unaltered until the time of publication of the final volume of Stevenson's *Birds of Norfolk* in 1890. Subsequent information for Holkham remains tantalisingly brief although during the mid 1930s over 250 were present. Shortly after the last War (1945) 200-300 White-fronts were regularly present declining to 100 by 1951. Until the 1967/68 winter according to The Wildfowl Trust there were only occasional observances of no more than 50 birds.



More recent peak winter counts at Holkham National Nature Reserve are as follows. After spending each day on the fresh-marshes the White-fronts flight to roost either on the open sea or the exposed sandbars off Wells and Warham:

1968/69	84	1976/77	234	1983/84	280
1969/70	132	1977/78	93	1984/85	270
1970/71	90	1978/79	250	1985/86	326
1971/72	129	1979/80	154	1986/87	232
1972/73	132	1980/81	145	1987/88	290
1973/74	150	1981/82	300	1988/89	376
1974/75	50	1982/83	225	1989/90	255
1975/76	150			1990/91	220

Ouse Washes: During the past decade White-fronts have put in appearances most years on the Ouse Washes at Welney. But these visits usually last only a few days due to unpredictable flooding covering feeding areas and shooting pressure levelled against the geese when feeding on adjoining winter wheat fields. Most arrivals are of 40 or fewer birds, but flights of 65, 80 and 130 are on record.

## Grey Partridges in Norfolk

*Dr. Simon D. Dowell*  
*The Game Conservancy*



The Grey Partridge is still a familiar sight on arable farmland over much of Norfolk, but its wide distribution across the county belies a serious decline. Since the end of the second world war the Grey Partridge has declined by about 80% nationally (Potts 1986) and much of Norfolk has mirrored the national decline. A number of farms and estates in the north-west of the county have, however, maintained high partridge densities through dedicated management of the bird in order to provide a surplus in the autumn for shooting. As a result Norfolk contains some of the highest Grey Partridge population densities in the world.

Grey Partridges are highly sedentary birds of agricultural land, nesting in the cover provided by grassy banks and vegetation at the base of hedgerows. They are strictly monogamous and have the largest clutch size of any living bird, laying an average of 15 eggs in a single clutch. The female incubates the eggs for 24 days whilst the male keeps guard close by. After hatching, the brood leaves the nest within a few hours and the parents remain with the chicks as a family covey which does not break up until late winter when the birds join partridges from other coveys to form pairs.

The highest mortality is experienced in the first two weeks of life when the chicks require high protein insect food and are vulnerable to starvation if there are insufficient insects available. Later on, partridges survive well on weed seeds, grass shoots and spilt

grain. Predators such as Corvids, Rats, Foxes and Stoats will raid nests and eat the eggs if they find them. Foxes will take females off the nest and they are probably the most serious predator of partridges (Potts 1986).

### **Causes of the decline**

There are several reasons for the dramatic decline of the Grey Partridge and all must be overcome if the decline is to be reversed. The amount of available nesting cover has been severely reduced by the removal of hedgerows and grassy strips in efforts to increase field sizes to aid farm machinery. That which remains is often severely cut back in the interests of tidiness or ploughed and sprayed right up to the hedge, preventing the luxuriant growth of ground vegetation necessary for partridges to conceal their nests. Nest predation may increase as a result because nests become easier to find. Most of Norfolk has suffered from extensive hedgerow removal and those that remain are often poorly managed, with the exception of those estates where partridge conservation is taken seriously.

Grey Partridges like to take their broods into cereal crops because they provide a close canopy that prevents their detection by aerial predators. However, the increasingly intensive use of pesticides in cereal fields over the last 30 years has led to a severe reduction in the numbers of insects in the crop that are available to partridge chicks (Potts 1986). In particular, the use of herbicides kills the weed flora that supports insect populations in cereals. In modern, fully sprayed cereals, many partridge chicks starve to death.

Because of changing interests in the countryside and the increasing emphasis on rearing and releasing of gamebirds for shooting, numbers of traditional gamekeepers who control predators have decreased. This has led to increases in numbers of common predators, especially Corvids and Foxes, which adds extra pressure on populations of Grey Partridges already declining due to the reduced nesting cover and chick starvation.

A number of landowners and farmers who are interested in game-shooting have attempted to supplement partridge stocks by rearing and releasing. Unfortunately, reared partridges do not develop the necessary behavioural repertoire for survival in the wild because of the intensive conditions under which they are reared (Dowell 1990). Furthermore released partridges can damage the wild stock by introducing new diseases and increasing density-dependent predation (Robertson and Dowell 1990).

### **Measures to halt the decline**

Where the estates in Norfolk are managed for wild game shooting the remaining hedgerows and nesting banks are often well maintained and some farmers are increasing the amount of nesting cover by planting new hedgerows. The critical problem, however, is chick starvation due to intensive pesticide sprays. The Game Conservancy's 'Cereals and Gamebirds Research Project' developed a technique called 'Conservation Headlands' in order to tackle this (Sotherton *et al* 1989). The farmer selectively sprays the outermost 6 m or so of his cereal fields whilst fully spraying the rest of the field. In the outer 6 m (the headland), only herbicides which specifically control highly competitive weeds are used, leaving more sensitive flowers to grow unhindered. These are the food plants for the insects that are essential food for partridge chicks. Conservation Headlands have been implemented on more land in Norfolk than in any other county, with dramatic results for partridge chick survival.

Every year farmers, gamekeepers and staff from The Game Conservancy carry out a full census of partridge broods after harvest on about 20 estates in Norfolk in order to determine the average brood size. In five out of the seven years since studies began in 1984, average grey partridge brood sizes have been significantly higher on fields with Conservation Headlands than on fully sprayed fields. This pattern has also been observed in other parts of England where Conservation Headlands have been implemented (see Sotherton *et al* 1989). More partridge chicks survive the first critical two weeks of life



in fields with Conservation Headlands because there are more insects available.

Conservation headlands also benefit other farmland wildlife and wild pheasant chick survival has increased in some areas (Sotherton *et al* 1989). Game Conservancy projects have shown significant increases in the number and variety of butterflies in selectively sprayed headlands (Dover *et al* 1990) where they can be up to five times more numerous than in fully sprayed headlands. Several rare arable flowers have been discovered growing in conservation headlands in Norfolk including the Night-flowering Catchfly and the Rough Poppy. Small mammals also benefit and Wood Mice will travel up to 3 km in a single night in order to feed on weeds growing in a Conservation Headland (Tew 1988).

A more controversial measure that can be taken to increase partridge density is predator control. The paucity of raptors in Norfolk is often blamed on the activities of the gamekeepers in the 19th and early 20th centuries who ruthlessly persecuted anything with hooked bill or claw. The demise of this indiscriminate extermination coupled with the decline in the use of organochlorine pesticides such as DDT, has led to increases in numbers of several raptor species in Britain (Cadbury *et al* 1988) and especially of Sparrowhawks and Marsh Harriers in Norfolk. Inevitably these will take a few gamebirds but the real threat is the often unseen damage done by Foxes and egg predation by Corvids. Humane control of Foxes, Carrion Crows and Magpies in the breeding season will enhance the positive effects of Conservation Headlands and habitat improvement in increasing partridge densities. There is no justification whatsoever for gamekeepers killing birds of prey and most modern gamekeepers realise this. Without control of Foxes and Corvids, however, the Grey Partridge will survive only in sympathetically managed areas and only at very low densities.

At the present level of understanding, rearing and releasing of Grey Partridges to supplement wild stocks can be detrimental to wild partridge survival. Until partridges that are capable of surviving and breeding successfully in the wild can be reared then further releases should be discouraged.

## Conclusion

As one of the most important areas of the world for the Grey Partridge, Norfolk has a responsibility for looking after this rapidly declining bird. The wider implementation of Conservation Headlands coupled with sympathetic field boundary management and legal predation control would ensure the protection of not only the Grey Partridge but also many other farmland flora and fauna.

**Acknowledgements:** I would like to thank Dr. Nigel Boatman, Dr. G. R. Potts and Dr. Peter Robertson for comments on earlier drafts and Jo France for typing the manuscript.

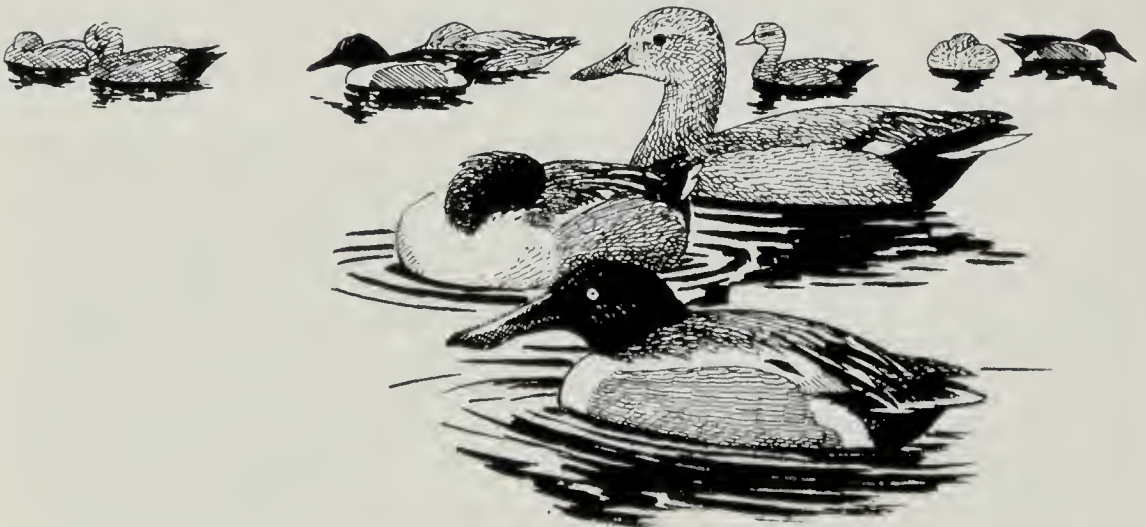
## References

- CADBURY, C. J., ELLIOTT, G. and HARBARD, P. (1988). Birds of Prey Conservation in the UK. *RSPB Conservation Review* 2: 9-16. DOVER, J., SOTHERTON, N. & GOBBETT, K. (1990). Reduced pesticide inputs on cereal field margins: the effects on butterfly abundance. *Ecological Entomology* 15: 17-24. DOWELL, S. D. (1990). The development of anti-predator responses in grey partridges and common pheasants. In: *Pheasants in Asia 1989*. Eds. D. A. Hill, P. J. Garson and D. Jenkins. pp. 193-199. World Pheasant Association, Reading, UK. POTTS, G. R. (1980). The effects of modern agriculture, nest predation and game management on the population ecology of partridges *Perdix perdix* and *Alectoris rufa*. *Advances in Ecological Research* 11: 2-79. POTTS, G. R. (1986). *The Partridge: Pesticides, Predation and Conservation*. Collins, London. 274 pp. ROBERTSON, P. A. and DOWELL, S. D. (1990). The future of Wild Galliformes in The Netherlands. In: *The effects of hand-rearing on wild gamebird populations*. Eds. J. T. Lumeij and Y. R. Hoozeveer. pp. 158-171. Organisatie Commissie Nederlandse Wilde Hoenders, Amersfoort. SOTHERTON, N. W., BOATMAN, N. D. and RANDS, M. W. (1989). The 'Conservation Headland' experiment in cereal ecosystems. *The Entomologist* 108: 135-143. TEW, T. (1988). The effects of Conservation Headlands on small mammals. *The Game Conservancy Review of 1987*. 19: 88-90.

# 1989/90 Norfolk Wildfowl Counts

(including Welney Washes)

	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Sites Counted	25	36	37	37	39	40	39
Little Grebe	33	56	84	69	84	60	66
Great Crested Grebe	75	126	118	91	101	135	192
Cormorant	290	716	727	615	764	790	839
Mute Swan	219	332	372	436	661	463	442
Bewick's Swan	—	27	1142	3583	3300	1868	584
Whooper Swan	—	33	326	500	264	500	466
White-fronted Goose	—	—	33	343	609	641	69
Grey-lag Goose	2021	1914	2089	1802	2308	1431	875
Canada Goose	399	459	616	508	479	491	388
Brent Goose	12	4616	5803	7380	10549	13457	5625
Egyptian Goose	37	74	73	24	75	48	37
Shelduck	1130	4080	12689	5382	8841	7518	5813
Wigeon	1862	11423	15388	26068	23412	17749	12285
Gadwall	864	474	439	353	597	402	540
Teal	3511	4529	4422	12992	6091	3220	3203
Mallard	3301	5622	5529	7774	9254	4935	2935
Pintail	511	1374	2526	1733	3338	1179	177
Shoveler	112	290	526	389	568	571	790
Pochard	70	284	813	1123	2530	2092	624
Tufted Duck	314	562	844	879	1001	1246	1032
Scaup	—	3	—	1	—	3	2
Eider	—	51	50	35	75	45	26
Long-tailed Duck	—	3	—	15	25	25	18
Goldeneye	1	28	59	185	278	263	163
Red-breasted Merganser	2	69	21	108	60	92	61
Coot	1163	1195	1616	1498	2222	2090	1489





## Birds of Estuaries Enquiry, 1990 Complete Wash Counts

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Great Crested Grebe	13	3	12	31	9	3	9	13	90	117	44	45
Cormorant	134	109	128	63	37	5	86	130	236	233	194	168
Mute Swan	34	26	32	18	6	4	5	6	5	12	13	13
Bewick's Swan	101	52	—	—	—	—	—	—	—	—	33	—
Brent Goose	18934	19000	12060	7796	6032	6	10	13	21	7252	12731	20193
Shelduck	15125	13296	6836	2879	2789	857	6005	2733	1326	6975	12200	7792
Wigeon	653	1981	82	3	—	—	—	7	522	631	1950	1681
Gadwall	16	21	4	4	1	—	—	5	2	4	4	27
Teal	326	96	65	2	—	2	9	11	427	499	294	615
Mallard	3955	1444	382	203	290	64	161	455	1442	1336	1726	2729
Pintail	2763	407	15	—	—	—	—	5	109	106	974	9
Shoveler	9	2	18	2	2	—	2	16	7	2	1	2
Tufted Duck	48	44	49	39	28	20	11	22	19	21	47	42
Eider	66	9	52	75	11	7	29	42	45	10	74	56
Goldeneye	112	134	28	1	—	—	1	—	—	—	59	66
Red-b Merganser	35	56	38	3	—	—	—	—	—	15	90	33
Oystercatcher	40689	32343	11954	11716	5198	3344	13494	26007	31963	25422	31160	27668
Avocet	1	1	2	4	1	53	111	36	4	8	1	2
Ringed Plover	43	24	159	310	667	40	158	1801	2147	606	300	418
Golden Plover	1772	946	363	35	1	65	661	1423	2154	1922	1574	3591
Grey Plover	5412	5827	8840	13616	10109	49	444	3929	16087	12218	7197	5694
Lapwing	10261	6122	88	18	28	137	176	250	502	1681	2393	3007
Knot	108570	67530	11257	18982	1326	800	19367	31806	53298	169321	164176	97910
Sanderling	471	197	84	309	165	1	607	1455	721	381	244	72
Purple Sandpiper	10	—	—	—	—	—	—	—	—	—	6	12
Dunlin	48146	56510	44677	46808	18735	524	23468	35968	54328	51401	38584	25433
Snipe	7	1	3	4	—	1	1	2	24	28	14	19
Black-tailed Godwit	130	191	305	91	1	5	148	525	1486	767	401	90
Bar-tailed Godwit	6482	12622	3492	1004	426	104	2078	4108	9929	14725	9619	4007
Whimbrel	—	—	—	57	62	5	252	116	35	2	—	—
Curlew	2835	2616	3295	711	727	532	3766	6077	10277	10436	2707	1940
Spotted Redshank	—	—	3	7	2	91	67	192	104	48	31	—
Redshank	2573	2094	3497	2204	668	258	3707	5935	7055	6410	3872	2146
Greenshank	1	1	2	34	22	—	252	148	172	141	—	—
Turnstone	638	694	967	448	544	39	626	1143	1281	1292	1131	977



**Birds of Estuaries Enquiry, 1990**  
**North Norfolk Coast Complete Counts**  
**(Holme — Salthouse)**

	JANUARY	FEBRUARY	MARCH	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Little Grebe	13	8	11	10	23	27	34
Great Crested Grebe	9	8	11	21	16	17	24
Cormorant	57	74	115	159	101	72	61
Mute Swan	77	76	61	75	84	77	133
Bewick's Swan	—	3	—	—	6	1	10
Whooper Swan	3	3	1	—	2	—	6
White-fronted Goose	264	194	40	—	—	15	49
Greylag Goose	420	379	139	190	201	192	228
Canada Goose	141	92	52	33	38	229	247
Brent Goose	6187	8350	3232	160	7264	14064	7509
Egyptian Goose	6	18	6	12	20	6	12
Shelduck	1139	868	548	715	911	929	1161
Wigeon	4257	3630	1747	2406	7121	13429	6552
Gadwall	40	53	117	9	77	56	91
Teal	2069	1510	576	822	2346	3687	4273
Mallard	1275	993	354	999	1049	1339	1180
Pintail	616	560	46	124	592	1714	1194
Shoveler	69	119	88	45	90	77	47
Tufted Duck	3	4	31	1	2	7	21
Eider	72	36	26	13	23	17	56
Long-tailed Duck	25	25	18	—	1	33	22
Common Scoter	—	3	—	—	85	52	117
Goldeneye	146	113	91	—	3	81	129
Red-breasted Merganser	52	41	52	4	72	86	54
Coot	97	118	137	44	65	83	106
Oystercatcher	4799	4224	4836	3283	4886	4815	4489
Avocet	—	—	13	8	1	—	—
Ringed Plover	223	258	403	818	283	294	154
Golden Plover	1672	501	783	165	118	824	2671
Grey Plover	592	530	599	746	927	873	429
Lapwing	8022	4794	1055	320	680	3699	4213
Knot	932	1585	1032	510	1696	2713	738
Sanderling	121	189	311	364	151	338	231
Curlew Sandpiper	—	—	—	17	—	—	—
Dunlin	2245	3182	3353	2501	3045	3943	4396
Ruff	—	—	25	79	10	5	21
Snipe	24	43	79	47	33	21	94
Woodcock	—	—	—	—	13	—	—
Black-tailed Godwit	—	—	—	2	8	4	3
Bar-tailed Godwit	1061	1199	513	1011	677	810	1032
Curlew	549	662	744	986	530	459	348
Redshank	862	769	550	638	615	716	604
Greenshank	1	1	—	36	13	1	—
Turnstone	201	332	309	401	248	256	328



# Birds of Estuaries Enquiry, 1990

## Breydon/Berney Marshes Counts

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
Little Grebe	10	9	5	11	12	9	9	12	7	10	22	21
Great Crested Grebe	8	9	17	8	29	41	40	108	77	45	28	22
Cormorant	95	106	102	69	61	37	92	138	141	111	88	88
Spoonbill	1	1	1	2	2	2	1	—	—	—	—	—
Mute Swan	185	130	149	94	56	55	58	42	41	39	123	128
Bewick's Swan	405	561	272	3	—	—	—	—	—	31	42	115
White-fronted Goose	25	35	—	—	—	—	—	—	—	—	13	25
Greylag Goose	92	83	58	37	41	59	85	155	155	120	107	92
Canada Goose	30	8	12	14	15	19	15	34	28	27	30	4
Barnacle Goose	6	6	6	—	1	—	—	—	—	1	2	—
Brent Goose	5	4	1	1	—	—	—	—	—	11	8	6
Shelduck	205	290	489	518	654	643	209	44	74	207	196	244
Wigeon	500	700	450	50	8	4	4	—	76	66	1200	930
Gadwall	45	59	68	37	16	14	5	9	4	2	10	14
Teal	286	170	152	84	6	24	15	17	48	25	200	200
Mallard	336	186	36	33	35	37	65	190	87	216	170	186
Pintail	113	98	37	3	—	2	—	—	12	39	76	111
Garganey	—	—	—	1	3	1	—	2	—	—	—	—
Shoveler	78	44	163	75	39	12	20	28	2	3	20	27
Pochard	5	7	5	16	2	5	—	5	—	7	11	5
Tufted Duck	2	7	6	12	7	4	4	4	4	1	3	3
Oystercatcher	137	237	317	257	138	123	309	286	131	70	73	89
Avocet	—	1	2	5	2	6	6	—	—	12	3	—
Little Ringed Plover	—	—	—	1	9	4	1	2	—	—	—	—
Ringed Plover	72	62	29	53	398	52	27	224	459	166	113	88
Golden Plover	120	260	112	236	4	3	3	66	229	200	1000	1400
Grey Plover	19	19	15	9	63	25	2	19	109	147	59	62
Lapwing	5000	2200	300	350	85	250	200	100	70	150	7000	12000
Knot	135	83	79	20	47	2	7	16	34	53	4	73
Sanderling	72	28	26	19	12	3	2	2	—	17	30	46
Little Stint	—	—	—	—	—	1	1	3	3	2	—	—
Curlew Sandpiper	—	—	—	—	15	3	18	21	106	12	—	—
Dunlin	1840	1600	1100	970	1200	16	300	550	3000	1800	2100	1400
Ruff	41	6	12	8	79	4	10	13	40	51	16	2
Snipe	131	130	170	25	8	5	7	10	17	46	50	60
Black-tailed Godwit	—	—	3	20	5	5	7	5	4	4	1	1
Bar-tailed Godwit	4	6	6	54	177	20	13	13	37	29	1	2
Whimbrel	—	—	—	5	94	1	12	17	7	—	—	—
Curlew	638	556	503	486	147	146	606	601	710	679	626	717
Spotted Redshank	1	1	1	2	19	3	4	6	3	2	2	1
Redshank	860	680	720	680	73	152	500	700	650	600	700	800
Greenshank	—	—	—	3	45	4	24	14	14	6	1	—
Green Sandpiper	1	2	1	1	1	6	5	6	5	1	1	1
Wood Sandpiper	—	—	—	—	2	1	1	—	—	—	—	—
Common Sandpiper	—	—	—	2	12	1	5	19	5	—	—	1
Turnstone	30	20	31	36	18	5	7	21	30	26	18	19
Little Gull	—	1	—	14	4	3	3	4	—	5	—	—
Twite	35	30	15	—	—	—	—	—	—	46	40	45
Lapland Bunting	10	4	3	—	—	—	—	—	2	11	9	4

# Pink-footed Geese in Norfolk 1990-1991

J. A. Gill

*School of Biological Science, University of East Anglia, Norwich*

Although Norfolk is famed amongst birdwatchers for its concentrations of species rarely encountered in Britain, there are very few species for which the area can be said to hold internationally important numbers. This winter, Norfolk held almost 20% of the world population of Pink-footed Geese and is therefore of great importance in terms of conservation. In October 1990, a three-year University of East Anglia project began in which I am aiming to try and understand some of the factors underlying the changes in distribution and habitat choice of these geese over the course of the winter in Norfolk.

In the 1989 edition of the *Norfolk Bird & Mammal Report*, Michael Seago provided a very interesting and comprehensive account of the history of the Pink-footed Goose in Norfolk. Over the last decade numbers using north Norfolk had risen dramatically from approximately 4,000 to 27,000 with the geese roosting at three sites: the sands off Snettisham RSPB reserve, the western tip of Scolt Head Island and Warham sands east of Wells-next-the-sea. This year the wardens of these areas and I undertook weekly co-ordinated counts of the geese flying off these roosts in the morning. These counts are presented below;

## Peak Counts of Pink-Footed Geese 1990-1991

	<i>Scolt Head</i>	<i>Snettisham</i>	<i>Warham</i>	<i>Total</i>
Early November	94	9,300	950	10,344
Late November	3,300	8,900	1,630	13,830
Early December	5,800	4,430	8,500	18,730
Late December	5,100	21,350	5,500	31,950
Early January	19,250	17,000	6,700	42,950
Late January	7,700	11,900	5,500	25,100
Early February	8,350	10,000	5,500	23,850
Late February	5,150	4,370	5,140	14,660
Early March	60	3,000	1,500	4,560
Late March	0	1,670	850	2,520

The most noticeable feature of this table is the enormous number of geese present in early January. This peak of almost 43,000 in total is nearly twice the previous recorded peak of 26,920 in January 1990. The number of pink-footed geese wintering in Britain in November 1990 was recorded as 195,000, the rest of the world population (approximately 30,000 birds) winters in the Netherlands and Belgium. The counts also showed, however, that this peak was maintained for only two weeks before the number dropped back to the 20,000-30,000 that had been recorded in December. The peak count may therefore have been the result of an influx of birds from further north in the wintering range (Norfolk is the southernmost tip of this range), where the weather was quite severe at this time. Pink-footed Geese are known to be highly mobile between roost sites throughout the winter and it is not yet clear whether a large departure of geese occurred from one of the roost sites further north at this time or whether there was a general move south from all roosts.

It should also be noted that these roost counts confirm the belief that the three roosts in Norfolk do not function in isolation from one another; the proportion of birds in the three sites can change, even on a daily basis. This movement of birds between roosts all winter fits in with the national picture of this very mobile species.



On arrival in Norfolk, Pink-footed Geese feed mainly on stubble preferring fields where the waste grain has germinated and produced young shoots. However this habitat is utilised only until the first sugar-beet fields have been harvested. Counts of geese on the feeding sites this winter have shown the importance of sugar-beet left on the fields between harvesting the crop and ploughing in of the remains. During this time the fields contain the leaves of the beet tops, a small amount of new leaf growth and some unlifted beet roots. The geese feed mainly on the roots. This resource is obviously only available to the geese until the field is ploughed, although the birds will often move to a different field before they have removed all the beet. One of the aims of this project will be to determine the length of time after harvesting that the beet is most attractive to the geese and the optimal length of time between harvesting and ploughing for a field to be of maximum use to the geese.

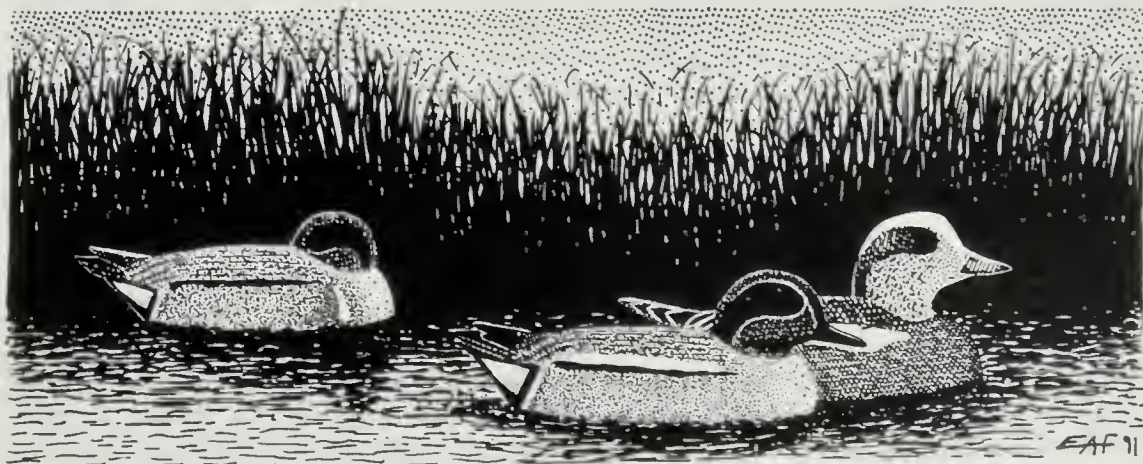
Whilst the major food source in Norfolk is undoubtedly sugar-beet, this is not the only crop to be exploited. Throughout the winter young cereal fields are visited and potato fields are occasionally used. Those geese roosting at Snettisham and Warham also use the nearby grazing pastures. The geese show a strong tendency to use cereal fields adjacent to beet fields being used at that time.

Although the counts of geese on morning flights show that individual roosts can hold more than twenty thousand birds, that number of geese do not remain together as a feeding flock. Rather, they split into subflocks of several hundred to a few thousand, each exploiting different fields in the area. Movement of smaller parties of birds between these subflocks occurs throughout the day.

Much of our knowledge of goose movements comes from the ringing studies carried out by the Wildfowl and Wetlands Trust. They have been catching Pink-footed Geese and marking them with leg-rings for the last four winters at Martin Mere in Lancashire. A number of these birds have been sighted in Norfolk in the last two winters; this winter a further 21 colour-ringed birds have been identified in this area. Of these birds, 20 were ringed at Martin Mere. The other was ringed at the Loch of Strathbeg in Aberdeenshire in March 1990 and sighted at Martin Mere in October 1990 before turning up in Norfolk in November. This suggests that there is quite a strong link between the Lancashire roost and the Norfolk roosts, especially as many of the birds sighted in Norfolk had been ringed in Lancashire earlier in the same winter. I hope to colour-mark pink-footed geese in Norfolk in the coming winter, to increase the knowledge of movements both locally and nationally. By understanding the movements and habitat requirements of the geese, it should be easier to carry out effective conservation of this important Norfolk species.

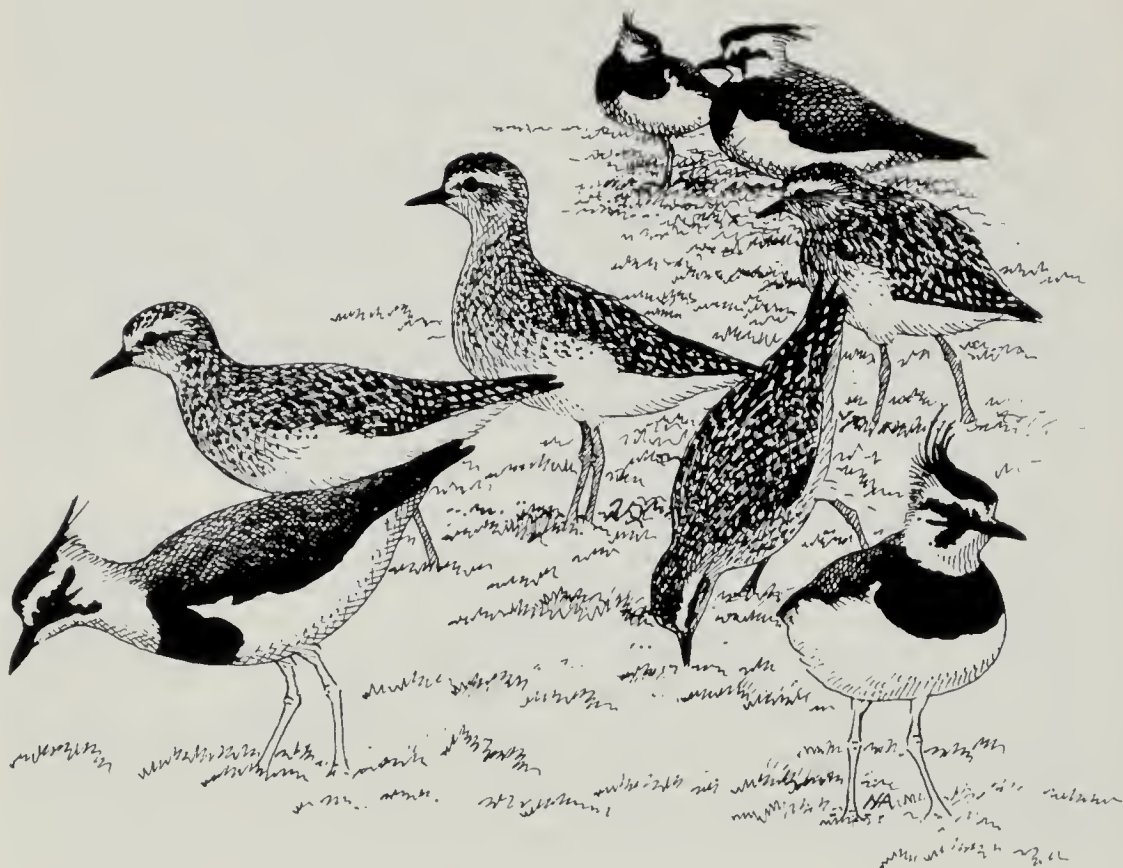
---

Publication of this feature has been subsidised by a donation from Mr. Christopher Cadbury



# Kelling Water Meadows 1990

*Moss Taylor & John Wallis*



Traditionally-managed water meadows are a rapidly disappearing habitat and it is important to reverse this trend if at all possible. The presence of shallow surface channels, running at right angles to the central dyke, indicate that the damp meadow due south of Kelling Quags was originally managed in the traditional way. This involved flooding the grassland during the winter months and lowering the water table prior to grazing the following summer. In recent years, however, any flooding which occurred was purely fortuitous, although cattle and sheep grazed the meadow between spring and autumn. Despite this lack of management Lapwing, Snipe, Redshank and Oystercatcher have all bred successfully on the water meadows during at least the last twenty years. Garganey have been regular spring visitors and rarities have included Little Bittern, Little Egret and Red-throated Pipit.

Through the centre of the meadow a dyke runs south to north, which even in the dry summer of 1989 held running water. The land at the northern end of the meadows lies at a slightly lower level and forms a natural bowl. In November 1989, with the agreement of the land owner J. Deterding and the assistance of the farm manager H. Cordeaux, a simple earth dam with an overflow pipe was constructed across the northern end of the dyke. This simple procedure resulted, after only a couple of weeks, in a shallow flooded area of about two acres. It was soon being used by up to 30 Mallard, 30 Wigeon and 15



Teal. By mid-April 5 pairs of Lapwings were breeding and a pair of Shelduck had clearly included the open water in their territory. By the end of April Little Grebes had built a nest and laid a clutch, only for it to be destroyed a few days later by an aggressive Coot.

The water meadows proved to be an exciting place in early May, with day-counts of up to 115 Ruff, 13 Spotted Redshank, 7 Greenshank and 2 Wood Sandpipers. Most impressive in numbers were Black Terns with 147 and 56 on May 2nd and 3rd, respectively. An interesting observation made on several dates was the south-easterly direction taken by many of the waders and Black Terns as they left the water meadows. The birds were watched disappearing over Muckleburgh Hill, presumably in the direction of The Netherlands, perhaps via Hickling or Breydon. A pair of Garganey appeared May 3rd, the male remaining all month. Rarities included a Wryneck on 6th, male Grey-headed Wagtail on 6th/7th, Spoonbill flying over on 9th & 19th and Red-throated Pipit on 19th.

As a result of the generosity of C. Benton of Lower Kelling and a grant from the Nature Conservancy Council, a light electric fence was purchased. This allowed controlled grazing during the summer and autumn of selected parts of the water meadow by the small herd of cattle

During June and July up to 6 first-summer Little Gulls spent much of the time here, when not commuting to Cley. On a number of occasions display was seen between two of the birds, one of which had an almost completely black hood. Up to 3 Avocets were irregular visitors from mid-April, whilst a pair with 3 flying young appeared at the end of June and were present on most days for the next three weeks. A Wood Sandpiper remained for much of the summer and was seen daily June 27th-July 10th. A first-summer Red-footed Falcon flew over on June 24th.

Autumn passage of waders was interesting, if unspectacular, with 23 species recorded on the water meadows. Peak counts of selected species were 11 Curlew Sandpipers, 54 Dunlin, 2 Little Stints and 3 Wood Sandpipers. The highlight: a Pectoral Sandpiper on August 10/11th. Unfortunately, by early August the water meadows had virtually dried out, even the central dyke being little more than a shallow stream. The large fall of thrushes in the second half of October produced good numbers of Blackbirds and Redwings in the bushes along Beach Lane, accompanied by up to 6 Ring Ousels from October 19th to the end of the month. Single Richard's Pipits flew over on September 23rd and November 1st.

During the time that the water meadows were dry, one of us (JW) constructed a small island out of cut sedge turves on which it is hoped gulls and/or waders will breed next summer. By mid-November winter rains had once more resulted in flooding at the northern end of the water meadows and small numbers of waterfowl reappeared. Most interesting was a herd of 4 Whooper Swans on November 30th, although 3 Little Auks which flew over the water meadows on December 13th were not tempted to land.

I'm sure that all of us who have enjoyed watching the birds on Kelling water meadows this year would like to extend our gratitude to J. Deterding of Kelling Hall. He has allowed us to manage the area both to the benefit of wildlife and visitors to the area. Our thanks are also due to the Nature Conservancy Council and to C. Benton for financial help in funding the scheme. Additional funds will be needed to ensure that appropriate management can be continued. Any donations will be most welcome and will be acknowledged in next year's Report. We are most grateful to the observers who have provided records.

# Grey Herons in Norfolk

*R. Jones*



The Norfolk Bird Report published in 1984 included the results of an exploratory survey of the breeding population of the Grey Heron in Norfolk. The survey had been carried out in the spring of 1983. The results were compared to those for the years 1954-1969 and, in particular, attention was drawn to the marked reduction in the number of occupied nests in East Norfolk (Broadland), the decline having taken place in a comparatively short period of time.

A similar survey has been conducted in the spring of 1990 and the numbers of occupied nests are listed below:

## East Norfolk (Broadland)

Barton	7
Buckenham	16
Burgh Castle	5
Cockshoot	2
Fishley	1
Fleggborough Common	3
Fritton	3
Heckingham	2
Hickling	9
Mautby	1
Ranworth	3
Surlingham	1
Upton	1
Wheatfen	1
Woodbastwick	1
<b>Sub-total</b>	<b>56</b>

## Mid-Norfolk (including Brecks & North Coast)

Bawburgh	1
Cley	3
Didlington	8
Gt Witchingham	15
Holkham	7
Kerdiston	4
Narford	3
North Elmham	12
Quidenham	8
Sennow Park Guist	5
Sparham	10
Sturston Carr	17
Whitwell Common	4
<b>Sub-total</b>	<b>97</b>

## West Norfolk (Fens & Wash)

Hilgay	48
Hunstanton	5
Islington	82
Snettisham	11
<b>Sub-total</b>	<b>146</b>

**Grand Total: 299 occupied nests**



After considering these figures it is possible to make the following observations:

1. The total number of occupied nests, 299, compares favourably with the figure of 238 recorded in 1983. However, it should be remembered that the 1990 breeding season followed a series of mild winters which tend to favour a build-up of the Heron population.
2. The small number of occupied nests, 56, in East Norfolk (Broadland) shows no sign of recovery from the figure of 60 recorded in 1983. This latter number was markedly different from the average of 155 for the years 1954-69.
3. The Heron population in Mid-Norfolk would appear to be increasing, notably in that part of the catchment area of the Wensum which includes Guist, Sparham, North Elmham, Whitwell Common and Great Witchingham.
4. The heronries in West Norfolk show no significant change in size. There were 134 nests in 1983.

In conclusion, tribute should be paid to Tony Vine who each year, without fail, reports on the status of all the different heronries in the western half of the county.

## The October 1990 Fall

*Andy Stoddart*

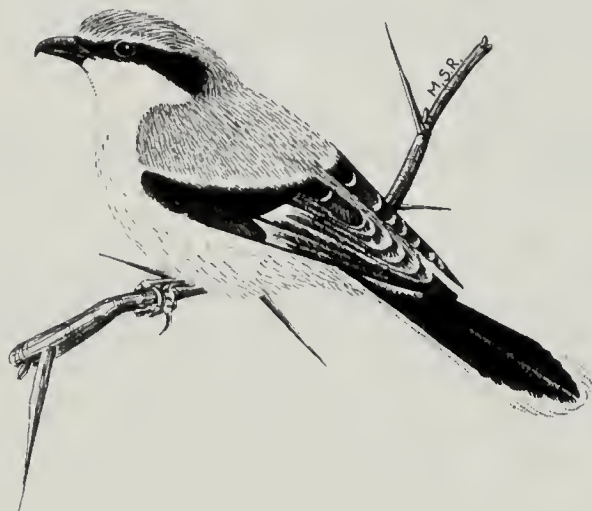
October 1990 in Norfolk did not have an auspicious start. For almost the whole of the first two weeks low pressure dominated and westerly winds halted any large incursions of Continental migrants. High pressure asserted itself from the 12th. The next few days of relatively calm, sunny, weather at last saw small arrivals from the near-Continent: mainly Blackbirds, Song Thrushes, Chaffinches, Lapwings, Skylarks and Starlings together with a scattering of rarities. A Short-toed Lark appeared on Blakeney Point on 12th and a Penduline Tit at Cley's Glaven Sluice followed on 14th by Siberian Stonechat at Stiffkey. Several Yellow-browed Warblers were also seen during the week.

The weather worsened on 17th as a front approached from the south. Grey skies and a stiff, cold, easterly wind promised much yet delivered little. But a Dusky Warbler found in the failing light on Gramborough Hill, Salthouse, was a sign of what might be around the corner. An area of high pressure to the north which had remained obstinately out at sea for some time suddenly extended its influence into western Scandinavia by the evening of the 17th. With the front due to cross Norfolk during the night and fill the southern North Sea with cloud and rain, conditions seemed promising.

The 18th dawned almost calm with thick fog and light drizzle. The Salthouse Dusky Warbler had departed, but from shortly after first light the sound of incoming thrushes permeated the fog. The scale of the arrival was soon apparent everywhere with large numbers of thrushes grounding themselves at the first opportunity. All round the county observers had similar experiences as coastal cover rapidly filled with birds. Redwing were most abundant, forming large flocks to search for food on even the most isolated shingle ridges and clifftops, reluctant to move inland in the poor visibility. All the expected species were represented in what soon became the largest fall of birds in Norfolk for some years. Numbers are almost impossible to assess, but rough counts included several thousand Redwing, Fieldfares and Blackbirds at Holkham Meals and Sheringham: at least 3,000 Redwing, 1,000 Fieldfares and 1,000 Blackbirds on Blakeney Point and 5,000 Redwing and 1,000 Blackbirds at Holme. Associated with these were substantial numbers of Song Thrushes, Robins and Goldcrests with over a hundred of each reported at many sites. Ring Ouzels were also well represented with 15 at Holkham Meals, 12 at Sheringham and 20

along Blakeney Point. Other expected species included widespread reports of Bramblings, Black Redstarts, Long-eared Owls and Woodcock with a few Chiffchaffs, Blackcaps and Mealy Redpolls. Conditions remained difficult all day with poor visibility and intermittent drizzle, but an Olive-backed Pipit called from the fog on Blakeney Point before dropping to ground and two lone Arctic Redpolls shuffled around in dune hollows there — forerunners of what was to become a mini-invasion of this species.

Patches of fog still lingered and the wind remained in the north-east on 19th. However, many birds remained, exhausted, from the previous day and further arrivals of the same species superimposed themselves on them. For example 24 Ring Ouzels were now in Holkham Meals. Not surprisingly more rarities were found with both Radde's and Dusky and 2 Yellow-browed Warblers in Holkham Meals, yet another Norfolk Pied Wheatear at Holme, Great Grey Shrikes on Blakeney Point and at Wells Coastguards, Red-breasted Flycatcher at Thornham Point and Yellow-browed Warbler at Cley.



Conditions slowly eased over the next few days. Clearing skies meant numbers of birds gradually dwindled, although fresh arrivals were still taking place, particularly of thrushes, Goldcrests and Woodcock. An Arctic Redpoll was at Holme, 3 Yellow-browed Warblers in Holkham Meals and Great Grey Shrike on the East Hills on 20th; also Yellow-browed Warbler at Cromer. Another Arctic Redpoll joined a Linnet flock on Blakeney Point on 21st and a Great Grey Shrike appeared at Holme.

Long before the October fall 1990 had become the year of the Crossbill. Small flocks were now associated with this large movement with occasional examples looking most out of place attempting to feed on short coastal turf or even on weed-heads in shingle ridges. Parrot Crossbills staged a small comeback, including 4 at Holme on 21st/22nd. Small parties of Waxwings also appeared — the advance guard of further arrivals in November.

Every large movement has its individual character. The events of October 1990 will be remembered not only for the sheer volume of birds, but also the fact that it included birds which were a particular feature of the autumn notably Crossbills and Arctic Redpolls both of which were to attain record numbers. These events were not, of course, limited to Norfolk. The county was at the southern end of a massive arrival extending north to the Scottish border. In Humberside, for example, birds arrived from lunchtime on 18th as the front edged north. All the way up the East Coast events unfolded similar to those in Norfolk. The species profile elsewhere was similar, the only anomaly being 15 Pallas's Warblers found between 18th and 22nd of which none was south of the Humber.



# Ringling Report

*Allan Hale*



Almost 25,000 birds were ringed in Norfolk during 1990 — more than in any previous year. Included in this total were 1,080 Knot, 1,773 Dunlin, 1,276 Swallow, 1,016 Goldcrest and 2,066 Greenfinch. Smaller, though nevertheless significant totals of Gadwall (51), Marsh Harrier (31), Barn Owl (53), and Wheatear (30) were also ringed. Amongst the less commonly handled species were Bewick's Swan (4), Avocet (24), Woodlark (40), Waxwing, Yellow-browed Warbler, Crossbill (43) and Snow Bunting (9).

As usual the wealth of recoveries submitted has meant the omission of many interesting movements. However, attention should be drawn to the spectacular Bewick's Swan and Grey Plover recoveries, no less than five Common Terns to West Africa and a wealth of information resulting from the colour-ringing of Whooper Swans and Barnacle Geese. Readers are requested to refer to the 1989 Ringing Report for an explanation of the abbreviations used in the recovery section.

Thanks are extended to all Norfolk ringers for submitting the data from which this report was compiled. Particular thanks to Steve and Alison Wakeham for again supplying Wash Wader Ringing Group recoveries and their interpretation.

## NORFOLK RECOVERIES NOTIFIED DURING 1990

**Bewick's Swan:** Stavropol is between the Black and Caspian Seas, in an area where Bewick's Swans were once known to have wintered, but from which there are no recent records. It is way off the route taken by British wintering birds to their breeding area. It is likely that this bird (known to have been an unpaired adult) teamed up with a mate on the breeding grounds which had already established its wintering tradition in the Caspian area. Exactly where still needs to be clarified.

4f            18.1.88        Welney

+            04.1.89        Budennovsky, Stavropol, U.S.S.R. 3,315 km ESE

**Whooper Swan:** Two families of colour-ringed swans were observed at Waxham (then roosting at Hickling) on 3rd, 5th and 9th November 1990. One family of four (rings LHX adult male, LIB adult female, and two cygnets LHY and LIA) had been ringed 12.8.90 at Glaumber, Skagafjordur, Iceland. The other family consisting of an adult female (FFU)

and a cygnet (FFY) were ringed at Svartarvatn, Myvatnsheidi, Iceland — the mother had been ringed 14.8.85 as a cygnet, then re-trapped 4.8.90 with her own family.

The absence in Norfolk of the third ringed cygnet from the first family, and the male parent and second ringed cygnet from the second family is intriguing, and it will be interesting to see if these birds turn up elsewhere, or indeed have succumbed during migration.

**Barnacle Goose:** Six colour-ringed geese arrived at Cley during autumn 1990. Ring identification marks NLF and NLU (a presumed pair) were ringed on Spitsbergen in July 1986. YRI was ringed on Spitsbergen in July 1979 and has been present at Caerlaverock every winter since; this bird was still at Cley on 20th October, but had re-orientated to Caerlaverock by 14th November. LXI was ringed on Spitsbergen in July 1986. UAP and EPZ (a pair) were ringed on Spitsbergen in July 1990. These birds had re-orientated back to Caerlaverock by 17th November.

**Wigeon:**

4	20.12.88	Pensthorpe, Fakenham
+	25.1.90	Castle Douglas, Galloway, Scotland. 394 km NW

**Mallard:** The most distant Norfolk recovery for at least thirty years — Lopkhary is beyond the Ural Mountains.

4	17.3.84	Welney
+	6.9.89	Lopkhary, Tyumen, U.S.S.R. 3,978 km ENE

**Tufted Duck:**

5m	3.3.90	Pensthorpe, Fakenham
x	29.9.90	Lough Neagh, Antrim, N. Ireland. 510 km WNW
3m	3.10.88	Pensthorpe, Fakenham
x	4.3.90	Ijsselmeerdijk, Lelystad, Netherlands. 310 km E

**Oystercatcher:** The first is one of several 22 year old Oystercatchers recovered during 1990. The second is only the 8th Wash-ringed Oystercatcher to be found in Iceland; the majority of Wash Oystercatchers breed in Scandinavia.

2	24.7.67	Terrington, King's Lynn
+	15.1.90	Le Bois de Cise, Somme, France. 315 km SSE
8	10.3.85	Heacham, Hunstanton
x	4.6.90	Eyjar, Sudur Mula Iceland. 1,561 km NNW

**Golden Plover:** Only the third British-ringed Golden Plover to be reported from Holland; this bird was caught in the same Wash catch as the similar Dutch recovery published last year.

4	13.8.87	North Wootton, King's Lynn
v	24.2.90	Friesland, Netherlands. 344 km E

**Grey Plover:** Undoubtedly the recovery of the year. This bird was lifted from its nest by a Polish expedition visiting northern Siberia; he has now been colour-ringed and so have his female and two of the chicks from a clutch of four. This represents the first proven record of a British-ringed Grey Plover on its breeding grounds; there have previously been only two examples of passage birds (found further west) in the U.S.S.R. Incidentally Sibriakov Island is on the same longitude as Mongolia and Thailand!

6	21.8.86	Terrington, King's Lynn
vB	2.7.90	Sibriakov Island, Taymyr, U.S.S.R. 4,423 km ENE

**Lapwing:** A typical movement.

1	12.6.75	Ferwoude, Friesland, Netherlands
xF	13.12.87	Shipdham, Dereham. 308 km W

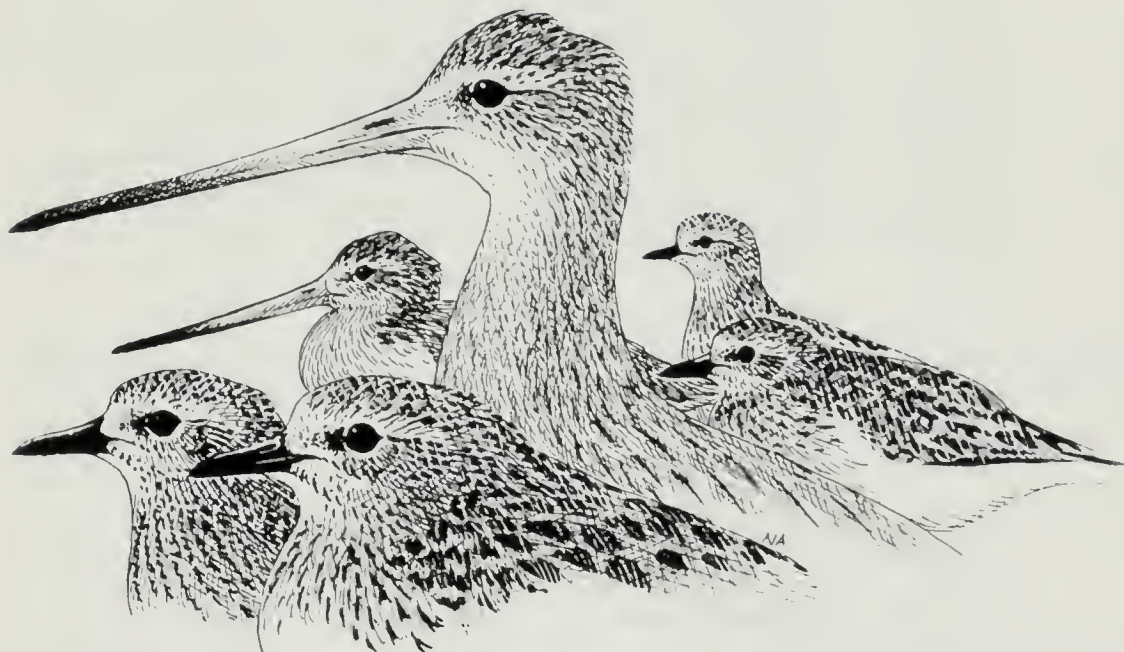
**Knot:** 21 years old and still going strong; the national longevity record stands at 23 years

1 month, also involving a Wash bird. The second probably en-route to more westerly breeding grounds in Greenland or Canada. (Taken by cat!)

4	26.10.68	Heacham, Hunstanton
v	16.11.82	Nigg, Highland Region, Scotland
v	28.12.89	Nigg
6	19.2.72	Snettisham, King's Lynn
xF	23.5.90	Reykjavik, Iceland. 1,798 km NW

**Dunlin:** The second from the Western Isles (It may have been on its breeding ground or it could have been on passage to Iceland or SE Greenland), a splendid example of multiple catching and only the fourth Wash-ringed Dunlin to be found in Iceland.

6f	18.5.88	South Uist, Western Isles, Scotland
v	22.7.89	Terrington Marsh, King's Lynn
4	17.7.85	Seal Sands, Cleveland
v	17.4.88	Pancas, Ribatejo, Portugal
v	19.8.89	Terrington Marsh, King's Lynn
4	2.8.88	Terrington Marsh, King's Lynn
xF	3.6.90	Austur Skaftafells, Iceland. 1,547 km NW



**Bar-tailed Godwit:** The oldest known Bar-tailed Godwit on The Wash.

4	26.10.69	Thornham, Hunstanton
v	10.2.90	Heacham, Hunstanton

**Curlew:** A typical recovery from Finland

4	20.9.82	Terrington, King's Lynn
xF	5.5.90	Myllyoja, Oulu, Finland. 1,972 km NW

**Turnstone:** Only the second Wash Turnstone to West Germany.

4	12.8.79	Terrington, King's Lynn
xL	21.5.90	Bremerhaven, West Germany. 550 km E

**Black-headed Gull:** Further dispersal information from the breeding colony at Cantley. Additionally there were movements of other birds to, or from, Finland, Sweden, Denmark, Belgium and The Netherlands.



1	4.6.86	Cantley, Norwich
vv	26.1.90	Cork City Docks, Cork, Eire. 681 km W
1	5.6.88	Cantley, Norwich
3	28.4.90	Bassenthwaite Lake, Cumbria. 388 km NW
1	10.6.86	Cantley, Norwich
+	15.12.89	Tacumshin, Wexford, Eire. 542 km W
1	25.6.89	Cantley, Norwich
x	28.5.90	Yeadon Tarn, West Yorkshire. 231 km NW

#### **Common Gull**

1	29.6.69	Teisko, Hame, Finland
x	12.1.90	Worthing G.P., North Elmham. 1,697 km SW

**Sandwich Tern:** An expected movement, but from a particularly long-lived bird.

1	25.6.75	Farne Islands, Northumberland
x	15.5.90	Pensthorpe, Fakenham. 348 km SSE

**Common Tern:** A series of recoveries clearly demonstrating the wintering area of Norfolk-bred birds. Incidentally the Hardley nestling was reared on an artificially provided 'raft'.

1	19.6.83	Hardley, Norwich
x	14.9.86	Half Assini, Ghana. 5,293 km S
1	18.6.83	Breydon Water, Great Yarmouth
( )	13.3.90	Takoradi, Ghana. 5,309 km S
1	16.6.87	Breydon Water, Great Yarmouth
( )	15.9.88	Apapa, Lagos, Nigeria. 5,131 km S
1	23.6.90	Breydon Water, Great Yarmouth
( )	11.9.90	St Louis, Senegal. 4,372 km SSW
1	21.7.90	Breydon Water, Great Yarmouth
x	15.11.90	Dakar, Senegal. 4,553 km SSW

**Woodlark:** Two interesting movements resulting from colour ringing the Breckland Woodlark population, plus the British longevity record for the species.

2m	7.9.89	Thetford Forest
vv	29.3.90	Rendlesham Forest, Suffolk. 74 km SE
1	3.5.89	Thetford Forest
vv	13.3.90	Dunwich Forest, Suffolk. 68 km ESE
1	28.4.86	Thetford Forest
vv	27.4.90	Thetford Forest

**Sand Martin:** Movements to, or from, Norfolk numbered eight to Sussex, with one to each of Kent and Dorset.

**Swallow:** In addition to the publications in full, a roost at Stoke Ferry during September included 8 incoming local birds (movements between 14 & 47 km) and one local outgoing bird (24 km).

1	12.7.90	Owston Ferry, Epworth, Humberside
v	16.9.90	Stoke Ferry. 133 km SE
3	22.9.90	Stoke Ferry
v	26.9.90	Icklesham, Sussex. 184 km S
3	8.9.90	Stoke Ferry
v	27.9.90	Icklesham, Sussex. 184 km S
1	19.7.90	Burnham Market
v	10.9.90	Icklesham, Sussex. 226 km S

**Wheatear:** Few Wheatears are trapped in Norfolk. This shows an Orkney-bred bird returning north via the county.

3f	28.6.89	North Ronaldsay, Orkney
v	21.4.90	Holme-next-the-Sea, Hunstanton. 734 km S

**Blackbird:** The first bird was on passage at both sites. The second is an example of a wintering thrush having moved further west during the harsher winter of 1986, and the third an overnight North Sea crossing. Additionally there were two passage birds intercepted on Helgoland Island (Germany) and one still moving north through Sweden in April.

3f	24.10.88	Lundy Island, Devon
x	28.5.90	West Acre, Swaffham. 400 km NE
4	8.2.86	Lucan, Dublin, Eire
v	26.12.89	Shimpling, Diss. 519 km ESE
4f	1.11.89	Castricum Duinen, Netherlands
v	2.11.89	Sheringham. 234 km W

**Song Thrush:** Only the third British-ringed Song Thrush to be found in Algeria; the previous example, back in 1979, was also ringed on Autumn passage (in Fife).

2	29.10.88	Shimpling, Diss
x	15.2.90	Kabylie, Alger, Algeria. 1,775 km S

**Redwing:** Recoveries in Italy are surprisingly common.

4	12.11.88	Walpole Highway
?	16.11.89	Tapogliano, Gorizia & Udine, Italy. 1,216 km SE

**Sedge Warbler:** The vast majority of foreign recovered birds come from coastal France, whereas recoveries in Belgium are very unusual.

3	13.9.88	St Philbert de Grand Lieu, Loire-Atlantique, France
x	6.5.90	Hickling Broad NNR. 674 km NNE
4f	3.6.89	Pensthorpe, Fakenham
v	5.8.90	Anzegem, West-Vlaanderen, Belgium. 284 km SW

**Reed Warbler:** Some clues to the route southward.

3	28.7.90	Hardley, Loddon
v	22.8.90	Mortagne, Charente-maritime, France. 803 km SSW
4m	14.6.85	Middle Fen, South Lopham, Diss
v	30.6.90	Rye Meads, Hoddesdon, Herts. 96 km SW
4f	24.7.87	Middle Fen, South Lopham, Diss
v	14.7.90	Pitsea Marshes, Basildon, Essex. 99 km SSW
3	25.8.90	Hardley, Loddon
x	24.9.90	Three Bridges, Crawley, Sussex. 197 km SW

**Lesser Whitethroat:** A bird captured at two of its spring migration stop-off points; note also the rapid movement.

4m	1.5.90	Sandwich Bay, Kent
v	3.5.90	Sheringham. 187 km N

**Garden Warbler:** This bird was breeding when re-trapped.

3	2.9.89	Hollesley, Suffolk
v	19.5.90	Reedham, Great Yarmouth. 56 km N

**Chiffchaff:** The first bird shows a very similar movement to the previous years control from Icklesham (also Sussex). The second had probably bred in Cambridgeshire when ringed as an adult there in late August, and may have been on its way back when controlled on spring passage at Sheringham.

2	23.6.89	Shimpling, Diss
v	24.9.89	Beachy Head, Sussex. 196 km SSW
4	26.8.89	Godmanchester, Cambridgeshire
v	3.5.90	Sheringham. 113 km E

**Willow Warbler:** Passage birds trapped at Worthing and Sheringham were both likely to have been breeding at their other point of capture.

3	2.7.89	Middle Fen, South Lopham, Diss
v	11.8.90	Cissbury, Worthing, Sussex. 194 km SSW
4	3.5.90	Sheringham
v	30.6.90	Ramsley Moor, Derbyshire. 208 km WNW

**Blue Tit:** The longest Norfolk movement of the year by far.

2	19.10.89	North Repps, Cromer
v	12.3.90	Shimpling, Diss. 55 km SSW

**Nuthatch:** From over 19,000 ringed Nuthatches in Britain this is the most distant movement. (The next best was a mere 52 km.)

2m	26.9.87	Reedham, Great Yarmouth
v	20.2.88	Reedham, Great Yarmouth
x	14.4.90	Colchester, Essex. 87 km SSW

**Starling:** The first three recoveries demonstrate the typical breeding area of winter immigrants to Norfolk. The last is a bird surprisingly wintering further west in the subsequent winter.

5m	14.1.89	East Winch, King's Lynn
x	15.5.90	Ouwsterhaule, Friesland, Netherlands. 358 km E
5f	27.1.90	Ormesby St Margaret, Great Yarmouth
x	12.6.90	Granstalida, Jonkoping, Sweden. 940 km ENE
3m	6.8.86	Ottenby, Oland, Sweden
+	15.1.89	Shipdham, Dereham. 1,079 km WSW
3m	31.12.88	Mill Street, Elsing, Dereham
x	25.11.89	NW coast of Anglesey, Wales. 381 km W

**Greenfinch:** The Norwegian bird represents only the third movement between Norfolk and that country (two of which have occurred during the last two years). All other movements in excess of 100 km are shown.

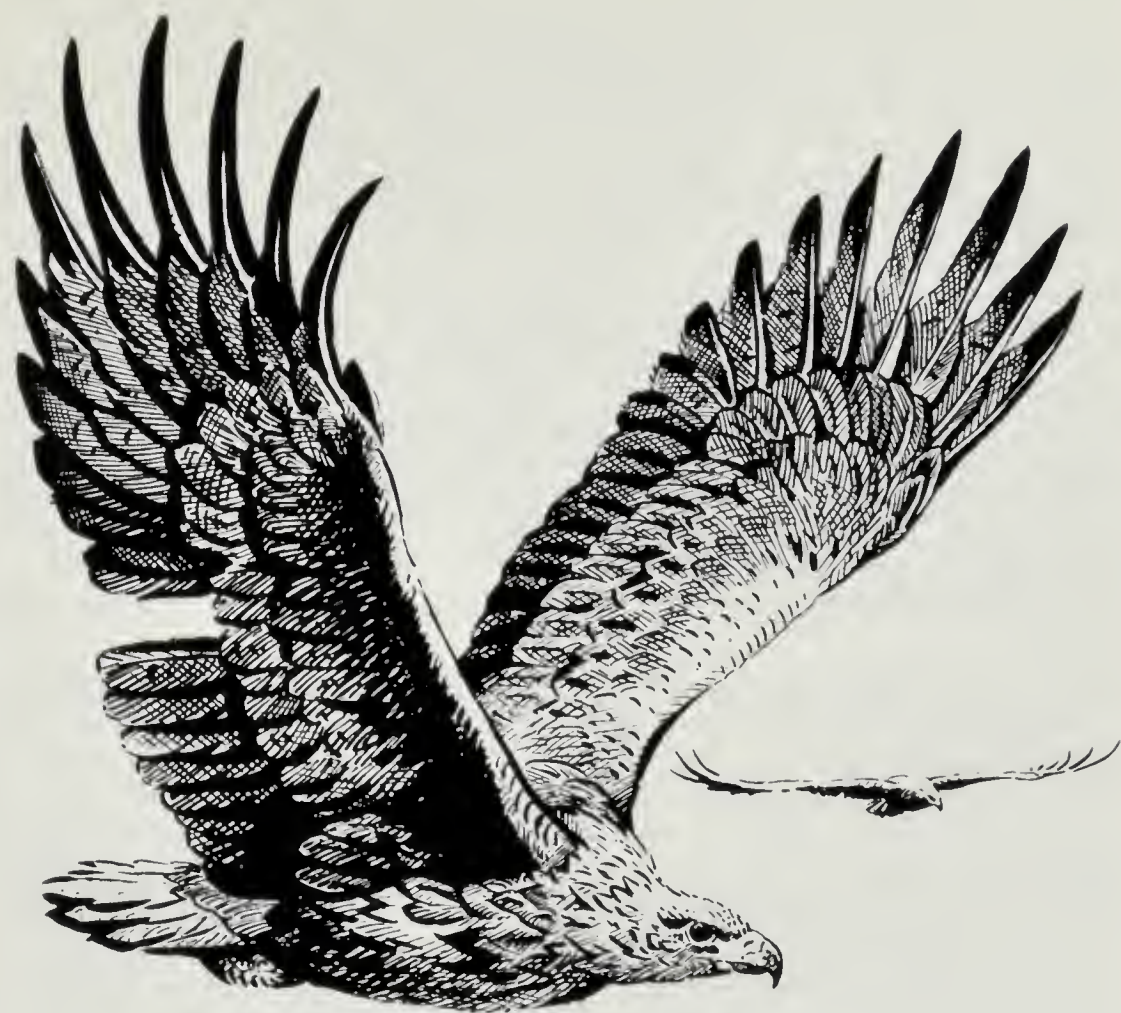
3f	8.11.88	Brekne, Farsund, Vest-Agder, Norway
v	1.1.89	Brancaster, Hunstanton. 684 km SSW
4	12.3.85	Terriers, High Wycombe, Bucks
v	17.3.90	Shimpling, Diss. 155 km NE
5f	1.4.89	Weybourne, Sheringham
v	28.3.90	Boreham, Chelmsford, Essex. 139 km SSW
6f	13.3.87	Sheringham
v	11.2.89	Bradwell-on-Sea, Essex. 139 km S

**Siskin:** These tiny finches are prone to spectacular migration movements throughout Northern and Western Europe.

6f	18.3.89	Mill Street, Elsing, Dereham
v	8.5.89	Frei, More Og Romsdal, Norway. 1,218 km NNE



# Classified Notes



These notes are based on *Birds of Norfolk* (1977 edition) where information regarding status, distribution, migration and ringing recoveries may be found. Attention is drawn to migration observations appearing in the bulletins of Cley Bird Club and also featuring in NOAs Annual Report. In addition, the NARVOS Report for 1990 contains much detail regarding distribution in west Norfolk.

The order used is that of Voous (1977) List of Recent Holarctic Bird Species. Observations refer to 1990, unless otherwise stated. To save space, all but the most essential initials have been omitted. Records are of single birds unless otherwise stated.

**Red-throated Diver:** Coastal records until May 13th and from Aug 14th with out-of-season singles at Cley June 6th and 14th, Scolt June 10th and Paston July 15th. Highest counts all from Sheringham where 60 east Feb 12th, 55 east Dec 10th and 160 east Dec 11th.

Inland: Breydon and Burgh Castle Jan 21st, Filby Broad March 30th and Denver Sluice Dec 28th.

**Black-throated Diver:** Coastal records: Typically rare in the early year with one possibly the same on 5 dates Cley-Sheringham Jan 1st-28th and one Hunstanton Jan 14th the only reports. In spring at Winterton March 3rd, Holkham Bay March 11th, Scolt April 3rd, Winterton April 7th and Paston May 7th.

First in autumn at Yarmouth Sept 8th and Winterton Sept 20th, but other than these no other autumn/winter report east of Cley. Frequent reports from north coast (Cley-Hunstanton) Sept 23rd-Nov 30th though only seen regularly at Cley where 1-2 on many days Sept 23rd-Nov 3rd and Holkham Bay where up to 5 Oct 21st-Nov 30th. Scarce in Dec; singles on only 5 dates.

Inland: Broome GP Feb 23rd; Filby Broad April 12th-14th and Pentney GP Nov 27th-Dec 11th.

**Great Northern Diver:** Hunstanton Jan 1st, Holkham Bay Jan 6th, Holme Jan 13th and 1-2 commuting daily Blakeney-Cromer Jan 1st-Feb 18th were the only records during opening months of the year.

Autumn records from Aug 16th including examples in full summer plumage Gorleston Sept 1st and Cromer Sept 7th, but mainly late Oct-Nov when numerous coastal reports Hunstanton-Paston; majority singles, twos occasionally and 4 east Sheringham Nov 27th. Other than Yarmouth Dec 8th, Dec records from Hunstanton-Holme only where 1-2 regularly and presumably wintering.

**Little Grebe:** Impressive concentration of 38 breeding pairs Holkham NNR. Largest gatherings: 21 Fowlmere Sept 4th and 49 Snettisham Nov 19th. Definite migrants (on the sea) Paston May 23rd and Weybourne 2 Nov 10th.

**Great Crested Grebe:** Largest gatherings: 54 Snettisham Aug 8th, 37 Hunstanton Oct 12th, up to 33 Holkham Bay Oct and 31 Hoveton Little Broad Oct 27th. Impressive numbers at Breydon in Aug: 71 on 1st, 86 on 8th, 96 on 10th, 108 on 11th and 74 on 13th.

**Red-necked Grebe:** As well as 2 Hunstanton Jan 1st and 2 Titchwell Feb 10th, eleven coastal singles until March 17th, one Titchwell March 30th/31st and one Hunstanton April 10th/11th.

Autumn records from Aug 20th, mainly from Holkham Bay where 1-3 daily Oct 21st-Dec 16th and 5 Nov 9th. Elsewhere 44 coastal reports (Aug 3, Sept 9, Oct 11, Nov 12 and Dec 9), usually singles but 3 Sheringham Sept 7th and Nov 4th and 3 Hunstanton Oct 26th.

Inland: Hickling Feb 18th-March 17th and Blickling Dec 16th-31st.

**Slavonian Grebe:** Wintering reports mainly from Holkham Bay where up to 6 daily Jan 1st-28th and Hunstanton-Titchwell where 1-3 regularly Jan 1st-Feb 18th. Twelve additional coastal singles until April 7th.



Autumn records from Aug 20th with 2 singles in Aug, 3 singles in Sept and numerous reports Oct-Dec. Usual build-up in Holkham Bay began Oct 14th with 17 Oct 21st, peak of 19 Nov 7th, 8 still present Nov 25th and last report Dec 16th. Up to 6 also present Hunstanton-Titchwell Oct 20th-Dec 31st. Other notable observations: 4 west Cley and 3 Wells boating lake Nov 3rd. Only reports east of Sheringham: Caister Oct 25th and Yarmouth Dec 11th-12th.

Inland: King's Lynn BF March 5th-7th and Martham Broad Dec 20th-23rd.

**Black-necked Grebe:** Singles Holkham Bay Jan 7th-16th, Sept 16th and Oct 14th-21st (DJH *et al*). Two in summer plumage Lyng GP April 16th (SB CS), Wells Channel Nov 6th (BR) and 2 Holme Nov 24th (SML).

**Albatross sp:** 1987 records: Adult east off Cley Oct 11th (PCB MF MSR *et al*) and an immature off Cromer, then Sheringham and then feeding for a while inshore at Salthouse Oct 18th (AMB DB HB RB AGJ). Two previous county records of an Albatross.

**Fulmar:** A complete survey of the county breeding population carried out in early Aug (KB MR KBS SCV) when the following numbers of young counted: Hunstanton 52, Weybourne-Sheringham 40, Sheringham-West Runton 1, West Runton-East Runton 4, East Runton-Cromer 12 and Ostend-Happisburgh 5. Due to low breeding success however numbers of breeding pairs much higher. For example 80-100 breeding pairs estimated Weybourne-Sheringham during detailed survey work (KBS SCV). Rat predation a major source of failure Weybourne-Sheringham where *at least* 25% young predated.

Largest passage 240 Sheringham Dec 10th. Inland: Welney Nov 26th. Blue-phase birds at Sheringham April 22nd, 3 east Nov 26th and 9 east Dec 10th and Snettisham 2 north Dec 10th.

**Cory's Shearwater:** East at Cley (MAG *et al*) then Sheringham (KBS GRT) Aug 7th and Snettisham Oct 7th (PF).

**Sooty Shearwater:** Offshore records Aug 6th-Nov 26th on 5 dates in Aug, 12 in Sept, 3 in Oct and 2 in Nov. No large passages; maxima 8 Sheringham Sept 7th and 11 Snettisham Oct 7th.

**Manx Shearwater:** One Sheringham and 4 Waxham March 25th. Otherwise usual summer/autumn movements June 6th-Nov 4th. Best counts 150+ Hunstanton and 180+ Sheringham July 5th, 127 Snettisham, 146 Holme and 88 Sheringham Sept 7th.

Late birds at Sheringham and Paston Nov 26th and 2 east Sheringham Dec 10th.

**Yelkouan Shearwater:** Cley 4 east Aug 6th (MAG). Different singles commuting between Blakeney Point-Weybourne Sept 1st-8th and between Sheringham-Cromer Sept 19th were both fishing close inshore. Holme west Sept 19th (HDR).

**Storm Petrel:** Cley west March 2nd (CRK), Sheringham 4 east (KBS SCV) and Holkham Bay (MESR) Nov 25th.

**Leach's Petrel:** Sept records from Holme on 4th, Cley on 6th, Brancaster, Cley, Sheringham (3) and Cromer (2) all on 7th, Cley on 8th, 15th and 16th (2), Yarmouth on 21st, Sheringham (2) on 25th and Cley (3) on 26th. Singles at Cley and Sheringham Oct 7th. Unusually late records from Caister and Sheringham (5 east) Nov 26th and an unprecedented winter passage of 16 east at Sheringham Dec 10th.

**Petrel sp:** A dark-rumped bird off Cley Sept 25th (MAG).

**Gannet:** A large spring movement of 600 north Snettisham April 28th. Largest autumn passages: 200 Ouse Mouth, 775 Snettisham, 923 Holme and 590 Sheringham Sept 7th; 644 Hunstanton and 480 Sheringham Sept 25th and 906 Snettisham, 1154 Holme, 1,600 Sheringham and 519 Paston Oct 7th.



**Cormorant:** Following an absence of over 70 years, Cormorants returned to Norfolk as a breeding species in 1988 when 4 nests were constructed at Narford. Successful breeding took place at Narford in 1989 and the colony held 14 nests in 1990 (CD AEV).

Largest gatherings: Breydon up to 61 May, 37 June, 92 July and 105 Aug; Ranworth roost up to 263 Jan, 313 Feb, 325 March, 203 Oct, 266 Nov and 249 Dec; Welney roost up to 192 Jan, 168 Feb, 149 March and 140 Dec and Holkham Park roost max 99 Oct.

**Shag:** Other than 3 overwintering at Sheringham until Jan 29th and 1-3 present there March 2nd-17th, 11 coastal singles until April 13th. Autumn coastal records from Aug 11th, but very scarce with only 1-3 reported on 3 dates in Aug, 3 in Sept, 11 in Oct and 8 in Nov. A better showing following NE gales in Dec when at Sheringham a total of 22 east 11th-17th and up to 6 present 20th-26th, 5 Hunstanton on 12th and 18 east Paston on 13th.

Inland: Pentney GP Dec 14th, Downham Market Relief Channel 2 Dec 17th and Ten-mile Bank 2 Dec 28th.

**Bittern:** The county population has declined to a dangerously low level with only 8 boomers; 4 in reedbeds along the North coast and 4 in the Broads. Few winter sightings reported.

**Night Heron:** Cley adult May 10th/11th (JRW).

**Cattle Egret:** Walpole St. Andrew April 25th (GMK). Nine previous county records.

**Little Egret:** Two at Welney/Denver Sluice May 7th-9th with one remaining on 10th (JBK *et al*). Additional 1989: Salthouse Sept 20th (ETM) and Blakeney Point on 21st (TB TBN PT *et al*).

**Great White Egret:** Four sightings could relate to one wandering individual: Welney July 2nd (JBK), Hickling July 15th (JHM MJP), Welney July 23rd/24th (JBK) and Hockwold Aug 4th (PJD JMG).

1989: Titchwell Oct 13th (ASCB).

**Grey Heron:** A complete survey of the county breeding population revealed a total of 299 nests. Details appear on page 114.

**Purple Heron:** Burnham Norton, 2 juveniles Aug 11th (MESR *et al*).

**Black Stork:** Flitcham June 6th (EC). Fifteen previous county records and the first since 1979.

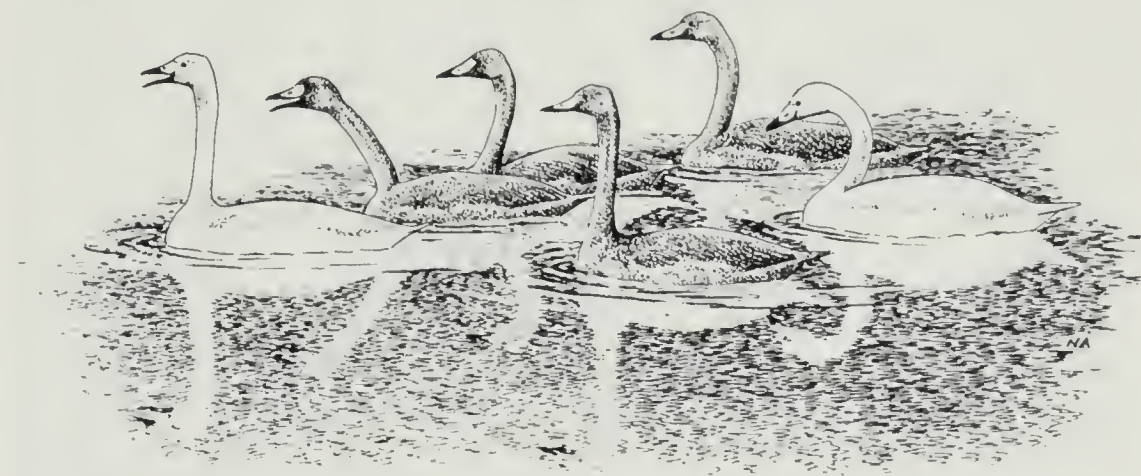


**White Stork:** A well-watched bird at Cley/Blakeney April 10th moved between Salthouse and Holme before returning to Blakeney on 11th, then left Blakeney to fly west over Holme, south over Dersingham and into Lincs on 12th. Presumably the same bird at Seething April 7th (JGG) and north over Swaffham on its way to the coast April 10th (BW).

**Spoonbill:** The wintering bird at Breydon remained until March 13th. Other March reports from Horsey 10th, Titchwell 11th and Burnham Norton 14th-16th. One Hickling April 16/17th, then numerous reports of up to 4 together April 27th-Aug 11th and one west Holme Oct 17th. Most favoured sites April-Aug were Titchwell (up to 3 almost daily), Hickling (recorded on 51 dates with maximum of 3 July 3rd-5th), Breydon-Berney (1-2 on 37 dates) and Cley (recorded on 26 dates, maximum 4 May 22nd/23rd). Noted also from all north coast sites Holme-Weybourne, Hardley Flood, Horsey, Martham, Overstrand, Snettisham and Welney.

**Bewick's Swan:** Largest numbers at Welney where up to 2,754 Jan (5984 total on Washes), 1,413 Feb (2,287 total on Washes), 740 Oct, 3,204 Nov (when 11 % juveniles) and 3,707 Dec.

At Breydon/Berney up to 405 Jan, 561 Feb, 272 March, 31 Oct, 42 Nov and 115 Dec. At Ludham Bridge/St. Benet's Abbey level up to 202 Jan, 231 Feb, 266 March, 102 Nov and 82 Dec. Numerous other reports from many sites, but no other group exceeded 70. Extreme dates from Welney where 44 up to April 5th, 4 April 24th, an immature May 7th and first returning bird Sept 27th.



**Whooper Swan:** At Welney up to 600 Jan (686 total on Washes), 557 Feb (630 total on Washes), 320 Nov (when 13.4% juveniles) and 470 Dec. At Horsey/Waxham up to 69 Jan, 31 Feb, 40 Nov and 85 Dec. At Snettisham 6-7 present from Nov 9th into Dec. Elsewhere 9 reports of up to 17 migrants from scattered sites. Extreme dates April 20th-Sept 24th (both Welney) with single adults of unknown origin at Lynn Point April 1st-May 1st and Holme April 28th.

**Bean Goose:** Yare Valley: Up to 360 in Jan with last 7 Feb 11th. First arrival of 71 Nov 5th with up to 340 later in Nov and peak of 440 by Dec 15th. 14 neck-banded birds in Dec.

Elsewhere Welney Jan 15th-March 2nd, Burnham Overy 3 Jan 21st, Babingley Jan 27th-30th, Castle Rising Jan 30th, Snettisham Jan 30th-Feb 2nd, Waxham 4 Nov 25th-29th, 7 Nov 30th-Dec 2nd and 4 Dec 29th, Holkham Dec 7th and 30th and Sheringham one west Dec 16th.

Further reading: 'Bean Geese in the Yare Valley' (*British Birds* 84:161-170).



**Pink-footed Goose:** Co-ordinated dawn counts on the Wash and on the North coast revealed the following peak totals for north-west Norfolk: 1989/90 winter: 26,920 Jan 16th; 1990/91 winter: an unprecedented 42,950 Jan 10th. A series of counts appears in the article on page 110.

Following departure (1990) of the largest flights by the end of Feb, last noted at Snettisham March 28th and at Holkham April 5th. First autumn return Sept 14th at Holkham, Sept 20th at Snettisham and Titchwell, Sept 22nd at Cley/Blakeney and Sept 25th at Scolt.

**White-fronted Goose:** Yare Valley: up to 260 Jan, 230 Feb, 79 Nov and 296 Dec. Holkham: up to 226 Jan, 255 Feb, 166 March, 32 Nov and 132 Dec. Extreme dates March 16th-Nov 5th.

One of the Greenland race Breydon Nov 16th-25th (PRA JO). The species maintains a foothold as a feral colonist with one pair breeding successfully at Cley in 1988 and 1989. Two pairs bred there 1990.

**Canada Goose:** Largest gatherings reported 460 Pentney GP in Aug and 370 West Dereham Sept 12th.

**Barnacle Goose:** Weybourne 15 west Oct 9th, then at Cley Oct 9th-20th were certainly wild as 6 were Spitzbergen ringed (see Ringing Report). Additionally, the following were thought non-feral: 6 Berney area Jan 11th-March 5th, 9 Hickling area Jan 18th-Feb 3rd, 2 Cley Jan 19th-Feb 11th, 2 Babingley Jan 21st and one Feb 15th, 5 west over Norwich Jan 29th, 1-2 Holkham Jan 30th-Feb 12th, 7 in from sea Holkham Feb 24th, Weybourne 3 east April 3rd and 2 west May 1st, Holme Oct 8th, Breydon Oct 13th, Cley 2 west Nov 4th, Holkham-Flitcham area Dec 7th-29th and Heigham Holmes 8 Dec 22nd-23rd.

**Brent Goose:** Extreme dates May 22nd-Sept 8th with summer occurrences at Titchwell, Cley, Kelling Quags and Sheringham. North coast co-ordinated count totals of 6,187+ Jan and 8,350+ Feb. Largest numbers reported from Lynn Point 3,000 Jan 21st and 2,000 Feb 10th, Scolt 3,000 Jan/Feb and 1,300 March, Holkham NNR fresh-marshes 3,700 Jan, 3,850 Feb, 2,100 March, 1,800 Nov and 2,500 Dec, Brancaster Harbour 3,400 Dec, Brancaster to Wells 6,500 Dec 10th and Cley Eye peak of 1,271 Oct 24th. Notable migrations: 1,600 west Sheringham Oct 8th and 467 west Paston Oct 21st.

Very few pale-bellied *hrota* birds: 1-2 Holkham area Jan/Feb, Lynn Point Feb 11th, Cley Oct 5th-7th and Holme Nov 4th, 25th and Dec 1st.

**Black Brant:** Single of the race *nigricans* at Breydon Nov 6th-Dec 22nd (PRA TEB JO).

**Egyptian Goose:** Surveys in early July located 118 Broads, 116 Wensum Valley and 178 north Norfolk with main moulting concentrations 68 River Bure, 38 Flegg Broads, 59 Sennowe, 50 Lyng/Lyng Easthaugh and 115 Holkham Park (AJP). Notable autumn gatherings: 63 Sparham Sept 9th, 67 West Acre Sept 26th-Oct 28th, 50 Sennowe Oct 28th, 86 Holkham Park Sept and 52 Shammer Oct 16th.

**Shelduck:** Counts only received from Ousemouth where up to 950 Jan, 1,800 Feb, 1,210 April, 1,100 May, 550 June, 650 Aug, 2,500 Oct, 240 Nov and 920 Dec and from Snettisham where up to 1,730 Jan, 1,820 Feb, 925 March, 500 May, 810 June, 440 Aug, 88 Sept, 1,590 Nov and 1,300 Dec.

**Mandarin:** One pair bred successfully Hillington Park. Otherwise a drake Old Hunstanton shore Jan 3rd, pair Flitcham March-May, drake Cley April 28th, 2 Sandringham May 25th, pair Boughton Sept-Oct and a pinioned drake Felbrigg Dec 22nd-26th.

**Wigeon:** Most noteworthy counts received from Welney where up to 12,241 Jan, 7,215 Feb, 8,087 March, 227 April, 2,147 Sept, 5,604 Oct, 6,024 Nov and 5,025 Dec; Holkham where up to 2,444 Jan, 3,000 Feb, 1,941 March, 675 Sept, 580 Oct, 1,620 Nov and 2,780 Dec; Buckenham up to 6,710 Jan and 8,000 Dec; Cley up to 1,850 Sept and 6,000 Oct 25th and Snettisham up to 365 Jan, 875 Nov and 960 Dec. Up to 6 summered at Cley.



**American Wigeon:** Adult drakes at Cley March 14th-18th (JBK *et al*) and Berney April 10th (PRA).

**Gadwall:** Highest numbers reported as usual from Gunton Park: 80 June 9th, 208 Aug 26th, 496 Sept 17th and 83 Oct 21st; Welney 149 March 21st; Alderfen Broad 96 Jan 16th and Stanford Battle Area 141 Oct 14th.

**Teal:** A single proven breeding record: a brood at West Acre. Counts received from Welney where up to 1,615 Jan, 1,637 March, 332 April, 952 Sept, 668 Oct, 640 Nov and 637 Dec; Holkham NNR up to 880 Jan and 835 Dec; Snettisham up to 350 Jan and 410 Dec; Titchwell 1,500 Dec 5th and West Acre up to 149 Nov and 270 Dec.

**Green-winged Teal:** Single drakes at Blakeney Feb 11th; Cley Feb 18th-22nd and March 21st-April 25th (MAG *et al*); Welney March 4th-16th (JBK CJS *et al*) and Berney March 17th-22nd (PRA KRD). The Blakeney/Cley observations could relate to the same individual.



*J.P.S. 91*

**Pintail:** Most impressive counts Welney up to 475 Jan, 500 Feb, 414 Sept, 1,780 Oct, 900 Nov and 150 Dec; Tottenhill GP 110 Oct 30th, 372 Dec 2nd and 200 rest of Dec; Snettisham up to 91 Feb, 300 Sept and 200 Oct; Cley maximum 410 Oct 25th and Breydon up to 113 Jan and 111 Dec.

**Garganey:** 1-8 recorded at Berney, Brancaster, Breydon, Cantley, Catfield, Cley, Hickling, Holkham, How Hill, Kelling Quags, Lakenheath, Pentney GP, Salhouse, Strumpshaw, Welney and West Acre between March 11th-Sept 28th. Breeding only proved at 2 sites where single broods seen.

**Blue-winged Teal:** Cley a drake June 22nd-July 12th (MAG *et al*) and presumably the same bird at Titchwell Aug 20th-30th and Sept 20th-Oct 4th (JBK *et al*).

**Shoveler:** Impressive concentration of 16 broods at Holkham NNR. Notable counts: Welney 150 Jan 27th, 201 March 12th and 133 Oct 15th; Filby Broad 180 Feb 16th; Berney 163 March 14th and Ranworth Broad 89 Nov 18th.

**Red-crested Pochard:** A duck Welney Feb 18th/19th, drake Fowlmere March 14th-18th, duck west over Blakeney harbour Oct 7th, drake Welney Nov 13th and duck Upton Broad Nov 25th. All observations relate to birds of unknown origin.

**Pochard:** Breeding proved at Barton Broad, Berney (2 pairs), Cockley Cley, Filby Broad (6 pairs), Hickling, Holkham (8 pairs), Horning Hall, Lily Broad, Ranworth (3 pairs), Raynham Hall, Rollesby Broad (2 pairs), Salhouse Broad, Sparham, Strumpshaw (4 pairs). Surlingham Church Marsh, West Mere, West Tofts Mere and Wroxham Broad.

Highest numbers at Welney as usual where up to 1907 Jan, 1,474 Feb, 665 March, 325 Nov and 500 Dec. Other good counts: 280 Tottenhill GP Dec 2nd, 191 Downham

Market Relief Channel Dec 22nd and 135 Pentney GP Dec 28th.

**Ferruginous Duck:** Welney, a drake intermittently Jan 28th-March 17th (JBK *et al*).

**Tufted Duck:** Only noteworthy counts received: Welney up to 289 Jan, 179 Feb and 162 March; Hoveton Little Broad 72 Aug 15th and Snettisham maximum 48 Jan 13th.

**Scaup:** Another very mild year and consequently remains very scarce. During first winter period 1-5 Snettisham Jan 29th-Feb 21st, Lynford GP Feb 13th and Breydon Feb 15th were the only reports. In spring 2 Holme March 7th and one Cley March 30th-April 6th.

Early arrival 6 Pentney Sept 6th. From Sept 19th up to 16 passing coastal seawatching sites on 12 dates; lingering birds at Snettisham (up to 7 Sept 21st-Dec 31st) and Breydon (up to 6 Sept 23rd-Oct 14th). Inland: Magdalen Relief Channel Nov 20th, Martham Broad Dec 9th and Felbrigg Dec 22nd-30th.

**Eider:** Peak counts very low, probably as a result of continuing mild winters: 96 Hunstanton Jan 27th, 38 Scolt June 8th, 40 west Blakeney Point Oct 23rd and 67 Holme Dec.

**Long-tailed Duck:** Extreme dates April 22nd-Sept 21st. Commonest as usual between Hunstanton-Scolt with up to 40 reported offshore in both winter periods. Regular reports also from Snettisham (maximum 5 Sept 22nd), Holkham Bay (maximum 6 Dec 6th) and Blakeney Pits (maximum 4 March 30th). Inland: a first-winter bird West Somerton Nov 11th-17th moved to Martham Broad on 18th.

**Common Scoter:** Largest congregations at Hunstanton where 200 Jan/Feb, 400 March and 300 late Dec; Holkham Bay maximum 56 Nov 7th. Heaviest passages all in Nov when 350 west Holme on 1st, 438 west Paston and 300 west Sheringham 3rd; 550 west Sheringham 4th and 228 north/171 south Yarmouth on 5th.

Inland: Hickling June 15th/16th; Breydon Oct 11th and 28th and Hillington GP Nov 3rd.

**Velvet Scoter:** Excepting 3 Waxham April 21st, 2 Scolt June 3rd and 1 Cromer July 22nd, extreme dates March 29th-Sept 8th. Scarce, with lingering birds only at Hunstanton (1-3) fairly regularly in Jan, Oct and Nov and 8 March 29th and Cromer where 4-8 present Nov 18th-Dec 31st. Otherwise scattered reports of up to 9 short-stay migrants along the coast. Two at Breydon Oct 22nd only non-coastal report.

**Goldeneye:** Highest counts from wintering sites: 73 Snettisham Feb 20th; 35 Brancaster Jan, 35 Blakeney Pits Nov 20th. Largest passages: 42 west Paston Oct 21st and 88 west Sheringham Nov 4th.

**Smew:** Further mild winters and very few records: Welney Jan 12th, Heigham Sounds Jan 28th, Holkham Feb 2nd, How Hill Feb 6th, Hickling Feb 11th and March 12th and Breydon Dec 9th. The Welney bird and the March record were adult drakes; remainder 'red-heads'.

**Red-breasted Merganser:** Largest numbers at Snettisham where up to 40 Jan, 51 Feb, 60 March, 85 Oct, 77 Nov and 55 Dec. Other good counts: Titchwell 34 Feb 10th and 27 Oct 28th and Holkham Bay up to 23 in Oct. A handful of inland reports of up to 4 birds (and once 7) at Broom GP, Denver Sluice, Downham Market Relief Channel, Stowbridge and Ten-mile Bank.

**Goosander:** Very scarce. Other than 8 Stowbridge Jan 13th, 1-5 at 18 sites until April 10th and 1-4 at 9 sites from Nov 10th.

**Ruddy Duck:** Ones and twos at Breydon, Costessey Mill, Gunton Park, Hickling/Heigham Sounds, Hillington, Narford, Snettisham, Stanford and Strumpshaw.

**Honey Buzzard:** Rather scarce this year with records of 2 Lyng June 3rd, one flying south Cromer June 17th and a migrant in off sea at Blakeney Point Oct 13th.

At one site a male from May 31st and presence of a pair confirmed July 3rd; at least one young successfully reared. At another site a displaying male May 26th only.

**Red Kite:** Records in date order: March 15th Edgefield Hill; March 16th Middleton; July 24th Antingham; July 25th Paston, Sheringham, Beeston, Cley and Blakeney Point — a wing-tagged bird with a radio transmitter; Aug 2nd Burnham Market — wing-tagged; Dec 23rd Wells/Holkham, Dec 27th Massingham Heath; Dec 28th Sheringham; Dec 29th Horning and Caister; Dec 31st King's Lynn-Sandringham.

Possibly only 5-6 individuals involved. Sightings of introduced birds liable to distort true status.

Additional 1989: Berney Marshes April 9th (DW).

**White-tailed Eagle:** An immature off Scolt, Titchwell, Hunstanton and Snettisham Jan 10th (MR KS STS *et al*). An immature visited Massingham Heath/West Acre Jan 1st-Feb 1st (RGD *et al*). An immature frequented Haddiscoe Island Feb 10th-March 15th (PRA LCS KRD *et al*) visiting several other sites in Norfolk and Suffolk during its stay.

An immature south at Snettisham Oct 27th (PF) was possibly the bird frequenting the Hickling area Nov 5th-Dec 3rd (JRW FR *et al*) having previously been sighted at Walcott/Sea Palling Oct 30th/31st and later at Walcott Dec 9th and 14th. See page 84.

**Marsh Harrier:** 83 adults raised 90 young, one nest failing due to Fox predation. At two sites single males were mated to three females. Eight nests recorded in cereals. The Broadland winter roost (shared with Hen Harriers and Merlins) held 4 Jan, 9 Feb, 9 Nov and 8 Dec.

Observed widely on both passages and post-breeding dispersal.

**Hen Harrier:** Widespread records up to May 9th (Burnham Norton) and May 13th (North Wootton) and from Oct 6th (Horsey). Records received from five winter roost sites: Broads (Thurne): 10 Jan, 9 Feb, 8 March, 4 Oct, 6 Nov and 11 Dec. Broadland (Strumpshaw): 5 Jan, 5 Feb, 2 Oct, 2 Nov and 4 Dec. North A: 6 Jan, 5 Feb, 2 March, 1 Oct, 5 Nov and 2 Dec. North B: 5 Jan, 7 Feb, 7 March, 4 April, 4 Oct, 4 Nov and 2 Dec. West: 2 Jan, 4 Feb, 3 Oct, 4 Nov and 1 Dec.

Further reading: 'Hen Harrier Winter Roost Survey in Britain and Ireland' *Bird Study* Vol. 37 Part 2: 84-100.

**Montagu's Harrier:** Recorded April 23rd to Sept 5th (West Norfolk). Five nests in cereals fledged a total of 13 young. Two of these nests fledged broods of 4. Precautions taken to protect nests during routine agricultural operations when farmers again highly co-operative.

Non-breeding pairs also summered for a time at 2 sites with single males lingering in 2 other areas. Singles reported briefly from 11 other areas.

**Goshawk:** A scattering of records including birds in display. At least 4 successful nests.

**Sparrowhawk:** Appears to be widespread throughout the county. Prey species reported including Sanderling and Snow Bunting (Holkham). Snow Bunting (Titchwell), Starling (Titchwell and Welney), Snipe (Welney), Swallow and Redwing (Holme).

**Buzzard:** Lingering 'pairs' in Swaffham and West Acre areas may have captive origins. A single also present at Barnham Broom April-July.

Otherwise noted from 23 areas, most records on spring passage (8) March-April and autumn passage to early winter (13) Sept-Dec.

**Rough-legged Buzzard:** A poor year, the only prolonged stay by an adult on Massingham Heath Jan 20th-March 26th where another present Nov 20th/21st.

Otherwise migrants at Cley April 5th and 9th and at Wells (East Hills) Oct 23rd.

**Osprey:** Recorded between April 26th (Sparham) and Sept 15th (Stanford Water) from 30 sites with distinct peaks in May and Sept. An obvious overlap in sightings and possibly only 15 birds involved.



**Kestrel:** An early autumn concentration of 29 Snettisham Aug 7th. This species' predilection for Little Tern chicks at the Yarmouth colony is very worrying.

**Red-footed Falcon:** Cley: first-summer bird May 20th (TCD MAG SH *et al*) and another first-summer bird there June 23rd (MAG) and at Kelling Quags next day (JW).

**Merlin:** Widespread reports of singles, mostly at coastal sites up to May 12th and from Sept 1st (both Blakeney Point) though an unseasonal female Cley June 16th.

The Broadland roost held 7 Jan, 7 Feb, 6 March, 3 April, 6 Oct, 7 Nov and 8 Dec. Up to 2 birds reported at 2 other roost sites in Jan and Dec. Prey items observed at Blakeney Point included Reed Bunting Oct 24th and Snow Bunting Nov 6th.

**Hobby:** Increasingly reported (from over 70 localities) from April 21st (Scolt) to Oct 2nd (Ludham). Breeding confirmed at 2 Brecks sites. Three birds at another site in Sept and adult alarm-calling at a further site suggest further potential breeding records.

Observed at Welney in July catching peacock and small tortoiseshell butterflies over an area yellow with marsh ragwort. The insects' wings were clipped off and floated to the ground, some butterflies taking evasive action by shutting wings and dropping vertically into cover.

**Peregrine:** Recorded at 18 mostly coastal sites. A long-staying immature at Breydon-Berney found shot Jan 31st. Another immature stayed in the Wells/Holkham area from Nov 1st to year end with an adult Dec 13th. At Welney recorded on 12 dates during Feb-April and Oct-Dec with 2 adults together March 9th. At Snettisham noted 6 dates Jan-April and Dec. Most other records for a single day only.

A bird wearing jesses at Waxham, Paston and Weybourne March 24th and at East/West Runton April 7th.

**Quail:** Titchwell calling May 9th. Then most records May 20th-June 29th when up to 8 calling Choseley and singles at Docking, Fincham, Flitcham, Hardley, Hillington, Holme, Illington, Ludham, Sedgeford, Shingham, South Pickenham, Thornham and Titchwell. Two Thornham and singles Holme and Salthouse Heath July 27th-29th and Hockwold Sept 10th.

**Golden Pheasant:** Up to 8 at Brettenham Heath, Drymere, East Harling, East Wretham, Lynford, Mundford, Reedham, Sandringham, Santon Downham, St. Helen's, Thompson Water, Tunstead, Wayland Wood, Weeting, West Tofts Heath and Wolferton.

**Water Rail:** Breeding records from Cley, Hickling, Horsey, Reed Fen (Stanford Battle Area), Roydon Common, Strumpshaw, Surlingham Church Marsh and Welney.

**Crane:** In Broadland 8 present at beginning of year. Two disappeared in March leaving 6 present for the remainder of the year (although 8 were again present for a short while in late April).

Away from Broadland 3 Paston Jan 12th, one north Snettisham April 1st, 3 east Cley-Weybourne April 24th, 2 east Titchwell April 28th, 3 east Holme May 16th, one in from north Sandringham May 19th, one Berney Aug 25th and 2 Whitlingham Nov 6th.

**Oystercatcher:** Largest Wash concentrations at Snettisham: 15,600 Jan 13th, 8,000 Feb 10th, 2,000 summered, 3,900 July 23rd, 12,500 Aug 11th, 9,800 Sept 8th, 7,500 Oct 8th, 6,500 Nov 4th and 7,000 Dec 3rd. A white individual again returned July 25th.

At least 21 pairs at 15 inland sites, some successfully breeding. Coastal breeding included Snettisham 20 pairs, Titchwell 22 nests, Scolt 51 pairs nested but none hatched due to wind-blown sand and Fox predation, Holkham NNR 55 pairs and Breydon Saltings 15 pairs.

**Black-winged Stilt:** Titchwell: Juvenile Nov 5th (RQS NS).

**Avocet:** Some further extension to breeding range within the county. A total of 131 breeding pairs fledged a minimum of 112 flying young. Large numbers again gathered at Ousemouth in early autumn with a peak of 106 July 21st. Elsewhere small numbers (1-12) frequent at Breydon with inland sightings at Hardley Flood (2 May 4th) and Welney (March 15th with 2 March 30th). A single over-wintered with Oystercatchers at Snettisham. Feb records from Breydon, Cley, Holme and Titchwell.

**Stone-Curlew:** Norfolk Brecks had 37 pairs fledging 28 young compared with a 1989 total of 33 pairs fledging 29 young. An autumn assembly of 33 Sept 9th-15th with last date Oct 17th.

Records away from traditional areas: Walsey Hills March 29th, Blakeney Point April 23rd, Burnham Overy dunes May 17th, Stanhoe June 10th, Holme June 13th and Scolt Head June 15th and July 1st.

**Little Ringed Plover:** Recorded March 3rd to Sept 12th (both Pentney GP). At least 22 territorial pairs including some new breeding sites such as Strumpshaw, Cley Marsh and Titchwell. Predators reported as causing breeding failure included Fox, Mink and Jays.

Passage numbers mostly small with a spring movement of 9 Berney May 5th and autumn gatherings of 12 Cantley July 28th and 13 Aug 11th; 15 Cley July 29th and 11 Wissington BF July 9th.

**Ringed Plover:** Coastal populations of 71 pairs Holkham NNR, 41 pairs Scolt (only 2 nests hatched due to predators), 25 pairs Brancaster harbour (15 young fledged), 46 pairs Snettisham declining to 15 pairs.

A total of 16 inland pairs at 8 sites.

A strong mid-May passage of *tundrae*: 190 Lynn Point 13th, 70 Warham and 400 Breydon both 15th. Autumn movements included 459 Breydon Sept 2nd and 266 Snettisham on 9th.

**Kentish Plover:** Short-staying birds at Cley June 19th and 21st (female) and Breydon Sept 17th.

**Dotterel:** Light spring passage recorded in May at Hemsby/Winterton where 5 on 7th-10th and singles 16th, 19th and 23rd; Cley 2 on 2nd-5th with 3 on 6th/7th and Choseley single on 14th.

**Pacific Golden Plover:** The second county example, an adult in almost full summer plumage at Cley Aug 7th/8th (MAG CE *et al*).

**Golden Plover:** Large numbers in the county during both winter periods which remained mild. Largest counts: 1,600 West Dereham Jan 21st; 2,000 Wereham Dec 30th; 5,000 Shipdham Feb 25th and 3,100 Dec 23rd; 1,400 Breydon Dec; 1,500 Ludham Dec 26th; 2,000 Cley Dec 16th; 3,000 Titchwell Oct 20th and 2,000 Choseley Sept 12th.

**Grey Plover:** Largest Wash counts at Snettisham: 400 Jan 13th, 800 Feb 11th, 400 March 31st, 2,400 April 29th, 3,075 May 13th, 50 summered, 1,000 Sept 27th, 600 Oct 8th and 400 Nov 5th.

Other large concentrations: 140 Brancaster May 10th; 230 Titchwell and 540 Lynn Point both May 13th, 150 Brancaster Sept 28th and 147 Breydon Oct 19th.

Inland records from Pentney GP May 3rd and 7th; Hardley Flood 5 May 3rd/4th; Lakenheath Flashes 3 May 3rd/4th; Welney 2 May 3rd/4th; Welney May 5th; Flitcham Sept 9th; Wissington BF Sept 23rd; Cantley BF Oct 3rd and Welney 1-2 on 10 dates Sept-Oct.

**Sociable Plover:** Welney a juvenile Oct 15th-30th (JBK LB *et al*) was the third county record. It wandered into Cambs on several dates.

**Lapwing:** Mild winter periods saw large flocks again in the county, most notably 5,000 Breydon Jan with 12,000 early Dec decreasing to 10,000 in last week; 17,000 Ludham Nov 10th with 9,000 Dec 26th; 5,000 Cantley Dec; 5,000 Paston Dec 2nd; 3,000 Burn-



ham Overy Dec; 3,300 Brancaster harbour Jan; 2,700 Snettisham Jan 14th; 3,500 Lynn Point Jan 14th; 2,500 Welney Jan 12th and 5,000 Shipdham Feb 25th.

Holkham NNR: 148 pairs nested on grazing marshes. Fledging success poor due to heavy predation by Carrion Crows and Foxes. A pilot study in south-west Norfolk on two similar 100 hectare blocks of grazing marsh showed a reduction of 23.8% in breeding failure in the block where Carrion Crows were controlled.

**Knot:** Largest counts on the Wash at Snettisham: 52,000 Jan 13th, 40,000 Feb 27th; 17,000 March 26th, 20,000 April 26th, 650 June 24th, 11,400 July 23rd, 22,000 Aug 12th, 26,500 Sept 9th, 32,500 Oct 8th, 120,000 Nov 4th and 55,000 Dec 3rd. Also a count of 65,000 Gore Point Holme in Oct. Inland record of 5 Pentney GP May 2nd/3rd.

**Sanderling:** Wash counts at Snettisham included 200 early in the year, 250 April 27th, 300 May 26th, 370 July 23rd and 780 Aug 11th. Up to 130 Titchwell May 24th/25th.

Inland birds at Pentney GP April 10th and May 4th; King's Lynn BF May 12th; Pentney GP 2 May 12th; Hickling 2 May 13th and Lyng Eastaugh GP May 13th and Pentney GP 5 May 30th.

**Little Stint:** A light spring passage commenced early May continuing to mid-June. At Cley mostly singles, but a peak of 6 May 4th; Snettisham peak of 3 May 5th/6th; Scolt 2 May 7th-June 8th with singles also at Holkham, Hickling and Berney.

Autumn passage of adults commenced late July when recorded at Breydon, Hickling, Cley maximum 12 on 28th/29th; Holkham and Snettisham. Later movements saw peaks of 6 Cantley Sept 30th, 9 Hickling Sept 18th, 35 Cley Sept 14th, 8 Holkham Sept, 15 Titchwell Sept 10th-12th, 12 Holme Sept, 6 Wissingington Sept 9th, 6 Welney Sept 17th with other records from Breydon, Kelling, Snettisham and Pentney GP.

Late birds at Hunstanton 2 Nov 19th, Burnham Norton until Nov 22nd with a single remaining at Cantley BF until end of year.

**Temminck's Stint:** An indifferent spring passage when recorded at Berney 2 May 17th/18th, Hickling May 18th/19th and 25th-31st, Cley May 7th-10th (maximum 3) and May 15th-28th (maximum 3), Burnham Norton May 10th-14th (maximum 3) and 2 May 22nd, Snettisham May 5th/6th and May 26th/27th. Minimum total 15.

Few on return passage: Breydon July 28th, Cantley BF July 28th/29th, Cley June 30th-July 7th and July 28th-Aug 3rd and Snettisham Aug 8th. Minimum 5.

Additional 1989: Lakenheath Flashes bird first seen May 15th.

**White-rumped Sandpiper:** An adult at Cley Aug 3rd-14th (PFW BV MAG *et al*).

Additional 1989: Holme June 29th (GFH) was only the second county example in this month.

**Calidrid sp:** A presumed 'hybrid calidrid' showing characters of both White-rumped and Pectoral Sandpiper at Cley July 27th (MAG *et al*). Further details appear in *Birding World* Vol. 3: 237-238.

**Pectoral Sandpiper:** At least 4 in Cley/Salthouse/Kelling Quags area July 3rd-Aug 7th, Aug 10th/11th, Aug 16th and Oct 3rd (MAG MPT KJB *et al*). Also Scolt Head July 23rd (MLW); Cantley BF Sept 30th (BWJ); Holkham Oct 16th (MESR).

**Curlew Sandpiper:** Spring passage commenced in first week of May when small numbers recorded at Berney/Breydon (maximum 15 May 15th), Hickling, Cley, Blakeney Point, Holkham (maximum 15 May 13th), Scolt, Snettisham and Lakenheath Flashes. Also noted in June (1-5) at 4 sites.

During autumn passage reported at 15 sites commencing with adults in mid-July; last 4 birds Breydon Oct 16th. Largest gatherings at Breydon: 28 July 28th followed by 106 Sept 10th; 16 Hickling July 25th; 11 Kelling Quags July 30th; 64 Cley July 28th with first juveniles from Aug 12th later peaking at 21 Sept 5th/6th; 9 Holkham Sept 3rd; 35



Titchwell July 15th-31st followed by 37 Sept 6th; 22 Holme Aug 20th; 12 Snettisham July 17th; 10 Lynn Point Sept 21st; 12 Wissington BF Sept 13th and 16 Welney Sept 3rd.

**Purple Sandpiper:** Recorded up to May 13th (Scolt) and from Aug 15th (Overstrand). Most consistent sites were Walcott 11 Jan-March, 8 Nov and 9 Dec; Overstrand 5 Jan, 4 Feb, 5 March and Heacham 6 Jan, 7 Feb, 9 March, 5 April, 4 Oct, 8 Nov and 14 Dec.

Occasionally seen coasting westward during autumn passage including 7 off Sheringham Sept 7th, 4 off Cley Sept 8th and 5 off Blakeney Point Oct 7th when 3 off Weybourne.

**Dunlin:** Peak counts at Snettisham: 5,000 Jan 13th, 18,500 Feb 11th, 8,000 March 31st, 3,500 April 29th, 4,250 May 13th, 5,075 July 23rd, 4,550 Aug 11th, 3,000 Sept 9th, 4,000 Nov 5th and 2,000 Dec 7th. Also 3,000 Breydon in Sept and 7,000 Lynn Point April 29th.

**Broad-billed Sandpiper:** One briefly at Cley June 6th (MAG) was probably the bird which appeared at Titchwell June 7th (CW). Another at Cley July 28th-Aug 6th (RP JCH *et al*) frequented Blakeney harbour Aug 5th/6th (AMS).

**Buff-breasted Sandpiper:** Wolferton one on arable fields Oct 2nd-4th (BL RQS *et al*).



**Ruff:** Small numbers in winter at Hardley Flood (Dec), Cantley BF (Dec), Cley (Jan), Holkham (Jan, Feb and Dec), with more substantial concentrations at Berney (41 Jan 20th) and Welney (107 Jan 31st and 156 Dec).

A strong spring passage, obvious in April but peaking in the first week of May when 50 Hardley Flood 4th, 79 Berney 5th, 60 Hickling 2nd, 115 Kelling 4th, 150 Cley 1st, 313 Holkham 1st rapidly decreasing, 20 Scolt 4th, 22 Holme 5th, 58 Lakenheath Flash 3rd and 85 Welney 4th.

Autumn: peak numbers at Breydon 40 Aug/Sept and 51 Oct; Cley 60 July 22nd, 45 Sept 16th; Titchwell 50 Oct 27th and Welney 60 Aug, 124 Sept, 162 Oct and 150 Nov.

No evidence of breeding.

**Jack Snipe:** Recorded from 27 sites up to April 8th (Welney) and from Sept 20th (Holme).

Largest group 7 Cley Sept 26th. One killed by Sparrowhawk at Holme Nov 25th.

**Snipe:** Minimum of 194 drummers though no figures available for many sites. Main areas Strumpshaw (20), Holkham (27) and Welney (130) — latter figure considered an underestimate.

Winter concentrations at Holkham of 157 Jan, 182 Feb, 183 March and 85 Nov.

**Long-billed Dowitcher:** Lynn Point a juvenile Sept 25th-Oct 16th (JBK *et al*). The fifth county record.

**Woodcock:** A total of 37 'roding' birds reported from 21 sites gives only a hint of true status. Concentrations of 7-8 migrants Blakeney Point Oct 21st when 20 Holkham-Warham and 7 Brancaster Dec 19th.

**Black-tailed Godwit:** Well represented on spring passage with peak counts of 20 Breydon/Berney April 30th; 26 Hickling March 24th; 112 Cley April 21st; 23 Holkham May 21st; 500 Ousemouth March 1st and 450 Welney March 31st — the latter 2 groups Icelandic passage migrants.

Autumn concentrations from Cley where 60 mid-June increasing to 114 by July 9th; 50 Titchwell July 25th and 40 Oct 18th; 36 Snettisham Oct 19th; 180 Terrington Aug 25th and 30 Welney July 2nd.

Single pairs at three sites, but no successful breeding; 2 nests predated.

**Bar-tailed Godwit:** Largest Wash counts at Snettisham: 5,500 Jan 30th, 8,000 Feb 11th, 1,800 March 31st, 500 April 29th, 300 May 8th, 200 July 23rd, 1,000 Aug 24th, 2,100 Sept 9th, 2,000 Oct 8th, 1,500 Nov 15th and 3,100 Dec 7th. Other significant concentrations at Titchwell 5,200 Oct 7th and 3,500 Nov 4th and at Holme 2,660 Jan and 1,400 Dec.

Inland records from Hardley Flood 7-10 May 3rd/4th, singles Pentney GP April 22nd and May 1st and at Welney one April 1st, 3 May 1st, singles May 2nd and 6th and 4 May 4th. Spring peak of 177 at Breydon May 4th.

A full summer-plumaged bird at Burnham Overy Jan 13th.

**Whimbrel:** Recorded March 20th (Cley — an exceptionally early date) to Oct 29th (Blakeney Point). Well represented on spring passage which peaked in early May. Largest groups: 94 Breydon May 7th, 25 Horsey May 6th, 40 Kelling Quags May 3rd, 26 Cley April 26th, 45 Blakeney Point May 8th, 56 Holkham May 5th, 35 Burnham Overy May 6th, 26 Scolt May 26th, 40 Holme May 8th and 19 Snettisham April 25th.

Peak autumn movement counts: 17 Breydon in Aug, 22 Kelling Quags Aug 2nd, 46 Salthouse July 15th, 88 Cley Aug 10th, 49 Holkham Aug 17th, 57 Brancaster Aug 1st, 54 Scolt July 31st with 32 west Aug 18th, 140 Titchwell Aug 7th and 80 Aug 25th, 139 Holme July 31st, 80 Hunstanton Aug 6th and 38 Snettisham Aug 13th.

1-8 noted inland at Pentney GP, Stowbridge and Welney April 30th-May 15th.

**Curlew:** Largest Wash counts at Snettisham: 800 Jan 14th, 250 June 27th, 500 Sept 5th, 800 Nov 10th and 1,000 Dec 24th. Large congregations also at Breydon where 710 in Aug and 717 Dec. Up to 100 feeding inland Massingham Heath Jan 26th.

Breeding season localities included Wolferton Common, Roydon Common, Bridgham (7 pairs) and Stanford Battle Area where noted at 12 sites.

**Spotted Redshank:** Singles in winter at Breydon (Jan, Feb and Dec), Titchwell (Dec) and Snettisham (Jan, Dec). Noted at 12 sites on spring passage which peaked in May. Largest groups: 19 Breydon May 1st, 10 Berney May 1st, 25 Hickling May 2nd, 11 Kelling Quags May 1st, 12 Cley May 5th, 17 Holkham May 2nd and 11 Snettisham April 16th.

Returning birds obvious by June, some lingering into Nov. Main movements at Cley 24 June 29th, 55 July 7th and 31 Aug 9th while at Snettisham 90 June 24th, 105 Aug 9th, 87 Sept 5th and still 30 Nov 4th.

**Redshank:** Peak Wash counts at Snettisham: 625 Jan 13th, 320 Feb 11th, 400 April 29th, 1,500 July 12th, 1,600 Aug 12th, 1,650 Sept 9th and 690 Nov 5th.

Concentrations of breeding *pairs* at Strumpshaw (11), Holkham (39) and the Norfolk section of the Ouse Washes at Welney (81).

A pilot study in south-west Norfolk on 2 similar 100 hectare blocks of grazing marsh showed 28.6% less Redshank breeding failure in the block where Carrion Crows were controlled.



**Marsh Sandpiper:** Lakenheath Washes: May 16th (GT RJW). It or another was at Burnham Norton May 22nd-24th (VE DH MESR).

Additional 1989: Shropham an adult June 1st (PJD). Ten previous county records.

**Greenshank:** Singles in winter at Titchwell (Feb) and Snettisham (Jan, Feb and Dec). Also 2 Snettisham on early date of March 24th; spring passage proper did not commence until April 13th (Breydon and Hickling).

Passage peaked in the first week of May when 45 Breydon 3rd, 10 Berney 5th, 15 Hardley Flood 3rd, 7 Hickling 4th, 8 How Hill 4th, 14 Cley 2nd, 23 Holkham 7th, 9 Snettisham 2nd, 12 Lakenheath Flashes 3rd and 32 Welney 2nd.

Stragglers on autumn passage until Nov, but peak numbers Breydon 24 late July, Cley 20 July 15th and 12 Sept 20th, Holkham 20 Aug 22nd, Brancaster 16 Aug 4th, Titchwell 30 July 31st, 41 Aug 23rd, 33 Sept 4th and 30 Oct 7th, Snettisham 34 July 23rd and 28 Aug 14th and Lynn Point 14 Aug 12th.

**Green Sandpiper:** Mild winter conditions saw birds at 31 sites during Jan, Feb or Dec. Mostly singles, but 3 East Tudenham and Sugar Fen and up to 10 Gt. Melton fish pool Jan 7th and 6 Dec 1st.

Small numbers on spring passage. As usual much more evident in early autumn when 44 Cantley July 28th, 15 Cley Aug 5th, 11 Holkham July 2nd, 12 Swanton Morley Aug 27th, 11 West Acre July 16th and again Aug 4th, 12 Pentney GP Aug 27th, 10 King's Lynn BF Aug 28th, 15 Wissington BF July 30th and 14 Aug 11th.

**Wood Sandpiper:** Early spring passage commenced April 17th (Pentney GP) then noted at 14 sites. Numbers mostly small, but 4 Hardley Flood May 4th, up to 4 Cley May 1st/3rd, 6 Holkham May 2nd; 6 Lakenheath Washes May 3rd and 4 Welney April 29th-May 1st.

Autumn return recorded from 17 sites with last at Cley Oct 14th. Largest parties: 7 Salthouse July 28th, 4 Cley Aug 4th, 6 Holkham Aug 13th and 4 Welney July 26th.

**Terek Sandpiper:** Single at Breydon May 30th/31st (PRA *et al*). Seventh county record.

**Common Sandpiper:** Wintering birds at Breydon/Berney (Dec), Cley (Feb, March), King's Lynn BF (Jan-March) and Castle Acre (Dec). Otherwise recorded April 17th (Cley) to Oct 25th Welney. Light spring passage was followed by a disappointing autumn movement; Largest groups: 18 Lynn Point Aug 4th and 26th.

**Turnstone:** Largest Wash counts at Snettisham: 259 July 23rd, 310 Aug 12th, 645 Sept 8th, 400 Oct 8th, 150 Nov 4th and 380 Dec 6th. Other notable flocks: 200 wintering Brancaster harbour, 136 Sheringham Feb 2nd and 124 there March 31st and 130 West Runton on cliff-top field March 12th.

Above-average numbers observed inland on spring passage when reported at Hardley Flood where 15 May 2nd and 4 May 7th; Pentney GP 5 May 1st and singles May 3rd and 12th; Wissington BF 2 May 14th; Lakenheath Washes 6 May 2nd, 2 May 3rd and single May 4th; Welney 7 May 2nd, 2 May 4th/5th, 1 May 6th/7th and 3 May 12th.

In autumn inland birds at Cantley BF Aug 4th with 2 Sept 16th; Wissington BF Aug 21st and Welney Sept 7th.

**Red-necked Phalarope:** At Cley a summer-plumaged female July 6th-12th joined by a second bird July 10th-12th; juveniles present there Aug 24th-29th and Sept 25th (MAG CHD *et al*). Sheringham: one flying west July 10th (MPT) — possibly a Cley bird. Titchwell Aug 4th (RSPB) and Snettisham a summer plumaged bird July 11th followed by juveniles Aug 5th and 20th (RSPB).

**Grey Phalarope:** A well-watched bird Salthouse March 3rd-6th (SB RP *et al*) was found dead on 7th. Autumn birds at Yarmouth Nov 5th (PRA KRD), Paston Nov 3rd (CA JRA), Cley Sept 19th and 25th (MAG) and Nov 18th (PEB), Thornham Point/Titchwell Dec 15th/16th (MJS BW) and Hunstanton Oct 15th and Nov 9th (MR).



**Pomarine Skua:** Weybourne east Jan 28th (JW) — only winter report. Typical records of early returning adults: 2 Scolt July 15th (MLW) and singles at Hunstanton (MR) and Cley (MAG) July 22nd and Hunstanton (MR) and Cley (RM) Aug 6th. Other autumn records Aug 20th-Nov 26th with about 7 birds (all adults) in Aug, 25 (mainly adults) Sept, 12 Oct and 10 in Nov. Species very scarce in 1990.

**Arctic Skua:** Recorded from June 10th with occasional singles at north coast sea-watching sites in June and early July. Increasing numbers from mid-July and several good movements Aug-early Oct together comprising the strongest passage for several years. Best days 49 Cley and 58 Sheringham Aug 6th, 90 Sheringham Aug 17th; 144 (inland) Ousemouth, 213 Cley and 260 Sheringham Aug 20th; 120 Lynn Point (most flew inland), 145 Snettisham, 185 Holme, 233 Cley and 120 Sheringham Sept 7th; 90 Sheringham Sept 21st; 105 Sheringham Sept 25th and 106 Sheringham Oct 7th. Stragglers in Dec with 1-3 on 4 dates until 16th.

**Long-tailed Skua:** A record year. Accounting for possible duplication of sightings about 30 birds (16 adults, 12-14 juveniles and 1 un-aged) as follows: adult Blakeney-Cley July 31st-Aug 2nd; adult Blakeney-Cley Aug 5th/6th; adult Cley Aug 30th; adult Cley Sept 1st; juvenile Cley Sept 1st-2nd; juvenile Ousemouth; adult Lynn Point; juvenile Snettisham; 2 juveniles Cley, adult Cley-Weybourne and juvenile Sheringham all Sept 7th; adult Snettisham and juvenile Cley Sept 8th; 7 (3 adults 4 juveniles) Lynn Point Sept 19th, adult Ousemouth juvenile Holme, juvenile Cley and adult Sheringham Sept 21st; adult Lynn Point, 2 adults Cley-Sheringham and one un-aged Cley Sept 25th and adult Admiralty Point (Wash) and juvenile Sheringham Oct 7th.

**Great Skua:** Coastal records mainly July 22nd-Nov 26th with singles Jan 4th, Feb 26th, March 2nd and 9th, June 10th and 1-3 daily Dec 10th-13th. Heaviest passages 139 Holme, 65 Cley and 190 Sheringham Sept 7th; 104 Hunstanton and 80 inland Ousemouth Sept 21st; 74 Lynn Point (most spiralling inland), 131 Hunstanton, 185 Cley, 120 Sheringham and 72 Paston all Sept 25th; 104+ Hunstanton, 269 west Holme, 181 Sheringham and 45 Paston Oct 7th.

Inland: Breydon juvenile Sept 25th.

**Mediterranean Gull:** Most favoured localities: *Overstrand* where the annually wintering adult remained until March 14th and returned July 10th; at *Yarmouth* where adult present until March 6th, second-year Jan 6th, first-year July 20th, 1-2 adults July 30th-Dec 31st



and second-year Nov 18th; at *Breydon* where 2 second-years April 13th-25th, first-year May 15th/16th, another first-year May 18th-June 1st and second-year Oct 23rd; at *Blakeney Point* where adult present March 31st-May 5th, first-year April 2nd, first-year May 7th-11th and adult Sept 2nd; at *Cley* where first-year May 7th and single adults June 30th, Aug 2nd/3rd, Aug 14th, Sept 8th-14th and Oct 1st and at *Sheringham* where second-year west March 10th, adult east July 12th, adult west Aug 11th, second-year Sept 2nd/3rd and adult west Oct 8th.

Elsewhere coastal wandering singles at Berney, Brancaster, Cromer, Heacham, Holkham, Holme, Lynn Point, Paston, Scolt Head, Snettisham, Wells and Winterton.

Inland singles at East Winch adult July 19th; Gillingham Flood second-year April 18th; Hardley Flood first-year May 6th; Hickling first-year May 14th and 31st and second-year Nov 10th and Wissington BF adult May 14th.

The second-year Mediterranean  $\times$  Black-headed Gull hybrid at Heacham Oct/Nov 1989 again there Feb 8th (JBK).

**Little Gull:** Recorded every month. Good numbers in the opening months of the year including: 34 Holme Jan 12th, 50 Hunstanton Feb 17th and 55 east Sheringham Feb 26th.

A light spring passage late April/early May with up to 7 adults at Breydon, Cley, Filby Broad, Hardley Flood, Hickling, Holkham, Lynn Point, Pentney and Welney. Summering immatures: Up to 3 Breydon/Berney, up to 6 Cley and up to 7 Kelling Quags June-July.

Largest autumn movements: 400 east in 3 hours Titchwell Oct 28th, 140 east Sheringham Nov 1st, 105 east Overstrand Nov 25th, 113 east Sheringham Nov 26th and 112 Holkham Bay Nov 28th.

**Sabine's Gull:** Blakeney Point adult Aug 25th (AFB *et al*) and juvenile Aug 30th (PD), Cromer juvenile Sept 7th (JRW), Paston juvenile east Sept 19th (MF) and single juveniles east at Paston (MF), west at Overstrand (GC BJM) and west at Cley (PDK) Oct 7th.

**Black-headed Gull:** Only counts received from breeding colonies were 3,030 pairs Wells, 79 pairs Stiffkey Binks, 350 nests Wissington BF and 806 pairs Snettisham Pits.

**Common Gull:** Bred only at Snettisham Pits; one pair unsuccessful.

**Lesser Black-backed Gull:** 25-30 pairs Wells Saltmarsh, the sole breeding site (apart from unknown total on Wash Trial Bank).

Largest counts 250 Hickling July 6th, 85 Cley July 10th, 160 Pentney GP July 14th and 300 Lyng Eastaugh GP July 28th.

**Herring Gull:** 25-30 pairs bred Wells Saltmarsh (no details received from the county's other breeding sites at Blakeney Point and in Wash). An albino at Thornham gull roost Oct 4th.

Following more careful observations in recent years, the northern race *argentatus* is now known to be a winter visitor and passage migrant in varying — sometimes large — numbers and (at least) occasional in summer. Only significant observation received from Sheringham where during a passage of 850 Herring Gulls west on Feb 17th, at least 150 (probably many more) were *argentatus*.

Up to 5 of yellow-legged Mediterranean race *michahellis* present at Yarmouth/Breydon throughout Aug, Lynn Point July 3rd, Hickling 1-2 July 6th-11th and 1 Aug 29th, Blakeney Point Aug 4th, Horsey Aug 7th, Martham Broad Aug 14th, Tunstead Sept 14th and Cley Sept 25th.

**Iceland Gull:** Single adults Breydon Feb 17th (PRA), west at Sheringham March 6th (DHS) and east at Cley Nov 3rd (MAG).

**Glaucous Gull:** A poor year. The annually wintering adult ranging from Blakeney to Weybourne remained until March 6th, but did not return in the autumn. Coastal singles (about 10 individuals) on scattered dates in Jan/Feb and spring migrants Paston-Sheringham

March 11th, Paston March 24th, Breydon April 3rd and a third-year Scolt April 29th.

In autumn second-year Cley Sept 29th, adult Cley Oct 3rd and immatures Breydon and Cley Oct 14th, Sheringham Nov 5th, Breydon Nov 20th and Hunstanton Dec 16th.

Inland: West Somerton first-year Feb 18th and Buxton second-year March 3rd.

The second-year Glaucous  $\times$  Herring Gull hybrid on the north coast (arrived in first-summer plumage July 1st 1989) remained between Blakeney Point-Cromer until April 20th (KBS *et al*) causing great confusion during its stay and being frequently mistaken for a Glaucous Gull. The Glaucous present from July reported in the 1989 *NBR* was in fact this bird. Another first-year hybrid west at Sheringham March 11th (KBS SCV JW).

**Kittiwake:** Notable movements off Sheringham: 2,100 March 2nd, 3,600 east Nov 26th and 1,100 east Dec 10th. Inland at Welney Feb 7th and March 1st.

**Caspian Tern:** Cley July 22nd (MAG RGM *et al*) one flew east and was later seen off Sheringham and Cromer (KBS).

Additional 1988: Holme May 26th (WR).

**Sandwich Tern:** Recorded March 17th (Blakeney Point) to Nov 14th (Cley). Inland records from Flitcham 12 Sept 10th; Pentney GP Oct 18th/19th and Welney 2 Oct 19th. Regular sightings of migrants heading inland at Lynn Point Sept.

Blakeney Point 3,000 pairs fledged 3,000 young. None nested Scolt Head due to Fox disturbance at night.

**Roseate Tern:** Recorded from Breydon June 23rd (PRA), Cley June 22nd (MAG) and Aug 5th (PDH AGR RFGR), Blakeney Point a juvenile Aug 27th and adult Sept 2nd/3rd (JCH AMS MIE *et al*).

**Common Tern:** Recorded April 10th (Cley) to Oct 24th (Holkham). The once important Scolt colony now reduced to 14 pairs and these all failed due to Fox predation. The tern platforms at Breydon produced 109 chicks from 129 pairs and 58 young fledged from 24 pairs on a raft at Hoveton Great Broad. Other main colonies: Snettisham (130 pairs), Blakeney Point (220), Holkham NNR (50), Hardley Flood (22), Ranworth (18) and Outer Trial Bank in the Wash 150 (100 pairs in 1989 when first reported). County total 832 breeding pairs (1989 total becomes 858 pairs following addition of the Outer Trial Bank colony in the Wash).

Heavy coastal movements May 2nd: 200 south at Waxham and later in day 220 south at Winterton; also 480 east off Sheringham May 3rd.

**Arctic Tern:** Recorded between April 19th (Cley) and Oct 22nd (Hunstanton). Small numbers observed on spring migration, largest groups at Breydon: 28 May 3rd and 14 May 4th flying east; 14 Lyng Easthaugh GP May 2nd and 30 flying north over Norwich April 23rd.

*Autumn:* Reported at 11 sites, numbers mostly small (1-7) apart from 10 Cley Sept 4th and 25 Sept 6th.

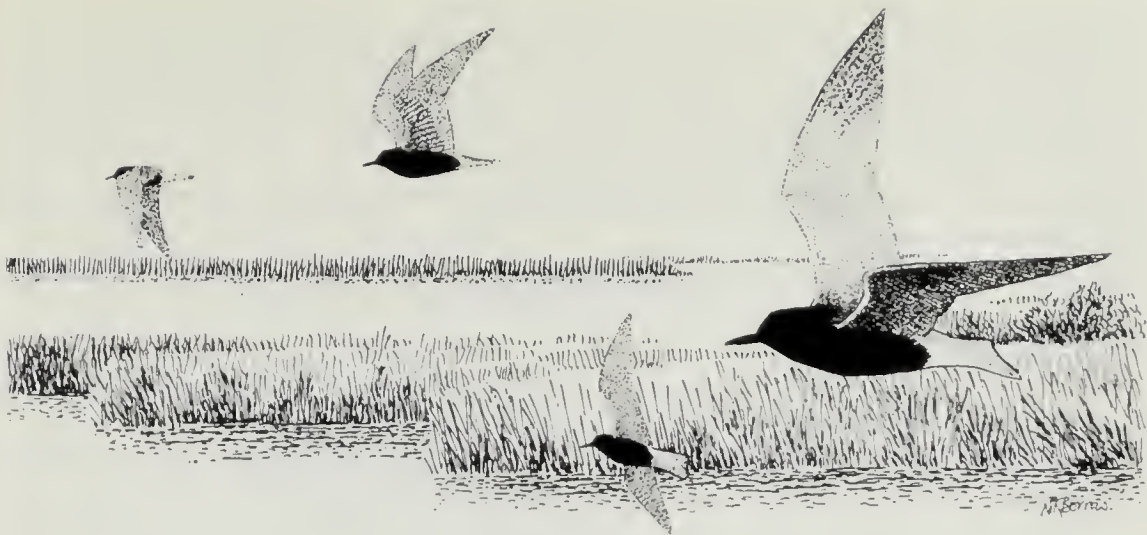
Single pairs made unsuccessful breeding attempts at Scolt Head and Brancaster; 6-7 pairs bred Blakeney Point.

**Little Tern:** Recorded April 22nd (Breydon) to Oct 7th (Paston). A further reduction to 465 breeding pairs in the county with very poor breeding success: only 154 young fledged. The largest colony at Yarmouth (201 pairs) fledged only 15 young due to heavy predation by Kestrels and Hedgehogs. Breeding failure at other sites due to a variety of reasons including predation by Foxes, Magpies, Stoats, large gulls, Oystercatchers as well as high tides and sand-blow.

Inland records of singles from Welney May 1st and Pentney GP May 4th.

The 1989 county total (following information now available from the Outer Trial Bank in Wash) is 488 breeding pairs.





**Black Tern:** Recorded between April 28th (Lyng Easthaugh GP) and Oct 24th (Holme). An exceptionally heavy passage took place at the beginning of May. Large numbers reported in southern England, the Midlands, NW England and the NE. In Norfolk large groups moved north through inland waters, moving east along the north coast before turning south along the east Norfolk shore.

Reported from 48 sites during May with largest movements on 2nd when 400 moved south-east Waxham/Winterton; 160 Horsey Mere; 100 Hickling; 1,000 east Sheringham; 147 Salthouse/Kelling; 1,000+ east Cley; 200 Blakeney harbour; 1,000 east Holkham Marshes; 80 Holme; 150 Snettisham, 95 Pentney GP and 60 Lyng Easthaugh/Swanton Morley GP. Numbers generally much reduced on 3rd, but 200 passed Sheringham and 450 passed through Cley. Obviously great duplication in sightings as the parties moved through many well-watched localities.

Autumn passage on a greatly reduced scale by comparison. Nevertheless there were peaks of 50 Cley Aug 29th with 30 on 30th and 80 Blakeney Point Aug 30th followed by 25 Sept 1st/2nd. Also 17 Holme Aug 27th and 19 Aug 31st; otherwise 1-9 from a further 10 sites.

**Black Guillemot:** Overstrand Feb 12th (PFM BV) and a juvenile Cley Sept 8th/9th (KBS *et al*).

**Little Auk:** Cley Feb 2nd was the only record in the early year. One Holme Oct 20th and 1-2 at several sites Oct 21st were the heralds of the highest autumn/winter numbers ever recorded in the county. Birds were recorded passing offshore on 9 dates in Nov and 12 dates in Dec with two waves of strong passage: Nov 3rd-5th and Dec 10th-13th.

During the first wave birds moved north up the East Coast and west along the north coast in NW gales with largest counts 87 Paston, 105 Sheringham and 81 Holme Nov 3rd; 44 Yarmouth, 50 Paston, 170 Sheringham, 110 Cley and 71 Holme on 4th and 20 Yarmouth, 15 Sheringham and 28 Cley on 5th.

During the second wave birds moved east along the north coast in NE gales with largest counts all from Sheringham where 1,800 on 10th, 95 on 11th, 130 on 12th and 125 on 13th. Birds were stranded inland at Filby Broad, Reymerston, Stalham and Hickling (3 dead) Nov 4th; in a Caister garden Nov 5th; Gooderstone and Thorpland (near Fakenham) Dec 13th and Hickling Dec 19th and 28th. Several appeared on coastal pools including Snettisham Pits where 2 present Nov 4th-12th and one Dec 6th-14th.

**Puffin:** Typically very scarce. Other than Sheringham 9 east Nov 26th and 8 east Dec 10th, 1-3 passing Hunstanton-Paston seawatching sites on 14 scattered dates.

**Guillemot/Razorbill:** Largest movement all recorded off Sheringham where 2,250 east Oct 7th, 1,240 east Nov 26th and 360 east Dec 10th. As usual, birds were at too great a range to identify specifically.

**Collared Dove:** Best count only 71 at Dersingham Jan 6th. A leucistic bird at Sheringham Feb 24th-May 3rd.

**Turtle Dove:** Very unusual winter record of one photographed in Norwich Jan 24th (RC).

First of spring an early bird at King's Lynn BF March 21st followed by a more general arrival from April 18th. Highest counts of birds passing west only 66 (Cley May 16th) and 150 (Holme May 18th). No observations received of post-breeding congregations. Last of autumn Wereham Oct 1st.

**Ring-necked Parakeet:** Records of singles from Norwich, three sites in Broads and the more popular coastal localities from Breydon to Thornham. Two at Caister July 21st and at Winterton on July 31st-Aug 2nd.

**Cuckoo:** First at Paston April 6th. Last at Stradsett Sept 10th. A 70% white juvenile West Acre Aug 10th-12th.

**Barn Owl:** Records from forty 10km squares in the county including 6 in Burgh Castle/Berney Arms area March 3rd, 3 together Titchwell March 11th and up to 5 together Hickling at year-end.

Two records of the dark-breasted race *guttata*: In early March a fortunate bird survived being carried on the front of a lorry some 20 miles from near Swaffham to Stanhoe. It was taken into care and later released only to become a road casualty at Downham Market Nov 10th (CRK). In last week of March another road casualty at Loddon has since been mounted (*per* JGG). Transparencies of both casualties produced.

**Little Owl:** Breeding reported from only 3 sites, but otherwise recorded in thirty-two 10km squares.



**Long-eared Owl:** Breeding records from 8 sites, mainly in the west and south of the county. In first-winter period a roost of up to 19 in Fens. No other site managed more than 4. At year-end no gatherings of more than 2 birds despite a good autumn for migrants.

First autumn arrivals Oct 13th (when 2 Holme, 3 Winterton, 4 Blakeney Point, one

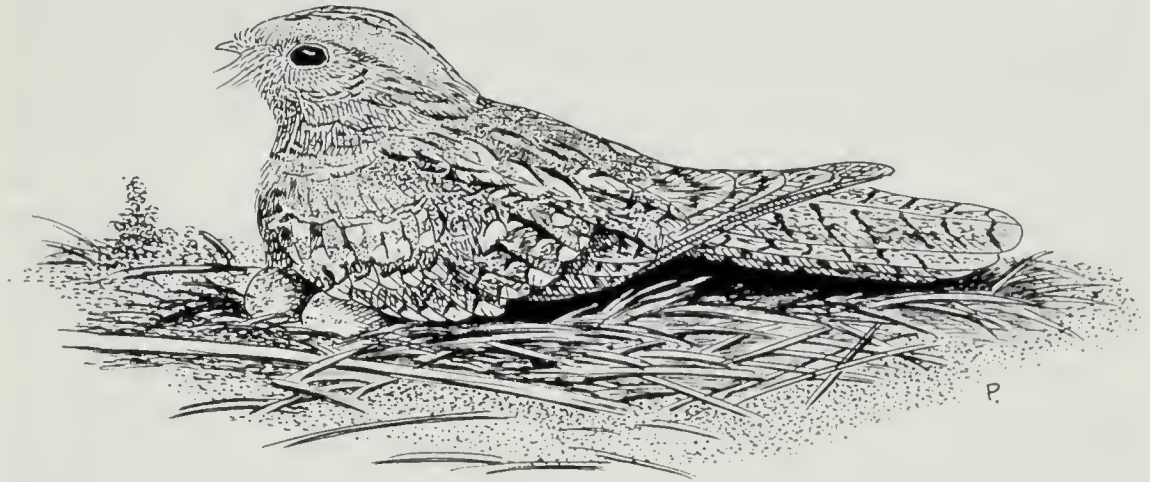


Horsey Gap and 4 Waxham). Thereafter many records but almost exclusively singles for about 10 days followed by a handful of coastal birds during Nov. One roosting at Holme Dec 2nd found dead next morning.

**Short-eared Owl:** No concentrations of more than 3 birds in the winter, except in Breydon area where up to 10 in Jan but very scarce there in late year. Summered at several sites with breeding at 3 localities; one nest washed-out by high tides.

In autumn observations of coastal migrants followed a broadly similar pattern to Long-eared Owl with peak of 5 on Blakeney Point Oct 13th and 4 arriving from sea there Oct 19th.

Additional 1989: 5 roosting Dersingham Bog Jan 3rd.



**Nightjar:** Counts at selected sites in Brecks revealed an increase in 1989 numbers. Elsewhere records from Dersingham, Wolferton 2, Sandringham/West Newton 3, Roydon 3, Salthouse/Kelling 6 and Winterton. Spring migrant in Holkham Park May 31st.

**Swift:** First at Berney and Horsey April 29th. Then a major influx May 8th. At Paston 3,000 per hour June 24th — by far the heaviest passage reported. Last of the year: Sea Palling and Holme Oct 27th, Happisburgh and Horsey Oct 28th and Weybourne Oct 31st.

Two records of aberrant birds: One with a white rump at Gayton in June and another with white head and breast at Cromer July 2nd.

**Kingfisher:** Recorded in seventeen 10km squares, mainly near NW coasts, along the Wensum and Yare valleys and in the Broads. One on beach between Cromer and Overstrand Aug 23rd.

**Bee-eater:** 1989 addition: Holme June 17th (GFH).

**Hoopoe:** The bird at Taverham late in 1989 stayed until Jan 2nd. In spring a remarkable series of coastal observations presumably all relating to the one bird: Winterton April 21st, Gun Hill 22nd, flying west Holme 23rd and between Heacham and Hunstanton 23rd-27th.

Other records: Cromer May 28th-30th, Holkham Meals Sept 12th, West Runton Sept 12th-26th, Ringstead Oct 13th and Cromer Nov 6th/7th.

**Wryneck:** *Spring:* Snettisham April 21st followed by 9 singles in May: Horsey 1st, Holme and Drayton 2nd, Sheringham 4th, Hickling 5th, Kelling, Barrow Common and Holme 6th and Wells 20th.

*Autumn:* Eleven individuals as follows: Blakeney Point Aug 25th-29th, Cley 25th/26th, Blakeney 26th, Horsey 27th, Winterton/Waxham 30th, Blakeney Point Sept 1st, Winterton Sept 14th-16th and 23rd, Brundall 23rd and Yarmouth Oct 8th-11th and Oct 21st-23rd.



**Great Spotted Woodpecker:** Cromer, one flying in off sea Oct 27th.

**Short-toed Lark:** Blakeney Point May 7th-10th (AMS AV *et al*).

**Woodlark:** Another increase to 48 singing males in the Norfolk Brecks with a pair at Santon Downham as early as Feb 24th. Breeding also recorded at a site in west Norfolk outside the Brecks.

Elsewhere, intermittent records at Winterton Feb 24th-April 2nd, presumably concerning only the one bird; also a single Burnham Overy Dunes Oct 29th.

**Shore Lark:** Salthouse/Cley 5 until May 5th were joined by an additional bird Feb 6th and from April 29th; also singles Salthouse May 7th and Cley May 10th-14th.

*Autumn:* Cromer GC Sept 27th-29th; Blakeney Point Oct 23rd and Nov 9th; Stiffkey Binks 2 Dec 16th; Scolt Head 2 Oct 20th; Holkham Oct 22nd and Nov 7th-13th; Thornham Point 3 Nov 15th-19th; Holme Nov 3rd and Snettisham Oct 22nd-29th (with another Oct 27th-29th), Nov 12th and Dec 4th and 9th.

**Sand Martin:** First of the year, Cley, March 15th; last, Lynn Point, Oct 28th. Dramatic decrease in numbers of burrows occupied at Weybourne/Sheringham: from 594 last year to only 151.

**Swallow:** Extreme dates: March 17th (Docking) and Dec 3rd (Breydon). Autumn roost of 4,000 Stoke Ferry. At Wells a white individual with buff mantle Aug 20th-23rd.

**Red-rumped Swallow:** Cromer May 4th (SCV); Cley May 11th (RA SJMG) and Overstrand Oct 25th (BJM).

Additional 1989: Wells Nov 4th (HWW).

**House Martin:** First, at Cley, March 18th. Last, at Sheringham, Nov 12th.

**Richard's Pipit:** *Winter:* Snettisham Jan 1st-March 13th and Nov 1st-Dec 9th.

A good autumn passage: Horsey Corner Sept 16th, Holme Sept 23rd, Kelling Quags Sept 23rd and Nov 1st, West Runton 2 Sept 23rd/24th and Oct 22nd, Blakeney Point Sept 29th and Oct 14th, Cley Sept 29th, Oct 22nd and 28th, Burnham Overy Oct 9th, Stiffkey and Waxham both Oct 14th, Salthouse Oct 25th and Holkham Meals Oct 25th.

**Tawny Pipit:** *Spring:* Horsey April 29th/30th (DN TN *et al*), Waxham May 8th/9th (DN TN *et al*), and Winterton May 14th/15th (PC).

*Autumn:* Horsey/Waxham Aug 29th (PRA).

**Olive-backed Pipit:** Blakeney Point Oct 18th (GMC SCJ AMS *et al*). Seventh county record.

**Tree Pipit:** First noted Santon Downham March 31st followed by 4 at Lynn Point April 1st. In autumn late birds at Holkham Meals Oct 20th and Holme Oct 22nd.

**Red-throated Pipit:** Kelling Quags May 19th (RC *et al*).

Additional 1989: Cley May 2nd/3rd (SJMG RGM *et al*).

**Rock Pipit:** Birds showing characters of Scandinavian race *littoralis* at Titchwell Feb 17th, Snettisham 2 March 3rd, Cley March 3rd, 11th-17th, April 1st and 6th/7th, Breydon March 11th, Lynn Point 3 March 17th and Weybourne where up to 8 in spring.

An impressive total of 350 west at Weybourne Oct 8th all considered to be *littoralis*.

**Water Pipit:** At Cley regularly recorded during first-winter period; maximum of 20 Feb then 12 March and 15 April with 3 late birds May 8th. As in 1989 another autumn influx occurred in Oct with maximum of 10 on 20th. Cantley held up to 12 Jan and 20+ during second-winter period.

Elsewhere: Gillingham Flood 2 March 20th and April 16th; Breydon Nov 17th; Horsey Mere Nov 10th; Weybourne Oct 9th; Salthouse March 4th; Blakeney Point Oct 14th; Holkham Marshes 2 March 12th-22nd and Nov maximum of 5; Burnham Norton April 5th-10th; Titchwell Dec 30th and Lynn Point Jan 14th and 20th, Feb 11th, March 17th,

Oct 14th and Dec 9th.

**Yellow Wagtail:** Three March occurrences: West Acre 11th, Holme 17th and Holkham 21st. Main spring passage April 22nd-May 3rd with maximum of 65 West Runton April 30th. 22 pairs bred on Holkham grazing marshes, 7 at Cley and over 32 pairs at Welney Washes.

An Aug roost at Burgh Castle held up to 800 birds by 31st. At same time 100 roosting Ludham Marshes. Latest: 2 Lound Oct 26th.

**Syke's Wagtail:** Single males showing characteristics of this Yellow Wagtail race at Welney May 14th (JBK) and Burnham Norton May 19th-June 24th (AB MESR *et al*).

**Blue-headed Wagtail:** Total of 48, including 3 at Salthouse April 22nd, in spring April 1st-June 18th. In autumn 2 Cley Aug 11th and one Wissington BF Sept 15th.

**Grey-headed Wagtail:** Impressive total of 16+ males showing characteristics of this Yellow Wagtail race: West Runton April 28th; Cley May 3rd, 3 May 5th, May 7th, May 10th/11th with 3 May 12th and one May 20th; Burnham Overy May 4th; Salthouse May 7th, May 10th, 3 May 11th-13th and one May 19th; Kelling Quags May 6th/7th; Burnham Norton May 11th and Waxham May 15th.

**Grey Wagtail:** Successful breeding at Attleborough (Hall Farm), Boughton Fen, Buckenham Tofts, Corpusty, East Harling, East Tuddenham (among straw bales in a Dutch barn), Ebridge Mill, Gressenhall, Hellesdon, Honingham, Keswick, Narborough, Newton Flotman, Norwich (3 pairs), Santon, Shadwell, Thetford and West Acre.

Also breeding-season records from a further 7 sites.

**Pied Wagtail:** Holkham village: Pair feeding a fledged juvenile on very early date of Feb 24th. Whitlingham Marsh roost held 330 July 26th, 875 Aug 30th and 160 Sept 10th. Other roosts: King's Lynn Hospital 30+ Jan 1st, Thetford (Melford Bridge) 200-250 Oct 11th. Counts of 100 Cley and 45 Blakeney Point Sept 2nd.

**White Wagtail:** Usual small coastal passage March 15th-May 12th; maximum of 15 Horsey March 18th. At Burnham Norton bird collecting food May 23rd and an adult with 2 juveniles July 3rd. Also a bird Pentney GP April/May.



**Waxwing:** A minor influx into the county in late Dec 1989 continued throughout the first half of Jan including 12 Hunstanton Jan 3rd, 14 Waxham and 9 Horsey 14th, 12 Potter Heigham 16th. One to 4 were recorded during Jan at Blakeney, Briston, Cockley Cley, Guist, Hingham, Holkham, Holme, Norwich, Salthouse, Snettisham and Sutton. Observations became more scarce during the remainder of first-winter period when 2 Gooderstone Jan 28th-Feb 3rd and ones and twos at Wells Feb 5th and 10th and March 2nd. Up to 7 remained in Norwich until March 31st — the final record.

In the second-winter period singles arrived at Cley and Weybourne Oct 18th coinciding with widespread records from Shetland south to Norfolk. Subsequently 1-2 put in appearances at Cley, Cromer, Holme and Waxham with 6 Holkham Oct 21st followed by 20 arriving at North Creake on 23rd.

A single at Caister Oct 25th and 2 Burnham Overy Staithe on 28th preceded a sizeable second wave from Nov 1st when recorded at Cley (17), Holme (2) and Wells. Numbers increased to a peak in mid-Nov. Flocks of note included 30 Titchwell Nov 6th, 15 Holme 7th, 52 Heacham 8th-16th, 12 Briston 9th, 23 Hickling 12th, 25 Hindringham 12th and 20 Sustead 25th. Parties of up to 9 were recorded during Nov at Barford, Blakeney, Burgh Castle, Burnham Overy, Burnham Overy Staithe, Cley, Craymere Beck, Field Dalling, Filby, Gayton, Gt. Yarmouth, Holkham, Holme, Morston, North Walsham, Ormesby St. Margaret, Salthouse, Sheringham, Stalham Green, Stiffkey, Thornham, Tottington, Warham, Wells and Wiveton. At the height of the November arrival county daily totals as follows:

2nd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th
24	30	28	58	17	72	71	109	91	113	86	84	52	71

Numbers dwindled by early Dec, only the Hickling and Heacham flocks remaining in any strength.

A third, small, wave arrived Dec 9th when 17 Burgh Castle and 15 South Creake followed by sightings (larger groups indicated) during the month at Briston, Burnham Norton, Cromer (12), East Carleton, Heacham (25), Holkham (11), Holme, Overstrand, Panxworth, Potter Heigham (30), Repps, Seething, South Creake (41), Stalham, Strumpshaw, Tunstead and Weybourne. The Hickling party still numbered 11 at year-end.

Total numbers are difficult to determine with much movement and doubtless duplication. However, it would appear that the first winter period total was in excess of 100 birds. The late Oct/mid-Nov arrival totalled above 370 and the full total for the second winter period may have reached 500 in all. (*Summary by J. R. Williamson*).

**Dipper:** One first reported at Holkham Lake Oct 22nd and subsequently from Oct 27th at Burnham Overy Mill/Burnham Town Friary Mill until the year-end was trapped in Feb 1991 and judged to be probably of the central European race *aquaticus*.

Birds of unspecified race on Babingley River at Hillington Dec 16th and King's Lynn mid-Dec.

**Robin:** Impressive arrival of Oct migrants beginning 18th when 200 Blakeney Point, 132 Holme and 110 Weybourne where a peak of 250 on 21st.

**Nightingale:** First Pentney April 21st. Only coastal migrants in spring at Holme April 26th and Winterton on 28th. In autumn Holkham Meals Sept 16th.

**Bluethroat:** May records from Cley 13th, Blakeney Point 14th with 3 on 15th, Holme 14th and Holkham Meals 19th.

**Black Redstart:** Winter records from Breydon (Berney) Jan 6th-Feb 11th; Hunstanton Jan 1st-3rd and 14th and Heacham Jan 1st-March 28th.

Small coastal passage March 17th-May 17th. Single pairs bred King's Lynn docks and Yarmouth where an additional 4 singing males. Unpaired males also present in Norwich (May/June) and Hillington (late July-Aug).

*Autumn:* Apart from a single Stiffkey Sept 15th, passage mainly second half of Oct particularly around 18th/19th when records included 4 Yarmouth, 3 Weybourne, 5 Blakeney Point, 5 Holkham Meals and 4 Holme.

**Redstart:** Recorded April 13th (Paston) to Oct 23rd (Kelling). Spring passage included 5 Holme April 21st and 10 Blakeney Point May 15th. Bred Blickling, Swanton Novers,



Roydon Common and West Acre; also recorded at 11 sites in Stanford Battle Area.

**Whinchat:** Recorded April 21st (Holme) to Oct 29th (Welney) with spring maximum of 10 Holme May 3rd. Bred Smoker's Hole, Stonyhill Breck and Gooderstone Warren. A pair summered at Happisburgh. In autumn peak of 16 Holme Sept 5th.

**Stonechat:** Five or six pairs bred along east Norfolk coast. A scattering of mainly coastal winter records including 4 between Wells and Burnham Overy Staithe Jan/Feb, 7 Holme Feb 22nd/23rd and 4 Snettisham Nov 11th.

**Siberian Stonechat:** A first-winter bird Salthouse Sept 26th (SH *et al*) and a first-winter male Stiffkey Oct 14th-16th (AB *et al*).

**Wheatear:** First recorded March 5th (Horsey). Spring migrants included 40 Holme April 20th and 30+ West Runton April 28th. Single pairs bred Cley and Burnham Overy. 3 still at Cley Nov 3rd with one till 9th and a straggler at Snettisham Nov 11th.

**Pied Wheatear:** Holme an immature Oct 19th-21st (RJ RLKJ *et al*). The sixth county record.

**Ring Ouzel:** Widespread and heavy spring passage March 14th-May 27th. Majority occurred in second half April/early May when peak of 20 Waxham April 27th and unusual inland concentration of 8 Corpusty May 7th. Isolated June records at Heacham where 2 on 24th and one 26th.

Large numbers again in autumn between Sept 25th and Nov 28th particularly during second half Oct. Many associated with an influx of thrushes beginning Oct 18th when 12 Waxham, 12 Weybourne, 20+ Blakeney Point, 10+ Stiffkey and 24 Holkham Meals. Numbers remained to the month-end including 6 Sheringham Oct 29th, 6 Blakeney 27th and 13 Holkham Meals 26th.

**Fieldfare:** Latest in spring Holme June 10th; first in autumn Breydon Aug 1st. Main autumn arrival began Oct 18th.

**Redwing:** *Spring:* Recorded to May 7th (Winterton). *Autumn:* First returning birds 2 Welney Sept 27th. Main coastal arrival together with other thrushes Oct 18th.

**Mistle Thrush:** Flocks of 30+ Craymere Beck Aug 27th and 47 Stanford Sept 15th. Small numbers associated with thrush movements in Oct including 9 west Holkham Meals on 20th.

**Cetti's Warbler:** Singing males at Belaugh, Catfield, Hardley Flood, Heigham Sounds, Hickling, Horning, Hoveton Little Broad, Martham, Ranworth, Rockland (3), Strumpshaw (6), South Walsham, Upton, Wheatfen and Wroxham.

**Grasshopper Warbler:** Earliest at Kettlestone Common April 19th, Holme on 21st with 3 at Holkham Meals same day. Scolt Head: one singing May to July.

**Savi's Warbler:** Earliest singing male at Hickling April 24th with 2 there from 28th. Cley: one in song May 10th-June 10th. Additional Broads singers at Barton, Catfield, Ranworth and Upton (2).

**Sedge Warbler:** Earliest 2 at Cley April 1st where an influx on 28th followed by 82 singing males being recorded on the Reserve.

**Marsh Warbler:** Hempstead one in song June 10th-19th. Ninth county record.

**Reed Warbler:** First at Hickling April 25th. 96 singing males recorded on Cley Marsh. Latest: Welney Oct 13th and Blakeney Point on 21st.

**Icterine Warbler:** *Spring:* Singing male in Wells Town June 4th-11th. *Autumn:* Holme Aug 25th, Holkham Meals Aug 25th-27th and Sept 1st, Happisburgh (in song) Oct 15th and Yarmouth Oct 16th.

Additional 1989: Winterton Sept 19th.

**Dartford Warbler:** Waxham March 17th (TRB TCN *et al*) and Cromer GC April 2nd-6th (GD *et al*). Three previous county records since 1900.



**Subalpine Warbler:** Blakeney Point: Male of the eastern race *albistriata* May 20th-22nd (MSC MIE AMS *et al*). Ninth county record.

**Barred Warbler:** Autumn records as follows: Waxham Sept 23rd and Oct 24th; Blakeney Sept 13th; Blakeney Point Sept 8th; Holkham Meals Sept 12th-15th with 2 on 14th and Scolt Head Sept 15th-26th.

**Lesser Whitethroat:** First at Holme April 20th. A bird showing the characters of the Siberian race *blythi* trapped Weybourne Oct 13th.

**Whitethroat:** Extreme dates: Boughton Fen April 22nd and Holkham Meals Oct 20th.

**Garden Warbler:** First at Cley April 19th. 10 Blakeney Point May 15th. Late birds at Holkham Meals Oct 21st and 24th and Northrepps on 25th.

**Blackcap:** During first winter period (Jan/Feb) recorded at Brundall, Holkham Meals (2), Holme (up to 3), Holme Hale, Old Costessey, Toftwood and Weybourne. Spring migrants from April 1st when 2 in Holkham Meals with 2 Hethel and 5 Wayland Wood next day.

*Autumn:* 5 Blakeney Point Oct 18th/19th and 15 Scolt Head on 20th.

During second winter period reported during Dec at Brooke, Holkham Meals, Holme, King's Lynn, Narborough, Northrepps, Norwich, Weybourne and Winterton.

**Greenish Warbler:** Blakeney Point Aug 25th (MIE AMS *et al*).

**Yellow-browed Warbler:** Another good year with at least 28 individuals as follows: Yarmouth Oct 16th-18th; Waxham Sept 21st, 24th with 2 on 26th/27th and Oct 14th/15th; Cromer Oct 21st; Weybourne Sept 14th/15th; Salthouse Oct 6th-10th; Cley 2 Sept 18th-23rd with one to 26th and another Oct 19th; Blakeney Point Oct 12th; Holkham Meals Sept 15th-17th with 2 on 16th, singles Sept 29th, Oct 7th, Oct 10th-21st with 2 on 18th/19th and 3 on 14th and 20th; Burnham Overy Staithe Sept 14th; Brancaster GC Oct 18th; Thornham Point Oct 14th; Holme Oct 3rd/4th, Oct 14th and Oct 17th-21st with 2 on 19th and 3 on 20th/21st and Sandringham Sept 29th.

Additional 1989: Brancaster Oct 4th with 2 Oct 9th.

**Radde's Warbler:** Holkham Meals Oct 19th (AB MESR *et al*).

**Dusky Warbler:** A record year: Holkham Meals Oct 19th/20th (MESR *et al*); Wiveton Oct 24th-27th (ETM *et al*); Holme Nov 5th-12th and a second bird Nov 7th (NOA) and Burnham Norton Nov 7th (MESR).

**Wood Warbler:** Coastal migrants in spring at Yarmouth May 7th and 10th/11th, Waxham May 8th, Paston May 20th, West Runton May 17th, Walsey Hills April 26th, Blakeney Point May 4th and 15th, Holkham Meals April 30th, Scolt Head May 15th, Holme May 1st and 15th and Snettisham May 3rd/11th.

Singing males at Castle Rising, Holkham Park, Kelling Triangle (3), Lynford, Lyng, Mousehold Heath (5), Mundford, North Wootton, Pretty Corner, St. Helen's Well,





Long distance travellers included this Long-billed Dowitcher at Lynn Point and Pacific Golden Plover at Cley. Woodcock breeding season distribution details are welcomed.







A total of 299 pairs of Herons nested in the county. Grey partridge densities are among the highest in the country.







Male Two-barred Crossbill (*top left and bottom* ); together with Common Crossbill studies — all at Sandringham.





Stoat (*left*) and Weasel (*right*).

Roe Deer appeared as far north as Kelling Heath and Scolt Head Island.





Salthouse Heath, Sandringham, Santon Downham, Taverham, Thetford Rifle Range and Thetford Warren Lodge (3).

Pair built a nest Mousehold Heath and a juvenile July 31st at Elsing.

In autumn Stiffkey Aug 27th, Pentney Sept 21st and Holme Sept 23rd.

**Chiffchaff:** Recorded in first-winter period at Burgh Castle, Paston, Overstrand, Beeston Common, Cromer, Wiveton, Cley, Holkham Meals and Titchwell. Migrants widespread from mid-March. In autumn reported regularly until mid-Nov; thereafter 3 Walsey Hills and Glandford Nov 22nd and Beeston Regis Nov 27th/29th. *Tristis* individuals Blakeney Point Oct 24th and Nov 10th; Holkham Meals Oct 22nd and 27th and Titchwell Nov 10th-13th. Dec birds at Beeston Regis, Cley, Titchwell and Burgh Castle.

**Willow Warbler:** Earliest at Swanton Morley March 29th, Beeston on 30th and Holkham Meals, Waxham and Strumpshaw all on 31st. Latest: Stiffkey Oct 14th and 25th with 4 Holkham Meals Oct 18th.

**Goldcrest:** Large-scale coastal arrivals Oct 18th-24th: 50 Yarmouth 19th, 100 on 22nd and 200 on 24th; hundreds at Winterton 18th; 200 Blakeney Point 19th; 200 Scolt Head 20th and hundreds at Holme 19th with 600 there on 21st.

**Firecrest:** Spring passage birds (ones and twos) at Yarmouth, Horsey, Waxham, Paston, Overstrand, Kelling, Weybourne, Walsey Hills, Blakeney Point, Holkham Meals, Scolt Head and Holme. Four birds at Waxham March 18th.

At a west Norfolk locality pair observed May 23rd-July 18th. Nest located in larch. A well-grown juvenile, probably 2 and possibly more July 18th. 'Both adults well marked and youngster showed faint eye-stripe'. Another pair seen and song heard at Broom Covert (Stanford Battle Area) May 27th.

In Autumn ones and twos at Yarmouth, Horsey, Waxham, Cromer, Walsey Hills, Stiffkey and Holkham Meals; highest number 3 at Holkham Meals Oct 23rd.

**Spotted Flycatcher:** Earliest: Blakeney Point May 9th and 10 there on 15th. Latest at Yarmouth Oct 8th.

**Red-breasted Flycatcher:** Three recorded during Oct: Yarmouth on 21st and 23rd; Holkham Meals on 22nd and Thornham Point on 19th.

**Collared Flycatcher:** The bird reported at Holkham Meals May 12th-14th 1985 is now considered not acceptable by British Birds Rarities Committee.

**Pied Flycatcher:** A disappointing year with only singles in Spring. First at Titchwell and Holme April 28th followed by records from Blakeney Point, Holkham Meals, Horsey, Lound, Scolt Head, Waxham and Yarmouth.

Single males in song at Swanton Novers May 2nd-23rd and Blickling May 12th-31st.

In Autumn very thin scatter with maximum only 6 at Holme Aug 29th. Latest: Holme (2) Oct 14th and Cromer Oct 24th.

**Bearded Tit:** Pairs bred at Burnham Norton (1), Burnham Overy (1), Cley (13), Hickling/Whiteslea/Heigham Sounds (35), Horsey (15), How Hill (10), King's Lynn BF (2), Salthouse, Strumpshaw, Titchwell (20+) and Woodbastwick/Ranworth.

Autumn exodus noticeable with parties all along the north coast during Oct; Holme recorded up to 25 on many days. Also flock of 47 Cley Sept 30th. In Fens at Welney up to 7 on many dates Oct 24th-Nov 28th.

**Long-tailed Tit:** Largest numbers: 60 Pretty Corner Sheringham and 38 Snettisham Oct 12th.

**Nuthatch:** One in Fens at Welney June 26th.

**Red-breasted Nuthatch:** The Holkham Meals bird first detected 13th Oct 1989 remained until May 6th.

**Penduline Tit:** Cley Oct 13th (RA SC RR). Second county record.

**Golden Oriole:** Spring migrants: Winterton June 16th, Salthouse Heath May 16th, Holkham Meals June 2nd with 2 on 3rd, Titchwell June 15th, Holme May 31st and Welney 2 June 27th. In addition 2 North Creake July 18th/19th.

At least 4 pairs bred in the county and an additional 6 pairs summered.

**Red-backed Shrike:** *Spring:* Winterton May 20th-23rd, Waxham June 12th, Weybourne May 20th, Blakeney Point May 8th, 13th-15th and 20th, Holkham Meals May 14th and 19th/20th, Burnham Overy May 19th-20th, Titchwell May 20th, Holme May 23rd-24th and June 11th/12th and Flitcham June 22nd.

A male returned to Santon Downham May 16th remaining until June 30th. An additional male and a female appeared for the day May 23rd.

*Autumn:* Stiffkey Sept 11th-23rd, Burnham Overy 16th-22nd and Heacham Oct 1st-6th.

**Great Grey Shrike:** In first-winter period Earlham Park Jan 6th, UEA Broad Jan 19th-27th and Keswick Mill Feb 21st. In spring Santon Warren March 4th-11th (chasing and eating Siskins), Briston March 29th/30th, Holkham Meals March 31st, Thetford Warren March 31st and High Lodge April 11th-26th.

A noticeable arrival during mid-Oct Salthouse Heath Oct 18th; Holkham Meals Oct 19th/20th; Blakeney Point Oct 19th-24th; Holme Oct 21st/22nd; Horsey Oct 21st; Stiffkey, Morston and Sheringham GC Oct 22nd; Snettisham Oct 23rd and Yarmouth Nov 3rd.

In winter Wereham Dec 13th/14th and 22nd and perhaps the same bird at Wissington Dec 14th-25th.

**Magpie:** Roydon Common roost held 100 in both winters.

**Hooded Crow:** *Winter:* Ringland Jan 26th. *Spring:* Single coastal migrants between Feb 4th and April 18th. More records in Autumn and during second winter period than in recent years including Breydon Oct 8th with ones and twos subsequently at Winterton, Horsey, Happisburgh, Hickling, Holkham Meals and Brancaster. Breydon individual remained until year-end and 2 Winterton/Horsey Nov onwards.

**Carrion Crow:** Largest assembly 250 Roydon assembling to roost Jan 1st.

**Tree Sparrow:** Largest flocks: 55 Waxham March 30th, 80 Hickling Nov 29th, 60 Flitcham March 1st, 80 Downham Market Jan 19th and 100 Shingham Feb 6th.



**Brambling:** In first-winter period 40 Weston Longville and 80 Gooderstone Warren Feb. A singing male lingered at Kelling May 16th-20th. In Autumn 60 along Blakeney Point Oct 18th and 80 at Holme on 20th; 300 Holkham Park Dec 8th and 200 Hillington on 29th.

**Serin:** Sheringham: A male briefly May 3rd (MPT JW).



**Goldfinch:** Largest flock: 200 West Acre Sept 23rd.

**Siskin:** First-winter period: Widespread flocks of up to 70 together with 150 in Thetford Forest and 200 at Langford Feb 16th. Passage movements included 35 at Paston March 18th and 25 Weybourne March 17th where 20 next day.

Breeding records from Holkham Meals and Thetford Forest. Autumn passage included 42 at Yarmouth and 25 at Weybourne Oct 24th. At year-end 200 Gooderstone Dec 13th.

**Twite:** Holkham Bay produced large flocks (500 Jan, Nov/Dec); also Brancaster (500 Feb and 200 Dec) and Titchwell (300 Jan). An inland bird was in Fens at Welney March 22nd.

Passage birds east at Weybourne: 47 Oct 14th and 35 Oct 24th.

**Mealy Redpoll:** Shingham 2 in Feb is sole record in first-winter period.

In Autumn 3 Sandringham Sept 30th and the large fall Oct 18th soon brought widespread reports of small numbers from coastal localities. During Dec a flock built-up at Holkham Meals increasing from 20 to 40 by the month-end.

Inland: Examples reached Mousehold Heath, UEA Norwich and Lingwood.

**Arctic Redpoll:** An influx commenced mid-Oct: Blakeney Point Oct 18th (GMC SCJ AMS *et al*), 18th-21st (AMS *et al*) and Oct 20th (MSC MIE AMS *et al*); Holme Oct 20th (NOA); Cley Oct 29th (MAG); Holkham Meals Nov 27th with 2 by 29th (AB TM MESR *et al*) and peak of 4 Dec 8th (MIE AMS) with 3 still present Dec 17th and one till year-end; Syderstone Common 2 Dec 24th (AB JRMCC).



**Two-barred Crossbill:** Sandringham: an adult male Sept 30th to Oct 14th (NB CRK JBK *et al*) and a female at Lynford Arboretum Nov 24th to year-end (PD *et al*). Five previous county records.

**Common Crossbill:** Between Jan and May rather scarce and only small numbers (1-7) at Fowlmere, Holkham Meals, Lynford, Santon Downham, Shouldham and Thetford.

From the end of May onwards a large invasion took place along the East Coast as far south as Kent. In Norfolk the first arrived June 10th when 2 came in off the sea at Wells, up to 15 were at Holkham and 25 at Holme. Many continued arriving until the end of the year with a peak reported during Sept.

Birds were noted at the following localities (larger flock counts in brackets): Anmer, Bacton Wood (28 Sept 9th and 40 in Dec); Beeston Regis; Blakeney Point; Blickling; Brancaster; Breydon; Briston; Caister; Cley; Cockley Cley; Craymere Beck (30 Sept 9th and 40 Oct 23rd); Cromer; Crostwight; Croxton Heath; Dersingham (25 July 23rd); Dilham; Drayton; Drymere; East Beckham (26 Dec 16th); Eaton; Edgefield; Felbrigg (50 Sept 29th); Fritcham; Fowlmere (25 Sept 17th); Gooderstone; Gt. Yarmouth; Grime's Graves; Gunton Park; Hickling; Holkham Meals (40 June 14th and July 7th); Holkham Park (22 Sept 9th and 33 Dec 1st); Holme (25 June 10th, 60 July 14th and 25 Sept 24th); Honing; Horsey; Holt Lowes (30 Aug 4th and 75 Aug 27th to Sept 2nd); Hunstanton; Kelling Heath

(25 June 20th); Lynford (130 Sept 25th and 55 mid-Nov onwards); Massingham Heath (25 Dec 8th); Mundford; Northrepps; Norwich (20 West Norwich Hospital Oct 10th with others at UEA and West Pottergate); Ormesby St. Michael; Oxborough; Quarles (33 Dec); Ringland; Sandringham (60 June 17th, 220 Sept 30th, 140 Oct and 40 Dec); Santon Downham (100 Sept, 200 Oct 15th with many remaining to year-end); Santon Warren; Sculthorpe; Selbrigg Pond; Sheringham (15 Aug 26th and 15 Oct 8th); Snettisham; South Wootton; Sparham; Sprowston (47 Aug until year-end); Stiffkey; Swaffham Forest (37 Nov 5th); Swanton Novers (60 Sept and 20 until year-end); Syderstone Common; Thetford Warren (41 Dec 19th); Thorpe Mariott (Taverham); Thorpe St. Andrew; Titchwell; Tunstead; Watton; Waxham; Welney; West Acre (27 Dec 1st); West Harling; West Newton; Weybourne; Winterton; Wiveton; Wolferton (60 June 17th, 40 June 30th to mid-Oct) and Wroxham.

The arrivals fed on a variety of items including thistles (Breydon), yellow horned poppy seeds (Cley), alexanders seeds (Brancaster) and grubs extracted from galls on poplars (Winterton). At Crostwight one fed among sparrows on spilt wheat; unfortunately it was later found dead having drowned in a cattle grid. (*Summary by A. Bloomfield*).



**Parrot Crossbill:** An influx from mid-Oct: Sheringham: 5 Oct 13th, female Oct 21st, 9 Oct 24th, 2 females Oct 25th, 14 Nov 10th, 8 Nov 11th, male Nov 25th and 5 (4 females) Dec 8th (KBS *et al*); Stiffkey Oct 16th (VE); Holkham Meals Nov 4th (AB DF); Holme 4 Oct 21st-22nd and 24th (JBK AMS *et al*).

Inland: Sprowston Nov 28th (AMS) and 3 Nov 29th-Dec 2nd (CL JRL) and Lynford Arboretum Dec 5th (PD). Wash: Babingley Dec 18th (BW).

**Common Rosefinch:** Cromer Oct 1st (TW).

**Bullfinch:** Small coastal movement Oct 20th with 6 west at Holme and 8 west at Holkham Meals.

**Hawfinch:** Largest group: Melton Constable Park where 30-40 Aug 24th. Also 10 Holkham Park March/early April, 14 at Felbrigg Dec 22nd and up to 17 in Feb and 15 in March at usual site in west Norfolk.

Breeding recorded at Drymere, Mundford, Salhouse Heath, Santon Downham, Thorpe St. Andrew and West Acre.

Other records from Barnham Broom, Beeston Regis, Costessey, East Wretham,



Fowlmere, Hilborough, Holkham Meals, Lynford, Merton, Norwich (Sweetbriar Road), Ringland, Sandringham, Thetford Rifle Range, Walsey Hills and Wayland Wood.

**Lapland Bunting:** Small numbers — no more than 13 — at many sites round coast in both winter periods. Latest bird in spring Blakeney Point May 13th. First in autumn same locality Sept 14th. Largest numbers on passage: 37 Oct 22nd, 57 Oct 23rd and 33 Oct 24th — all at Weybourne.

Inland: 4 Welney Oct 20th; singles Hickling Nov 13th/17th and Pentney GP Dec 2nd and 3 Cantley Dec 14th.

**Snow Bunting:** Largest numbers: 200 Holkham Bay, 100 Holme and 100 Cley all in Jan. At end of year 120 Snettisham, 100 Hunstanton, 135 Weybourne and 110 Sheringham. In Spring a late bird Horsey May 13th. First in Autumn Blakeney Point Sept 15th with 2 at Horsey same day.

**Corn Bunting:** Largest numbers in first-winter period: 22 Berney Jan 7th, 100 Thornham Jan 26th, 50 Choseley Feb 6th and 33 Hilgay Fen Feb 9th.

Birds noted in breeding season at Bacton, Clenchwarton, Cley, East Wretham, Fincham, Hockwold Fen, Lakenheath Wash, Lynn Point, Mundesley, North Wootton, Paston, Ringstead, Stowbridge, Terrington, Titchwell, Wells, Weybourne, Winterton, Wereham and Wootton Marsh.

Additional 1989: Large roost of just over 100 Brancaster Jan 21st.

## CONTRIBUTORS TO THE BIRD REPORT

S. ABBOTT  
R. ABERDEIN  
P. R. ALLARD  
R. ANDREWS  
C. APPLETON  
J. R. APPLETON  
J. ARBON  
D. ARCHER  
T. ARCHER  
T. E. ARCHER  
P. ATKINSON  
K. BAILEY  
R. BAKER  
T. BAKER  
P. BALL  
S. BANKS  
A. BANWELL  
A. S. C. BARKER  
T. R. BARKER  
M. J. BARRETT  
J. BAXTER  
P. E. BEARD  
A. P. BENSON  
S. BETTS  
P. C. BEWICK  
J. BIRD  
B. BISHOP  
J. BISHOP  
M. BLACKBURN  
G. BLAIZE  
A. I. BLOOMFIELD  
V. BOND  
E. F. BOOSEY  
A. D. BOOTE  
D. J. BOOTH  
N. BOSTOCK  
T. E. BOULTON  
C. G. R. BOWDEN  
N. BOWMAN  
W. BOYD

R. BRADNUM  
T. BRERETON  
K. J. BRETT  
MRS. M. A. BREWSTER  
MR. & MRS. D. A. BRIDGES  
MR. & MRS. J. S. BRIDGES  
DR. A. F. BROWN  
A. M. BROWN  
J. BROWN  
D. BRYANT  
MRS. H. BRYANT  
MR. & MRS. A. L. BULL  
P. J. BULL  
J. F. BUTCHER  
MRS. L. BUTLER  
J. BUXTON  
T. CALLAWAY  
C. CAMPBELL  
P. CAWLEY  
M. S. CAVANAGH  
S. CHIDWICK  
J. G. CHIPPERFIELD  
R. CHITTENDEN  
P. R. CLARKE  
P. CLEMENT  
T. COOK  
R. CREAM  
G. M. CRESSWELL  
C. CROSS  
E. CROSS  
I. K. DAVENPORT  
T. C. DAVIES  
R. G. DAWSON  
T. R. DEAN  
C. H. DOBBS  
P. J. DOLTON  
C. DONNER  
D. A. DORLING  
G. DORMER  
O. G. DOUGLAS

S. DUDLEY  
G. E. DUNMORE  
C. J. DURDIN  
K. R. DYE  
G. M. S. EASY  
J. C. EATON  
M. I. ELDRIDGE  
H. ELLIS  
C. ELMER  
L. G. R. EVANS  
V. EVE  
P. F. FAIRMAN  
R. FARNDON  
F. J. L. FARROW  
P. FEAKES  
P. FISHER  
J. H. FISZER  
M. FISZER  
D. FOSTER  
R. A. FOYSTER  
M. FREEMAN  
D. GALEY  
S. J. M. GANTLETT  
J. M. GARNER  
MR. & MRS. R. W. H. GARNER  
J. D. GEESON  
J. E. GEESON  
D. J. GIRLING  
T. GIRLING  
P. A. GLUTH  
D. P. GODDARD  
MR. & MRS. J. GOGSON  
J. G. GOLDSMITH  
M. A. GOLLEY  
S. GRAHAM  
M. J. GRANTHAM  
R. GRIBBLE  
J. GUDGEON  
A. HALE

P. HALE  
J. HALL  
J. HAMPSHIRE  
B. D. HARDING  
M. A. HARDWICK  
R. I. HAROLD  
A. F. HARRIS  
J. C. HARRIS  
S. HARRIS  
A. H. J. HARROP  
R. B. HASTINGS  
P. J. HEATH  
D. A. HENSILWOOD  
C. J. HENTY  
D. HERRIEVEN  
G. F. HIBBERD  
P. HILL  
R. A. HOBLYN  
D. J. HOLMAN  
*Holme Dunes Reserve*  
D. HOLMES  
M. HOSIER  
A. HOWES  
B. HUMPHREY  
R. A. IMAGE  
A. G. JACKSON  
M. JAMES  
B. W. JARVIS  
R. JENNINGS  
G. JESSUP  
P. JOHNSON  
R. JOLLIFFE  
R. L. K. JOLIFFE  
E. W. P. JONES  
S. C. JOYNER  
E. JUDD  
G. JUDD  
S. JUDD  
J. A. KAY  
P. KEARNEY

G. I. KELLY	MR. & MRS. P. M. MILES	D. N. T. RIMES	DR. R. THOMAS
D. KELSEY	P. MILFORD	K. RIVETT	R. THOULAS
J. B. KEMP	R. G. MILLINGTON	N. ROBERTS	W. THROWER
DR. T. KERRY	MR. & MRS. R. MONTEATH	R. ROBINSON	T. R. TOZER
DR. & MRS. I. F. KEYMER	P. MORNS	C. ROBSON	G. R. TYE
C. R. KIGHTLEY	J. E. MORRIS	R. ROLFE	G. A. TYLER
C. KIRBY	P. MORRIS	M. E. S. ROONEY	P. VARNEY
P. D. KIRBY	G. MOYSER	J. ROWE	H. VAUGHAN
C. A. E. KIRTLAND	B. J. MURPHY	A. & B. RUMSEY	MISS B. VEVERS
G. M. KIRWAN	E. T. MYERS	F. RUSSELL	A. E. VINE
P. B. KNAPP	MR. & MRS. R. NELSON	M. D. RUSSELL	K. E. VINICOMBE
C. R. KNIGHTS	MISS M. NEWTON	W. RUTHERFORD	A. VITTERY
MRS. R. KNIGHTS	D. G. NICHOLSON	D. H. SADLER	S. C. VOTIER
C. KNOTT	T. C. NICHOLSON	K. SAUL	C. W. WADE
F. LAMBERT	T. NIGHTINGALE	MR. & MRS. M. SAUNT	R. WALDEN
C. LANSDELL	P. C. NOAKES	C. SAYER	R. J. WALKER
J. R. LANSDELL	MR. & MRS. G. M. NOBBS	B. R. SCAMPION	H. W. WALLIS
J. M. LAST	T. B. NORMAN	M. J. SEAGO	J. WALLIS
DR. R. M. LEANEY	D. NORTH	K. W. SELF	P. F. WALTON
M. P. LEE	J. OATES	C. J. SHAW	MISS P. F. WALTON
D. LESTER	G. E. OLDROYD	K. B. SHEPHERD	K. WARRINGTON
A. LEWIS	D. OVENDEN	M. J. SIDWELL	D. WEAVER
O. J. LEYSHAN	G. R. OXBOROUGH	N. SILLS	I. WHITE
DR. J. LINES	J. G. PARKER	R. Q. SKEEN	M. L. WHITE
S. E. LINSELL	J. PARROTT	C. J. SMALL	S. WHITEFORD
S. M. LISTER	M. PARSLow-OTSU	I. N. SMITH	I. C. WHITEHOUSE
N. A. LITTLEWOOD	E. J. PHILLIPS	S. SMITH	J. R. WHITELEGG
P. LOCKWOOD	M. J. PILSWORTH	R. SOUTHWOOD	<i>Wildfowl &amp; Wetlands Trust</i>
T. LUBBOCK	R. POWLEY	R. A. SPAIN	N. WILLIAMS
B. J. MADDEN	A. J. PRATER	<i>Stonford TRG Area Bird Group</i>	J. R. WILLIAMSON
J. D. MAGEE	R. PRESTON	R. STARLING	J. WILLIS
J. H. MARCHANT	D. PRIMROSE	N. R. STOCKS	D. WILSON
N. MARSH	DR. M. J. PROVEN	A. M. STODDART	J. WILSON
D. MAYES	J. L. RAINCOCK	T. G. STONES	M. J. WOOD
P. McANULTY	M. RAINS	P. A. STOREY	P. WOOD
J. R. McCALLUM	H. RAMSAY	L. C. STREET	MRS. S. WOOLER
R. McCURLEY	M. S. READ	S. T. STRUDWICK	G. WRIGHT
K. A. McDOUGALL	P. A. G. READ	G. TALBOT	T. WRIGHT
R. McINTYRE	R. F. G. READ	G. TAYLOR	M. YOUNG-POWELL
S. C. McINTYRE	J. REED	DR. M. P. TAYLOR	
H. P. MEDHURST	D. REVETT	<i>Thetford Not History Society</i>	
MR. & MRS. J. S. MIGHELL	P. J. RILEY	P. THOMAS	

**Photographs:** Sociable Plover, Siberian Stonechat, Water Pipit, Black-bellied Dipper, Brambling, Arctic Redpoll, Pacific Golden Plover, Two-barred Crossbill (bottom) and Stoat (upper left) (*R. Chittenden, Rare Bird Photographic Library*); Ferruginous Duck (*B. Gadsby*); Siskin (*A. L. Howes*); Long-billed Dowitcher and Two-barred Crossbill (top) (*B. W. Jarvis*); Heron (*R. Jones*); Little Owl (front cover) and Red Deer (back cover), Jack Snipe, Grey Partridge, Common Crossbill (top and centre), Weasel (upper right) and Roe Deer (*C. R. Knights*); Woodcock (*R. Powley*); Red-throated Diver (*M. Rains*) and Whooper Swans (*Wildfowl & Wetlands Trust*).

**Line Drawings:** 86/87 White-tailed Eagle, 92 Barn Owl, 103 Grey Partridges, 106 Shoveler/Gadwall, 107 Wigeon, 112 Golden Plover/Lapwing, 114 Grey Heron, 119 Bar-tailed Godwits/Grey Plovers, 127 Whooper Swans, 138 Mediterranean Gulls and 154 Little Egret (*N. Arlott*); 101 White-fronted Geese and 141 Black Terns (*N. Borrow*); 84 and 123 White-tailed Eagle and 117 Sedge Warbler (*C. Donner*); 96 Red-necked Phalaropes and 111 American Wigeon/Green-winged Teal (*E. A. Fisher*); 148 Subalpine Warbler; 150 Brambling and 151 Two-barred Crossbill (*C. Lansdell*); 156 Otters, 157 Red Squirrel, 160 Harvest Mice, 161 Fox, 164 Badgers, 165 Stoats, 166 Grey Seal, 167 Roe Deer and 168 Fallow Deer (*the late J. Last*); 88 Red-backed Shrike (*R. Millington*); 143 Nightjar (*R. Powley*); 116 Great Grey Shrike and 142 Long-eared Owl (*M. Read*); 145 Waxwings (*The late R. A. Richardson*) and 97 Pectoral Sandpiper, 126 White Stork, 129 Pintail, 135 Ruffs and 152 Parrot Crossbills (*J. P. Smith*).



# NORFOLK MAMMAL REPORT 1990

## Editorial

The Editor is pleased to present the 35th Annual Norfolk Mammal Report.

One of the more heartening aspects of natural history as we approach the end of the century is the increasing number of naturalists who are joining in surveys, local and nationwide. Youngsters may start with ladybirds, adult bird-watchers diversify into dragonflies, and summer months, especially the kind we experienced in 1990, find many an ear cocked trying to identify grasshoppers from their will-o'-the-wisp chirpings.

Norfolk mammal watchers with decades of data collecting can still look on all of this without the slightest degree of superiority for we know only too well how much more there is to discover. How little we really know. What those years of effort have established is a body of information that irons out the natural fluctuations, the rise and fall of numbers within species that would occur without the changes we, as humans, impose, inadvertently or by design. That in itself, is a significant achievement, and we look back with gratitude to the pioneers who set the recording scheme in motion here in Norfolk.

Having established such datum lines, we can see how species fare over a period of time. Some rocket from the zero line and there seems no end to their increase. The grey squirrel is the most obvious example. Roe deer, once entirely absent, are more secretively extending their range. More furtively still, the tiny muntjac fans out; now to the north coast itself.

It is there we see the most recent disaster. The catastrophe that befell the common seal has been well-documented elsewhere. That the grey seal is denied safe access to our beaches to bear its young is little known and is a shame to us all, an indication of the shallowness of our desire to protect the world's wildlife. How can we condemn the developers who make it difficult for sea turtles to lay their eggs on warm, tourist-enticing beaches on other people's shores if we cannot make provision for a grey seal to give birth to her pup on our cold winter beaches?

Inland the prospect is more hopeful for the cheerful red squirrel. Almost gone, it retains a precarious foothold in Thetford Forest. Although its image on signs is seen far more often than its lively self the feeling is that, given a helping hand, it could continue to survive.

Dr. John Gurnell has been studying the red squirrel's status and its requirements in the Forest Park for some time. We are very fortunate to have his considered opinions on both red and grey squirrels in that area and his ideas on improving prospects for the red. His contribution forms this year's feature article.

We are most grateful to Dr. Gurnell and to all contributors to this year's report. Some acknowledgement has been given by personal communication but it is not possible to be in touch with everyone on such a long list. We do hope this rather formal acknowledgement is acceptable. Our gratitude is most sincere.

It is with great regret we record the untimely death of John Last whose pictorial contributions over many years added such a sparkle to our pages. His mammal studies

were vivid, lively and meticulously accurate in detail and posture. As each Report was published, he eagerly set out to outshine his own previous efforts. He is sadly missed and we are thankful so much of his previous work is still to hand — a selection of his finest drawings feature in this Report.

The annual apology to any contributor inadvertently missed from the published list has to be made. In spite of strenuous efforts to ensure accuracy and avoid such embarrassment, occasional mistakes do occur. All contributions however large or small are welcomed. We like to have them by the end of the first month of the year following that under review, so contributions for 1991 should be with the Editor *by January 31st 1992*. Please send to: Rex Hancy, Ardea, 124 Fakenham Road, Taverham, Norwich, Norfolk NR8 6QH.

Our friend and colleague John Goldsmith is still available at Norwich Castle to help with all vertebrate queries.





# Red and Grey squirrels at Thetford Forest

*Dr. John Gurnell*

The decline of the red squirrel in the British Isles and its replacement by the grey squirrel continues. Within the next 20 or so years the red squirrel could become extinct in Central and Southern England and Wales, apart from on offshore islands (e.g. Brownsea, Isle of Wight), and its range continues to be eroded in the North of England and Scotland. This national decline in the distribution of red squirrels is mirrored by the situation in East Anglia. For example, there are fears that the red squirrels at Aldewood Forest, East Suffolk, may have disappeared following the near total destruction of the pine forest by the storm of 1987. Only at Thetford Forest do the red squirrels appear to be surviving in East Anglia, but only just! Following the work on squirrels at Thetford Forest by Jonathan Reynolds between 1977 and 1979 (e.g. Reynolds, 1985), the Forestry Commission funded a study on the red squirrels between 1985 and 1988. Here I report on the present and future status of red and grey squirrels at Thetford Forest based on that study. I also consider some of the latest ideas about why grey squirrels continue to replace red squirrels and what can be done.

Prior to the 1970's red squirrels were common and familiar animals throughout Thetford Forest. Now red squirrels are only very occasionally seen (there were only 5 confirmed sightings in 1990), and it is possible that red squirrels have disappeared from some of the forest blocks in the north and east. Of course, not seeing any type of animal is no proof that it is not present, and it was with some relief that one of the confirmed sightings of red squirrels in 1990 occurred not far from Swaffham. Also, red squirrels appear to be hanging on in King's Forest to the south. However, all the evidence suggests that red squirrels now occur at very low densities (e.g.  $<0.1$  squirrels per hectare over the forest as a whole) and are patchily distributed. There is a distinct danger that these patches can become increasingly isolated leading to local extinctions.

Grey squirrels first invaded the Forest between 1968 and 1974, mainly along corridors of broadleaved trees. This was followed by a period of consolidation and by 1985 the process of colonisation was complete. Now grey squirrels are well established throughout the Forest albeit at densities of  $<1$  squirrels per hectare, considerably lower than in broadleaved woodland. Moreover, grey squirrel densities were found to vary quite markedly between different parts of the forest. It is believed that their numbers and local distributions expand and contract into and out of the coniferous plantations from patches of broadleaved trees according to pine seed availability.

A question frequently asked is why has the grey replaced the red squirrel? Numbers of red squirrels have always fluctuated widely. These fluctuations have been influenced by loss of habitat, tree seed food availability, and disease epidemics (e.g. coccidiosis, parapoxvirus), especially at times when animals were already undernourished and in poor



condition. Red squirrels disappeared from many areas before the arrival of grey squirrels and red squirrels were unable to recover from very low numbers in many places where the grey squirrel superseded them. Thus, the replacement of the red by the grey is not attributed to disease brought into the country by the grey squirrel or to the larger grey squirrel aggressively chasing out the smaller red squirrel. Nevertheless, there is no doubt that the disappearance of red squirrels is associated with the appearance of grey squirrels. A recent theory that grey squirrels interfere with the mating behaviour of red squirrels is unlikely and unsubstantiated. It has also been suggested that red squirrels may not be able to feed on acorns with the same physiological efficiency as grey squirrels. This is interesting and warrants further study. It is agreed with the ideas developed over the last few years that the critical factors affecting the distribution of red and grey squirrels in the UK are connected with how efficiently the two species utilise resources, especially food supplies, in coniferous and broadleaved habitats (Gurnell, 1987). Climate may also have a part to play in the story but further research is required.

It is well established that red squirrel densities normally fluctuate between levels of approximately 0.4 and 1.2 squirrels per hectare in both coniferous and broadleaved forests (Gurnell, 1991). Grey squirrels also live at these densities in coniferous habitats but can reach much higher densities of 2 to 8 squirrels per hectare in broadleaved forests (Gurnell, 1987). Thus, it would appear that red squirrels are unable to exploit broadleaved habitats to the same extent as grey squirrels. They can, however, survive in large forests of pure conifer whereas grey squirrels may not on a permanent basis. It is believed that blocks or ribbons of seed producing broadleaved trees are required to enable the initial invasion of grey squirrels into coniferous forest and to maintain their presence. Thus, as seen at Thetford, these broadleaves act as survival habitats, from which grey squirrel populations can expand and contract into and out of the conifer stands according to prevailing food supplies. It is probable that the red squirrel will never again be seen in the deciduous woodlands within Central and Southern England and Wales. The grey squirrel is far too ensconced in these habitats to allow any room for the red squirrel without intensive management. Their prospects in such woods in the North of England and Scotland must also be in doubt. In fact, the long-term future of the red squirrel at Thetford as well as other places on the British mainland will depend on maintaining large areas of mixed species coniferous forest. These forests should be managed in such a way that they enhance red squirrel numbers and, at the same time, discourage the presence of grey squirrels. This is why Thetford Forest is so important in the national context. So far red and grey squirrels have coexisted for up to 20 years in Thetford Forest. Thus, some features have enabled red squirrels to hang on for a long time. Future work at Thetford will greatly aid our understanding of how to conserve the red squirrel. But what can be done?

In the first place some decisions have to be made, particularly in relation to how much of a forest should be managed for red squirrels. Ideally, the bigger the better. That is, the larger the area of reserve set aside for red squirrels the better. Unfortunately, in this respect we are talking about quite large areas. 2,000 ha would be a good starting point, but possibly too small. Also the reserve should be round or square rather than long and thin since grey squirrels can easily make foraging moves of 1 km or further. A border at the edge of the forest of at least 3 km wide must be established as a buffer against the infiltration of grey squirrels. The border needs to be unsuitable grey squirrel habitat and, therefore, does not necessarily have to be coniferous forest. It could consist of open, agricultural or common land, but not urban development. In this case, the co-operation of landowners and local councils would be required to manage hedgerows and roadside verges in appropriate ways.

Then one has to consider the species and age structure of the trees. Importantly, most large-seeded broadleaves (e.g. oak, beech, sweet chestnut) should be removed and should



not be included in new planting programmes. New plantings of broadleaves should be confined to small seeded species such as birch. This may seem at odds to the general trend of planting more broadleaves within our conifer forests for conservation purposes. However, red squirrel protection areas within our larger coniferous forests will be needed, and so clear management objectives for different parts of a forest must be established.

Corsican pine is now generally planted instead of native Scots pine at Thetford. Corsican pine produces less seed, less frequently than our native species. Planting some Scots pine, Norway spruce other conifer species such as larches and Douglas fir within the forest will provide a more diverse and balanced food supply for red squirrels. These can be planted in groups or strips along ride edges and in small patches within the forest. We know that young plantations (e.g. 15 to 30 years old) which provide food and cover are preferred by red squirrels. Furthermore, at least half the forest should be of seed-producing age. Therefore, a forest age structure should be developed such that about one third of the trees should be 0-15 years old, one third 16-30 years old, and the remainder >30 years old. Other management practices include extending the life of some trees beyond their normal felling age as seed producing areas. In general, all seed producing areas within the Reserve should be interlinked by corridors of mature trees to allow squirrels to move freely among them. I should also point out that it may be necessary to remove grey squirrels from the reserve, especially in the early years after establishment. It would be hoped that the habitat within the reserve would become unsuitable for grey squirrels other than for occasional food forays.

The exciting thing is that the Forestry Commission at Thetford is putting many of these ideas into practice. Their commitment to saving the red squirrel can be seen in that it has now been adopted as the Thetford Forest Park logo. With the renewed efforts to save the red squirrel in Thetford Forest, Rex Whitta, the Head Ranger from the Forest District Office at Santon Downham, has started a new survey of the presence of red and grey squirrels within the forest. Using local volunteers, sections of the forest will be surveyed in a systematic way four times a year for the next few years. Detailed monitoring is an essential ingredient in any management plan. Rex will be pleased to hear from anyone who is interested in helping, or has reliable information as to the whereabouts of red squirrels within Thetford Forest. Indeed, he would like to hear from anyone who finds a sick or dead red squirrel.

## References

- GURNELL, J. (1987) *The Natural History of Squirrels*. Christopher Helm, London. 201 pp. GURNELL, J. (1991) The red squirrel. In *The Handbook of British Mammals*. (Ed. by G. B. Corbet & S. Harris). pp. 176-186. Oxford, Blackwell. REYNOLDS, J. C. (1985) Details of the geographic replacement of the red squirrel (*Sciurus vulgaris*) by the grey squirrel in eastern England. *Journal of Animal Ecology* 54: 149-162.

# Classified Notes



## INSECTIVORES

Are hedgehogs *Erinaceus europaeus* feeling the results of our own change in dietary habits? We hear they take the food provided in Swaffham but spend little time at the bowl of milk now it's filled with semi-skimmed. They have compensations. Many householders buy in tins of pet food to tempt the prickly visitors.

Did they suffer from the drought? Some contributors are convinced this was the case and the published statement that the Editor had seen far fewer road casualties brought in many letters and calls to report their presence. The normally drier parts of the county would appear to have supported far fewer. The term 'massive reductions' was used more than once. In contrast, Holme was favoured with more than usual.

The Dercham youngster found late in November and given a lift in a car to a secure and well-fed home caused dismay by working its way behind the dashboard. The trouble was hardly worth while because it was to spurn the proffered accommodation.

Moles *Talpa europaea* made more nuisance of themselves by working out of the drier margins and into well-tended gardens. Tunnel systems near the surface tended to dry out and crumble so new systems had to be dug or old ones repaired and extra spoil heaps



were pushed to the surface. The havoc they cause early each season went on for most of the summer.

An unusual story from Northrepps tells of a youngster in August that was unable to dig into the baked earth. It was taken to the base of a hedge where it still found the ground too hard. Later on it dug into the side of an existing spoil heap. A golden variant was found in Hempnall and a Norwich dog with sharp senses was seen tracking a mole as it moved along its tunnel just under the surface.

An average number of localities were recorded for the common shrew *Sorex araneus* though only one recorder described it as common. Most of the remainder were of single sightings. The problem of finding enough invertebrate food in the parched conditions must have been an impossible task in many districts. One contributor mentions the ongoing restriction of habitat in the area he has monitored for many years.

These comments apply equally well to the Pygmy Shrew *Sorex minutus*. Very few dead shrews were found. The most reliable evidence came from pellets disgorged by Barn Owls who are far better equipped for sampling the small mammal population. Cats are usual contributors and it is interesting to note that fewer were reported from that source. A chart compiled in Edgefield shows pygmy shrew catches concentrated in the period June to August while common shrews were taken from March onwards, reaching a peak in July. June and July were the peak months when all catches of all species are totalled.

The Water shrew *Neomys fodiens* was recorded in Broadland and was seen crossing the relief channel at Fordham. An older record came from Welney. Apart from a nil return these were the only mentions and it does seem there are very few here in Norfolk. Those we have are concentrated in a small number of wetland habitats.



## CHIROPTERA

An exciting year for the bat group! A felling in Reedham provided the first UK record in recent history of Natterers' bats *Myotis nattereri* roosting inside a tree. The three females and four males, one of which had a 1½ cm hole in its right wing, were released and a section of the tree deposited in the Castle Museum. Other expected hibernation sites such as chalk caves and tunnels were found to house small numbers. The question was asked at one such generally favoured site if the warm weather was responsible for a smaller number present than was expected.

Daubenton's bats *Myotis daubentoni* were found in the now lengthy list of ice-houses and disused lime-kilns scattered over the county, anything up to 30 bats at a time. The long period spent finding and investigating these roosts is now paying off in improved records.

The Noctules *Nyctalus noctula* seen annually at Barnham Broom failed to keep up the record. Another nil report came from Horstead and Wroxham. The Wensum Valley immediately west of Norwich still produces sightings of this large bat, sometimes a considerable distance from the river. One at West Acre certainly left its mark when it collided with a window. A most unfortunate accident which left a dusty silhouette. From the far west we have a reference to a Noctule that had been radio-tagged near March which used to feed over the reserve at Welney.

By far and away the greatest numbers of bat reports are of Pipistrelles *Pipistrellus pipistrellus* usually from dwellings and frequently unexpectedly. That counting colonies at roost is by far the most efficient method is exemplified by reports from Edgefield. One reference speaks of very few seen. Another confirms an on-going colony of more than 300. It is impossible to check any colony once it has taken to the air unless the observer is positioned exactly in the line of flight near the roost itself.

The juvenile female Barbastelle *Barbastella barbastellus* found hanging on a wall at the University of East Anglia on 29th August was afforded the very best of attention, befitting the increasing rarity of the species. Its presence, which could so easily have been overlooked, proved recent breeding had taken place. Tapes of its echo-location sound spectrum were made before it flew away to help with future study of what must be regarded as a species in danger.

The Brown Long-eared bat *Plecotus auritus* easily holds second place in the list of records, usually of small numbers and often found dead as the result of road traffic accidents or cats on the prowl. One managed to find itself trapped between the double glazing at a Wymondham office.

## LAGOMORPHA

A steady increase, not explosive, checked by local outbreaks of Myxomatosis is the story from the environs of Snettisham of the Rabbit *Oryctolagus cuniculus*. That eminently reasonable statement could be used to describe the county as a whole were there not such contrasts elsewhere. Rabbits have become so numerous in a few areas, notably in the south-west, that thousands have been killed. A return to the old days? A return to the time when Myxomatosis was at its most virulent almost came to mind in some districts when the large population that had rebuilt itself was quickly reduced to a scattered remnant presumably by a new strain of the virus. Without such outbreaks it is easy to imagine what could happen. A journey in any direction through the county provides live sightings and road casualties. More than 160 were seen on Cley Eye in mid-summer and were reported to be amazingly tame. At least three all-blacks were seen on Beeston Regis Heath and a feral family of Dutch rabbits were reported from Lound.

Few Hares *Lepus capensis* were reported on that same account though the county population does seem to be increasing after its lean spell. The highest numbers for years were seen crossing a field in Cranworth. Not over-numerous at Holme we hear, but one there must have set its heart on the few wisps of grass growing from a clod of earth on the marsh. A young cuckoo perched thereon was rudely pushed aside to allow the few bites to be taken. Where field and forest abut seems to be a good place to see hares, at least when they are out on the vast open spaces and before they take refuge with their numerous colleagues in the cover of young plantations.



## RODENTIA

Confirmed sightings of Red squirrels *Sciurus vulgaris* are now reduced to a trickle from Thetford Forest. Future prospects, the fact-finding campaign and ideas for conservation are all dealt with in Dr. John Gurnell's feature article.

'Increasing by leaps and bounds' is an apt comment from central Norfolk on the Grey Squirrel *Sciurus carolinensis*. There was once a strongly held view that this agile and wily animal was much too clever to be harmed by road traffic. Now grey corpses found so frequently prove its vulnerability, its widespread distribution and perhaps contain a comment on the increased average speed of vehicles. It is still much too early to say we have reached saturation point. Many pockets of ostensibly grey squirrel country see no more than a few passing individuals during the year. Yet within easy travelling distance for such a mobile beast large numbers cause enormous damage to nesting birds and garden produce. A story from Hopton illustrates how the grey squirrel acquired its mythical status. Two were chasing in a tree 40 to 50 feet above the ground. One fell, jumped up and ran away. From the same area we hear one was seen eating a dead roach and a mile or so away another fed on a dead pigeon. In 'The Walks', King's Lynn, the opportunistic meal was luncheon scraps.

Bank Voles *Clethrionomys glareolus* were common in Saxthorpe and Corpusty, frequently appearing in the garden or turning-up in owl pellets. Frequent too at Holme but fewer at Great Hockham.

Voles of some species were the culprits, probably Bank voles, for hollowing red beet from underneath in a Snettisham garden so that the tops left the ground like hollow bells.

Short-tailed Field voles *Microtus agrestis* were also fewer at Great Hockham and generally so in Breckland. The poor feed available in the drier regions could not have made life easy for them. More records came from the east of the county. Both species were plentiful on the marshes at Yarmouth.

A poor year for reports on Water voles *Arvicola terrestris*. Normally seen at Welney, the query is whether their total disappearance from view has anything to do with the presence of Mink. A contribution from the Stanford Training Area also put in a nil return and the regular notes from Snettisham make no mention of the long-established colony. A black individual with a white-tipped tail was seen at Surlingham. Unusual so far south, this colour form is more often seen in Scotland.

The Wood Mouse *Apodemus sylvaticus* was never more plentiful at Brinton where each furrow saw a nest ploughed-out when potatoes were cropped. A large store of Holm Oak acorns at Great Hockham and many more germinating in mini pots were reduced to two surviving trees. An essential climb up a steel tube ½-inch in diameter to reach the germinating acorns was no deterrent. The Wood mice in the apple store at Holme were very selective. Of a choice of four apples, only small russets were taken.

More records of House mice *Mus musculus* than for many years were received. Very few were from our regular source at Watton, but plenty were reported from Flitcham. Longworth live traps at Thornham caught the apple-store raiders there. After being marked and released into the garden, two mice were back in the store and inside the traps within 24 hours.

The Harvest Mouse *Micromys minutus* had another successful year, and the list of contributors reporting them rose to thirteen. Warm prolonged summers and mild winters, with generous autumn provender must be enormously beneficial to this tiny mammal.

There is no doubt at all that conditions suited the Brown Rat *Rattus norvegicus* to perfection. A Hingham farmer said there were fewer. He must surely count his blessings for the general picture was one of great increase. The constant war against the rat serves to make it ever more resistant and stories come in of colonies accepting vast quantities of

poisoned grain with no apparent ill effect. A change of bait and poison often brings success against them but we are clearly into a situation where man's inventiveness is closely matched by the pests' adaptability.

This year, for the first time since these Reports began, there is nothing on the Coypu card. It looks as if this is the final period to the saga and now that alien mammal fades into history.

## CARNIVORA

It is a great pity instantaneous attitudes are struck over the Fox *Vulpes vulpes* which has become a serious problem on certain key, sensitive, reserves. Scolt Head Island is the most notable, where in spite of increasingly desperate attempts to exclude, or at least contain the invaders, havoc has been wrought on ground nesting bird colonies.

That large numbers of foxes are killed every year is a fact, though it is not always easy or indeed possible to elicit exact figures. The point of view often forcibly expressed, that control should be removed and the fox allowed to reach its own point of balance ignores the effect on other species. In our artificial environment many of them are already under severe pressure.

A motionless fox can remain unobserved from only a few feet. A backward glance sometimes sees one trotting away. An extremely large individual was reported from Holme and parts of Breckland were said to be 'over-run'. The most frequently reported fox (or was there more than one?) was seen in the Sweetbriar Road area of Norwich, often crossing the busy highway. It obviously coped with the traffic because no fox was reported killed on the road there though over the county this type of end is more and more frequent.

The same untimely fate reduces our stock of Badgers *Meles meles* whose continued existence in the county depends entirely on the sympathetic attitude of land-owners where





their setts are found. Badgers wandering or attempting to establish themselves outside these *de facto* reserves face impossible odds. So far we have been spared the horrors inflicted by badger-diggers and baiters. Reports from other parts of the country where badgers were once more numerous make us very apprehensive and even more reluctant to define precise locations. A fuller report on Norfolk badgers is expected for a later edition.

The Otter *Lutra lutra* enjoys much more positive and practical support. Yet it is a sad comment that when the present Editor took over this Report the question was whether the Otter was truthfully in serious danger. Now the debate centres on whether there are any of the original otter stock left in East Anglia or whether our meagre numbers trace their origins from captives released into the wild.



Are Stoats *Mustela erminea* more numerous? One mid-Norfolk recorder suggest they are. He also tells of a visit to Titchwell where he saw six stoat heads staring back at him from the top of a bank. At Cley reserve a Stoat performed its repertoire of tricks to approach Pied Wagtails on a dried-out pool. Its mesmerism failed and they escaped.

Ermines, or partial ermines, were reported from Thursford, Baconsthorpe, Blickling and Aylmerton all in the early part of the year. We look forward to the next batch of observations to see if the phenomenon was repeated a year later.

If Stoats were successful Weasels *Mustela nivalis* seem to have done even better, bringing in the highest ever number of individual records. An astonishing story from King's Lyn tells of one confidently crossing a traffic-filled road in the town centre. Our first 'town' Weasel?

Mink *Mustela vison* were trapped at the Welney reserve and also on the Stanford Train-

ing Area. Our most regular source of information came from the Coypu campaign and we ponder the effect its closure will have on both our records and the Mink population.

## PINNIPEDIA

The mixed herd of about 100 Seals off Blakeney in October is easily the highest total on this year's cards. For the rest it is a case of ones and twos seen from various vantage points, including some marked individuals at Scolt. A Common Seal *Phoca vitulina* tangled in netting at Thornham managed to return to the sea before help arrived. A gloomy report on the Scroby seals tells us only 30 or so remain; a quarter of the stock of a few years ago. A maximum of four pups were born.



Scroby is still covered at high tide and the Grey Seals *Halichoerus grypus* cannot haul out to give birth to their pups. Attempts to haul out at Horsey resulted in a deadly fusillade. No pups obviously were born and we must now have lost our breeding colony of Grey Seals. Two or three old individuals are seen patrolling up and down, never travelling far away from what is now inhospitable territory for the younger members of their species.

## ARTIDACTYLA

The deer in Thetford Forest seem to be coping very well with the surge of visitors now seen there. Fallow deer are holding their own and Red, Roe and Muntjac are adding to their numbers.

It is a relief to learn that the Thetford Red deer *Cervus elaphus* are doing well after a worrying period caused by outside agencies. We have come to accept them as part of the scene though few are 'seen' by most members of the public. That other records have come in from Welney to Winterton is a surprise, and represents the ability and habit of





this our largest mammal to wander far, show itself and immediately vanish into the background at certain times of the year. The Red deer of the scattered Wensum Forest are well established and the equivalent status may soon be given to those of north-east Norfolk centred on Hickling.

Only one reference to the Fallow deer *Dama dama* of the west Norfolk Forest has come in. We need more information to ascertain the significance of this dearth of records.

Roe deer *Capreolus capreolus* are multiplying and can be a problem in some districts. Their colonisation of the county continues apace and during the year Roe were seen as far north as Kelling Heath and Scolt Head Island and in Surlingham in the east. Ingham provided a record for north-east Norfolk. Records came from what we could call the Norwich suburbs to the west of the Ring Road.

Chinese Water deer *Hydropotes inermis* records from Broadland increased and there were places where they could be seen regularly on early morning walks. Footprints were followed at Blakeney Point for half-a-mile but the animal itself was not seen. No doubt at all about the unfortunate that wandered too close to Norwich in the autumn and was killed near the roadworks in Thorpe St. Andrew.

Muntjac *Muntiacus reevesi* also continued to spread and one at least reached Holme in the north. Another was noted at Strumpshaw. At Tunstead one was disturbed from the woodland edge by three dogs. It ran within 20 feet of the observer circling round before seeking eventual refuge.

## CETACEA

'Best for years' comes at the end of a short list of Common Porpoise *Phocoena phocoena* records. They were observed as singles or groups of two and three from Hunstanton all round the coast to Walcott Gap. Part of the 'best' list is the party of four off Salhouse on 12th December, but that is overshadowed by the eight at Overstrand, all travelling west, on the 29th September. 'The largest group I have ever seen in Norfolk' was the comment.

This generally encouraging news comes from more or less the same number of contributors, many of whom are regulars and visit the coast for bird-watching. How true a reflection it is of the status of the animal is less certain. The figures are clearly well down on the numbers seen in the days before these annual reports began. The most surprising note is from the Welney reserve and is as follows. 'Porpoise (August) apparently a genuine sighting. Unfortunately I did not see it'. How often we all echo that sentiment!



## CONTRIBUTORS TO THE MAMMAL REPORT

J. AMIS  
C. APPLETON  
J. R. APPLETON  
T. R. BARKER  
M. J. BARRETT  
P. E. BEARD  
S. BETTS  
P. BOND  
N. BOWMAN  
E. BOOSEY  
B. BREWER  
M. A. BREWSTER  
T. BROWN  
J. BUCKLEY  
A. & R. BULL  
J. BUTCHER  
C. CAMPBELL  
G. CARTER  
G. J. & J. A. CAVEY  
P. & M. CLARKE  
D. E. CLODD  
D. COKER  
M. COLLIER  
P. COOKE  
J. COOTE  
E. CROSS  
R. EASTON

### *Eastern Counties Newspapers*

R. EASTEN  
D. FAGG  
H. FAIRHEAD  
F. J. L. FARROW  
I. FARROW  
K. M. FERROUSSAT  
H. FINCHAM  
M. FLANAGHAN  
S. FOX  
D. FRANCIS  
J. FREEMAN  
M. FRY  
T. FUTTER  
J. GAFFNEY  
J. & J. GEESON  
A. GOLDSMITH  
J. GOLDSMITH  
S. GRIMWOOD  
H. GROOM  
R. HADMAN  
DR. R. HAMOND  
J. HAMPSHIRE  
B. HANCY  
J. HARVEY  
P. J. HEATH  
J. & E. HOBBS

Y. HOLMES  
P. HOLNESS  
R. HORN  
A. HUNT  
M. HUTCHINGS  
E. JERMANY  
J. & D. JERMANY  
G. JESSUP  
M. JOHNSON  
G. I. KELLY  
J. B. KEMP  
DR. I. F. & J. KEYMER  
DR. R. LEANEY  
D. LESTER  
LT. COL. P. LONG  
I. & M. MACKAY  
A. NOBBS  
G. M. & M. NOBBS  
*Norfolk Ornithologists  
Association*  
J. OXENFORD  
E. PALMER  
J. G. PARKER  
S. PASCOE  
D. & P. PASHLEY  
J. PEARCE  
R. P. & E. POLS

R. POWLEY  
J. REED  
F. P. J. REYNOLDS  
D. I. & R. M. RICHMOND  
K. RIVETT  
V. ROBERTS  
E. ROGERS  
M. J. SEAGO  
C. J. SMALL  
M. SMITH  
P. SMITH  
A. SPEAKMAN  
C. TAYLOR  
G. TAYLOR  
DR. P. TAYLOR  
H. THURGAR  
A. TODRAYNER  
R. TOOLEY  
P. J. TRETT  
A. E. VINE  
R. WALBY  
P. WALKER  
M. WALTON  
J. WATERS  
S. WATER  
R. WHITTA  
B. WRIGHT



**NORFOLK & NORWICH NATURALISTS SOCIETY** (Reg. Charity No. 291604)

**Patron: Her Majesty the Queen**

Founded in 1869

The County's senior natural history society. It has for its principal objectives the practical study of natural science, the conservation of wild life, the publication of papers on natural history, especially those related to the county of Norfolk, arranging lectures and meetings and the promotion of active fieldwork. Specialist Groups cover most aspects of the county's flora and fauna.

**Annual Subscription Rates:**

Junior £3.00

Ordinary £8.00

Family £10.00

Affiliation £15.00

**Publications:**

May: Transactions

August: Bird & Mammal Report

Quarterly newsletter 'Natterjack'

**Secretary:**

A. L. Bull

Hillcrest

East Tuddenham

Dereham NR20 3JJ

**Membership Secretary:**

C. R. Dack

12 Shipdham Road

Toftwood

Dereham NR19 1JJ.

---

**NORFOLK ORNITHOLOGISTS ASSOCIATION**

(Reg. Charity No. 267670)

**for Birds and Bird-watchers**

The N.O.A. was established in 1970 to act as a parent body to Holme Bird Observatory (est. 1962), to further knowledge of ornithology, especially migration, to conserve habitats and disseminate knowledge of natural history through its wardens and reports.

Our Reserves are:

**Holme Bird Observatory**

By agreement & Purchase. Full-time Warden. 300 species seen in area 386 species of moths recorded.

**Redwell Marsh, Holme**

A 35 acre wetland pasture purchased 1985.

**Walsey Hills Information Centre & Migration Watch Point**

Originally est. 1949. Purchased 1973. A vital migration watch-point. Seasonal Warden.

**Annual Subscription rates:**

Individual £8.00

Husband/wife £11.00

Family £12.00

Junior £4.00

Single Life Membership £125.00

**Holme Marsh Bird Reserve**

Est. 1976. By agreement. 90 acres of relict grazing for waders & wildfowl. Part-time & voluntary wardening.

**Members receive:** free permits to our reserves, free N.O.A. Annual Report (pub. March), free Norfolk Bird & Mammal Report (pub. Aug.) and 2 News Bulletins.

**The Quags, Kelling**

A 14 acre rough grazing marsh with pool purchased 1984. Passage and resident waders.

**Address:** Norfolk Ornithologists Association (Office), Aslack Way, Holme next Sea, Hunstanton, Norfolk PE36 6LP.

