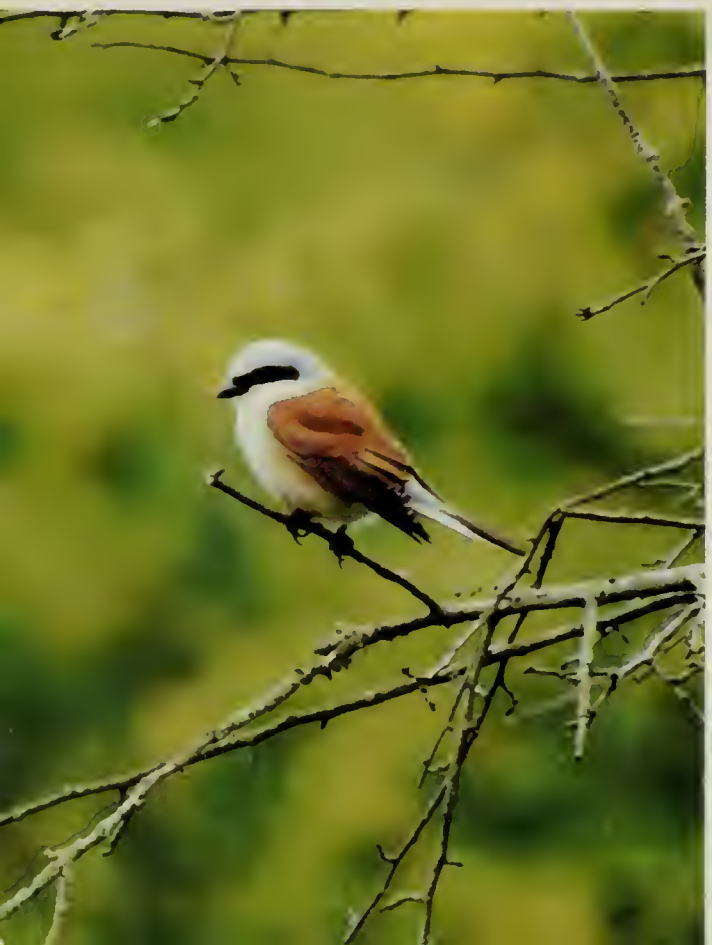
Norfolk Bird & Mammal Report 1991

At least four pairs of Hobbies bred in the county. This solitary Red-backed Shrike lingered two weeks at Santon Downham. Seven Bearded Tits wandered to Welney Washes at the beginning of the year.



Norfolk Bird Report – 1991

Editor: MICHAEL J. SEAGO

County recorders/Editorial Assistants:

P.R. ALLARD, M.S. CAVANAGH, P.R. CLARKE, D.A. DORLING, G.E. DUNMORE, K.R. DYE, M.I. ELDRIDGE, M.A. GOLLEY, A. HALE, P.J. HEATH, J.B. KEMP, P.D. KIRBY, A.J. PRATER, A.M. STODDART & J.R. WILLIAMSON

Norfolk Mammal Report – 1991

Editor: REX HANCY

Published by THE NORFOLK & NORWICH NATURALISTS SOCIETY, Castle Museum, Norwich NR1 3JU (Transactions Volume 29 Part 4 August 1992) in conjunction with NORFOLK ORNITHOLOGISTS ASSOCIATION, Aslack Way, Holme-next-Sea, Hunstanton PE36 6LP. ISSN 0375 7226

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

Price £3.50

NORFOLK BIRD REPORT 1991

Editorial

The Council of the Norfolk & 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 commenced with rather mild unsettled conditions later becoming calmer as high pressure developed. Wildfowl provided much of the interest with over 42,000 Icelandic Pinkfeet in the north-west of the county while 480 Bean and 290 White-fronted Geese resided in the Yare Valley. Large numbers of Red-throated Divers offshore were supported by numerous Little Auks. Several parties of Arctic Redpolls aroused much interest and speculation; Waxwings were widespread. A secretive Glossy Ibis skulked on the Norfolk section of the Ouse Washes.

A bitterly cold easterly airstream from Siberia brought penetrating ground and air frosts during the first two weeks of **February.** The heaviest snowfalls for some years occurred between the 6th and 10th. Waders suffered on a wide front, especially on The Wash where combined bitter weather and neap tides resulted in hundreds of corpses lining the tidelines. As expected there were influxes of Scaup, Smew and Goosander; over 2,600 Bewick's Swans assembled at Welney and a Ring-necked Duck visited the Broads. Pentney GP witnessed the long awaited arrival of the county's first Ring-billed Gull. Much of **March** was relatively mild and probably accounts for early sightings of Spoonbill on the north coast and Dotterels at Waxham. Water Pipits are becoming more frequent with up to 20 at Cley. The arrival in the county of Lincolnshire's long-staying Snowy Owl was much appreciated by observers fortunate enough to connect before it returned north.

Migrants were slowed down by cold northerly winds which were a feature of much of **April.** These conditions produced a few rare spring Leach's Petrels and a steady overland passage of Arctic Terns followed by a moderate Black Tern movement during easterlies at the month-end. Excitement was generated by a Sardinian Warbler at Weybourne, Little Bunting at Cromer, Hoopoe at Thurne and a brief Corncrake at Cley which also hosted an early Wryneck on 1st/2nd.

Cool northerly winds was also a feature of **May**, in some respects a disappointing month for some migrants including just two Bluethroats. Expected arrivals such as Spoonbills, Temminck's Stints and Kentish Plovers all appeared with a Broad-billed Sandpiper at Breydon and Red-necked Phalarope at Hickling while a rare spring Buff-breasted Sandpiper briefly visited Brancaster GC. Up to four late summer-plumaged Great Northern Divers lingered off the north coast. A varied mix of rare and semi-rare species included Little Egret, Red-footed Falcons, Red-throated Pipits, Serins and Penduline Tit (at Titchwell) with the crowning glory being the county's first Lark Sparrow at Waxham.

A cool **June** was dominated by west/northwest winds – a factor not benefitting nesting birds. At Scolt Head it promised to be the best season for breeding terns since 1988. However, from 10th to 14th strong winds resulted in days of blowing sand over the whole western ternery. Nests were buried and parent birds deserted. Then for the first time in six weeks the remaining adult Fox entered the ternery. Further visits by both adult and cubs continued. The results for ground-nesting birds was complete disaster. A similar tale from Blakeney Point describes hailstones and heavy rain June 13th/14th combined with blowing sand and flooding to most of the nesting areas. Predation by both avian and ground predators was again high particularly from large gulls and Stoats.

On a brighter note the county also held important breeding populations of Woodlarks, Cetti's Warblers, Golden Orioles, Avocets, Marsh and Montagu's Harriers, Stone Curlews and Bitterns with Hobbies slowly increasing. A variety of scarcer species included an overwintering Two-barred Crossbill remaining at Lynford until the 1st, 2 Icterine Warblers, Marsh Warbler, 5 Rosefinches, a scattering of Red-backed Shrikes, Black Stork and Terek Sandpiper. Another county first in the form of an adult Franklin's Gull visited Breydon on 30th.

A hot and mostly settled **July** produced 2 roaming Caspian Terns in the east of the county, Roller at Holkham, Little Egret at Hickling, Red-necked Phalarope at Cley, Storm Petrel off Cley and continued sighting of an clusive Black Stork.

August was also generally dry and settled although easterly conditions late in the month heralded the arrival of a selection of drift migrants with a scattering of Barred Warblers, Ortolan on Blakeney Point and Greenish Warbler at Waxham. Wader variety picked-up with White-rumped Sandpiper at Cley, Pectoral Sandpiper at Welney and Buff-breasted Sandpiper at Snettisham which also saw a peak of 115 Spotted Redshank.

The weather continued dry and warm in **September** when amongst the most exciting seabird reports were Long-tailed Skuas peaking at 25 moving off Cley on 30th. There was a passage southwards into (and then northwards out of) the North Sea of hundreds of birds. Seawatchers also recorded above average numbers of Leach's Petrels and several Sabine's gulls while a Caspian Tern passed Bacton.

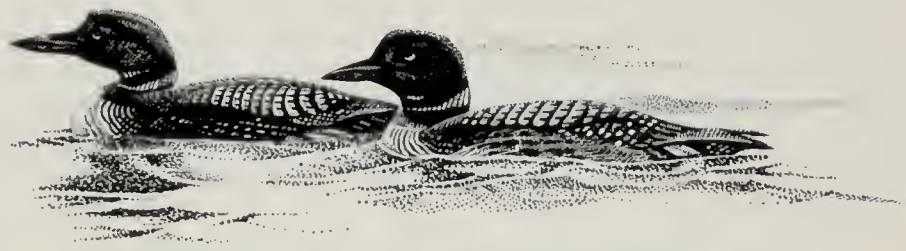
Small numbers of Icterine Warblers, Red-breasted Flycatchers, Wrynecks, Rosefinches, and Yellow-browed Warblers all arrived; Ortolan, Red-throated Pipit and Greenish Warbler were found and a well-viewed Lesser Grey Shrike remained for a week at Potter Heigham. The month also saw the multiple arrival of 5 Siberian Stonechats on Blakeney Point. A long-staying Little Egret first seen at Strumpshaw later moved to Breydon. Scarcer waders included Red-necked Phalarope and Pectoral Sandpiper at Cley and Great Snipe and Welney.

South-easterly winds predominated in **October** and though some Siberian vagrants appeared the lack of a more persistent north-east bias to the wind prevented any classic arrivals. Nevertheless there were 6 Pallas's warblers, dusky Warbler, Radde's Warblers, Rosefinch, Short-toed Lark, Tawny Pipit and 6 Richard's Pipits. Later in the month seawatchers logged a heavy westerly passage of Common Scoters including a Surf Scoter on 20th when hundreds of Little Auks were struggling by. The 18th/19th saw a spectacular passage of Pomarine Skuas. The 15th recorded the county's second Ring-billed Gull taking up long-term residence at the UEA, Norwich.

November was mostly fairly settled and mild apart from strong northerlies during mid-month which resulted in a movement of thousands of Kittiwakes on 19th. A Black Guillemot spent a week off Hunstanton cliffs and a Storm Petrel was picked-up inland at Downham Market. Passerines included 2 Richard's Pipits and a reasonable arrival of Waxwings.

December commenced rather mild, but with very sharp frosts around mid-month. A late Yellow-browed Warbler was found at Brundall on 6th and an obliging Pacific

Golden plover was at Cley/Blakeney early in the month. At this time Breydon attracted up to 22,000 Lapwing. Wildfowl numbers were again impressive with over 35,000 Pinkfeet in the north-west, 600 Whooper Swans and 4,163 Bewick's Swans at Welney, 405 Bean Geese in the Yare Valley and up to 4,000 Common Scoter in Holkham Bay following several years of rather low numbers. Among scarcer species: Ring-necked Duck on the Broads and Ferruginous Duck at UEA Broad. The year closed with a flourish following the discovery of the county's first Laughing Gull at Walcott on 25th. The discoverer certainly believes in Father Christmas! (Summary by JBK).



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. In addition some observations have been excluded as full details are still awaited by BBRC.

The County Records Committee (Giles Dunmore, Mick Fiszer, Steve Gantlett, Dave Holman, John Kemp and Richard Millington) considered an ever-increasing number of records in 1991. Regular readers will note that there has been a change in membership. Two further changes are proposed for 1992. Firstly Giles Dunmore, who has been a Committee member since its inception, will no longer be a member, but will continue to act as Secretary to the Committee. Secondly, members will serve a maximum of five consecutive years. This will enable a succession of observers to make contributions to the Report over the years and also to endeavour achieving a geographical distribution of members in the county. The incumbent Committee at the time will suggest future members. Steve Gantlett, due to his membership of 'British Birds' Rarities Committee, will continue to provide specialist identification advice on birds such as Ring-billed Gulls which until recently have been considered by the national committee.

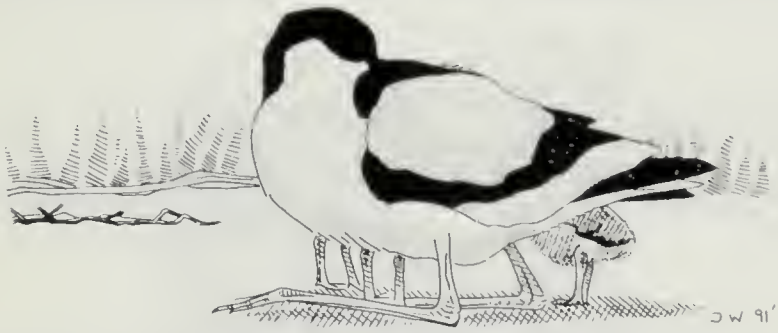
Details of species and sub-species considered by the County Records Committee are listed in the 1990 Report. Field descriptions will not, of course, be needed for semi-rarities seen by many observers, but requests for descriptions will normally be made - if no details are submitted with the record - where birds are seen only by one or two observers. There were exceptional numbers of both Long-tailed Skuas and Rosefinches in Norfolk in 1991; the Committee would like to stress such status should not be regarded as the norm. Identification problems continue particularly with the former, together with Goshawk and Peregrine. In the majority of instances records are rejected as insufficient details are submitted and not because the species has been incorrectly indentified.

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, D. Bryant, D. Butler, R. Chittenden, A. S. Disley, C. Donner, the late M. D. England, B. W. Jarvis, P. Jones, C. R. Knights, J. Levene, I. Lewington, M. Rains, M. S. Read, the late R. A. Richardson, the R. A. Richardson Award Winners, J. P. Smith, M. Smith, A. M. Stoddart. R. Tidman, G. Wright and J. Wright. Details appear on page 328

Acknowledgement is also due to The Bird Information Service, Cley Bird Club, English Nature, Nar Valley Ornithological Society, National Trust, Norfolk Naturalists Trust, N. W. Norfolk Ringing Group, Rare Bird Photographic Library, RSPB, Wildfowl & Wetlands Trust, P. R. Allard (corresponding with 'British Birds' Rarities Committee), G. E. Dunmore (liaising with BBRC and acting as Secretary/Chairman of the County Records Committee), S. C. Joyner long-serving member of the County Records Committe, Mrs. M. Dorling, Mrs. S. F. Seago and all other contributors.



Richard Richardson: 1992 sees the fifteenth anniversary of the death of the much loved Norfolk bird artist and bird-watcher extraordinaire. It seems appropriate to mark the occasion by including in this issue a selection of his illustrations together with those from the pens of the young artists who have won the competition set up in memory of his name: The Richard Richardson Award. The results of this competition for artists under the age of 21 are linked to the annual Bird Illustrator of the Year competition featured in *British Birds* magazine.

It is specially pleasing to include an example of Ian Lewington's work. He won both the Richard Richardson Award and also the Bird Ilustrator of the Year Award in 1985 at his first attempt (at age 20). He is still the only person to have achieved the double in a single year.

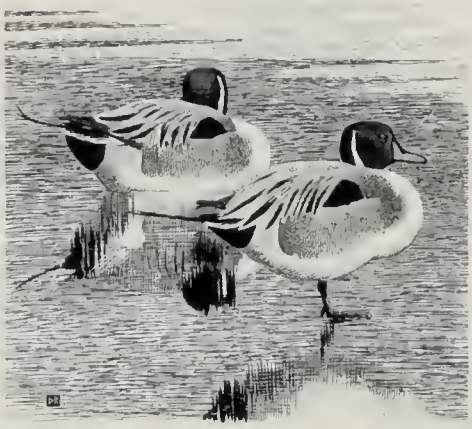
Winners since the competition began are listed below, together with a note of each artist's choice of illustration:

1979	Alan Johnston, Great Grey Shrike	1986	Timothy Hinley, Yellow-browed Warbler
1980	Andrew Stock, Common Terns		
1981	Darren Rees, Pintail	1987 & 1991	Andrew Birch, Montagu's Harrier
1982 & 1984	Keith Colcombe, Great Northern Diver	1988	John Cox, Fieldfares
1983	Gary Wright, Ring-billed Gull	1989	Stephen Message, Firecrest
1985	Ian Lewington, Siberian Stonechat	1990 & 1992	Antony Disley, Grey Herons
		1991	Peter Leonard (joint winner with Andrew Birch) Snipe/Red-necked Phalarope

Welney Wildfowl Refuge – The First 21 Years

On November 6th 1991 the Wildfowl & Wetlands Trust celebrated 21 years at Welney.

It was in 1967 that the late Sir Peter Scott first put down in writing his vision of a wildfowl sanctuary on the Ouse Washes at Welney. An anonymous donation of 102 acres of washland earlier that year was the catalyst that set in motion a series of events culminating in the creation of the reserve. By the following year, with 400 acres in ownership, work commenced on excavating lagoons and constructing earth screen banks. Generous donations of materials by Conder Ltd. with labour and expertise from the Army (3 Field Squadron Royal Engineers) saw the erection of a footbridge across the Hundred Foot (New Bedford) river during 1970 when the Main Observatory was also completed. This luxurious, heated, hide is the butt of many jokes from birdwatchers who, nevertheless, seem loathe to leave it during cold weather! Official opening ceremony on November 6th 1970 was performed by Mrs. E. C. Kleinwort. During 1973 large extension wing-hides were added to the main observatory while Her Majesty the Queen Mother paid a visit.



Pintail (*Darren Rees – Richard Richardson Award Winner*)

By this time Josh Scott, local marsh shepherd and wildfowler was firmly entrenched as warden and under his eye the reserve flourished, becoming of national importance for wintering wildfowl. Josh retired in 1983 being succeeded by Don Revett whose reign at Welney has coincided with an upsurge in public interest in wildlife. A Summer Walk was created in 1984 where visitors can get a taste of the scale and openness of the washes. The reception and shop area was extended in 1987. The following year saw the erection of the large wooden Buxton and Allport Hides along the screenbank walk. In 1989 a wader pool was created in front of the Buxton hide providing good viewing particularly in spring, late summer and autumn. A reedbed boardwalk built in 1990 has enabled visitors to penetrate and experience our small phragmites and willow scrub area from inside. Over the years continuing land purchases, often aided by generous financial gifts, have helped consolidate the disturbance-free areas and expanded the holding to around 1000 acres. Annual visitor numbers are now about 32,000 mostly during the winter months when the floodlit evening viewing of swans is particularly popular. In February 1992 Her Majesty the Queen paid an informal visit to Welney to see the afternoon swan feed.

Welney reserve is renowned for its wintering wild swans, both species having dramati-

cally increased in recent decades. A number of swans are encouraged close to the hides with grain and dumped waste potatoes. However, it is the relatively recent habit (since the early 1970's) of feeding on old potatoes, sugar-beet tops and stubbles on adjacent farmland combined with secure night roosting areas that set off the swan explosion. The 1991/92 winter saw reserve records for both Bewick's (4641) and Whooper Swans (778) on the refuge, a very significant proportion of the Ouse Washes totals. The reserve also claimed peaks of 15,300 Wigeon, 1900 Pintail and 1400 Pochard at some stage during the same winter.

With the emphasis on wildfowl it is sometimes forgotten that Welney is an important inland breeding site for waders, particularly Snipe and Redshank while summer migrants such as Sedge Warblers and Yellow Wagtails can be abundant. The migration seasons can see a wide variety of sometimes exciting birds present, particularly waders. Recent years have seen Whiskered Tern, Sociable Plover, Great Snipe, Pectoral Sandpiper, Great White Heron, Night Heron, Purple Heron and Buff-breasted Sandpiper. Summer management of the area is traditional and revolves round cattle grazing and haymaking.

The future hopefully will see selective land acquisitions to improve reserve borders and reduce shooting disturbance. Future ideas include an additional large hide overlooking new and improved wader scrapes. Construction of low earth berms in a limited area to reduce the destructive effects of summer 'nuisance' flooding is another proposal. Everyone involved in the running of the centre is looking forward to another 21 successful years. (*JBK*).

Harrier and Merlin Observations at a Broadland Winter Roost 1990-1991

J. Hampshire & P. R. Lockwood

Following almost extinction in Britain in the 1960s Marsh Harriers are now well established in East Anglia nesting in reedbeds and increasingly in cereal crops. Many migrate in autumn, but some stay to over-winter. These are mostly adult female and first-year birds. In winter northern moors are abandoned and eastern England becomes a favoured area for Hen Harriers and Merlins. These beautiful birds often gather in communal roosts, in marshes, heaths or in extensive reedbeds. Earliest reference to this habit by Hen Harriers was made in the first part of the 19th century. However, it was not until after the mid 1970s that many of today's known roosts were discovered. The earliest recorded Broadland site dates from January 1912 and it is here that Hen Harriers and Merlins roost alongside Marsh Harriers. The latter species was not regularly present in winter until 1940.

The roost is a fresh-water marsh of reed dotted with hawthorn and sallow bushes edging the dyke banks. It occupies an area of some 70 acres. Boundaries include a Broad and dykes separating the marsh from adjoining areas of rough pasture and improved grassland. The locality is unusual as it is part of a high-water system. Water is pumped into it from surrounding land maintaining a wet reedbed and preventing trees and scrub from becoming established. It is probably this feature that makes the site attractive to harriers. A lack of scrub results in an open site allowing the birds to see some distance. Waterlogged ground minimises interference from predators.

Merlin: Latest spring sightings were 2 birds 25th April (1990) and 11th April (1991) – a single bird. Earliest autumn sightings were 29th September and 5th October. Birds

approached the roost from all directions, but with fewer arrivals from westerly points. Unless the weather was very windy the Merlins gathered (often in close proximity) on low bushes in the marsh. Maximum number for both years occurred during January. Most Merlins left wintering quarters during the last week in March and in April. In 1990 the 7 birds on show 24th March had reduced to 2 by 25th April. During March Merlins were observed on several occasions hunting migrating passerines along the coast. In the autumn 1990 build-up a single bird present 29th September had increased to 4 by 13th October and to 6 by 28th October. In 1991 one present 5th October had increased to 3 by the 26th.

During 1990 appearance times at the roost were recorded. Arrivals were noted from 1 hour 27 minutes before sunset to 13 minutes after sunset. First arrival on 10th February carried prey and it seems likely that this individual was hunting nearby. It is not unusual for single Merlins to be seen over or near the marsh at any time of day, often twisting and turning at great speed. Greatest concentration of arrivals was noted on 16th February 1990 when 5 Merlins appeared in the space of six minutes. The small size of these birds in light conditions towards dusk made sexing difficult, but on occasions it was possible to discern the body colour of the males. Once an incoming male appeared to be greeted by a female flying up from the roost. Then followed a short period of aerobatics, the two birds almost touching at times. As mentioned earlier, in very windy conditions the Merlins did not appear on their usual bushes. Instead they would often alight in fields next to the marsh (up to 4 close together) before going to roost. The Merlin is courageous and not intimidated by the larger birds of prey sharing the roost. Ones and twos have been watched mobbing both Marsh and Hen Harriers. What they lack in size is made up by greater speed and agility in the air.

Hen Harrier: The highly attractive grey males drifting in to the roost on long outstretched wings present an almost ghostly image as the light fades over the marsh. The browns of the ringtails offer ideal camouflage if one visualises them on moorland breeding grounds. It is not until the light catches their underbody that the observer appreciates the contrast in colours. The last spring date was 11th April 1990 (8th April 1991). Earliest autumn arrival, a ringtail, appeared 5th October in both years. During 1990 the highest number of grey males was 4 on 26th February. Next year 2 appeared 9th and 29th January and 16th November. Overall percentage of grey males to the total number of Hen Harriers roosting was 32% in second winter period 1989/90, 15% winter 1990/91 and 20% first winter period 1991/92. The smaller number during December 1991 may have been due to mild weather with more remaining nearer breeding grounds. Hen Harriers would approach the roost from any direction and on windy days would spend some time in the air overflying the site before dropping down. Frequently, on these occasions and with fading light a large group would form. For a short period both Hen and Marsh Harriers would fly together before finally descending to roosting platforms. Up to 12 birds have been seen on such occasions.

Segregated group flying has become a particular feature in the autumn. The first group, comprising Marsh Harriers would circle and after settling into the reeds the Hen Harriers would take to the air and repeat the performance. As the birds use different sites this behaviour may indicate that the Hen Harriers are giving preference to the larger Marsh Harriers in the choice of roosting areas. Only twice have we seen a Hen Harrier perch in open view on a low bush in the dyke banks. Individuals have, however, frequently settled in the open fields to preen before entering the roost. On calm days the Harriers would generally settle immediately with no group flying. Grey males arrived after the ringtails most evenings – perhaps indicating that they hunted further afield. More than once on the approach of a grey male a ringtail has been watched departing from the roost and flying towards the incoming male. The 2 birds would then fly over the marsh together before

descending. Hen Harriers do not confine their visits to the roosting area to the short period around dusk. A single bird or two can occasionally be seen hunting nearby during the day. Certainly they do not always travel long distances to hunt. An example of a Merlin benefitting from a hunting Hen Harrier occurred 18th February 1991 when 2 passerines were disturbed one of which the Merlin chased. The second bird, a Skylark, sang as it fly away! Those of us who enjoy watching Hen Harriers are quite spoilt as they can be observed seven months of the year in winter quarters. Allowing for journey times to and from breeding grounds indicates the short period some spend in summer quarters.

Marsh Harrier: Present throughout the year and can be observed over the marsh or its fringes during most of the day. Generally it is Marsh Harriers who first arrive at the roost-site. During the first quarter of 1990 highest number recorded was 9 birds, including 2 males, on 24th February. All remained active most of that afternoon, often flying high overhead. A noticeable influx had occurred on or just before this date. Nine birds recorded 3rd November that year comprised 8 females or immatures and a single male. Nine females or immatures present 31st October 1991 settled in a single field before all flew off together. A very light coloured bird – not an adult male – was observed 24th November 1990. Immatures and females would often detect an incoming male at a considerable distance and fly up from the marshes to join him. When not hunting, the Marsh Harriers would spend long periods perched in low bushes or on the ground in adjoining fields. Visits to the roost during successive evenings often produced differing counts of harriers. Weather conditions may influence variations. It is known that Marsh Harriers use alternative sites for roosting at times. It is also believed that Hen Harriers and Merlins roost elsewhere on occasions. From mid-February and during March Marsh Harriers become less tied to the roosting area and migrants returning for the summer are more evident.

Highest Monthly Counts at the Roost:

	Merlin		*Hen Harrier*		*Marsh Harrier*	
	1990	1991	1990	1991	1990	1991
January	8	6	10	10	4	8
February	7	6	9	8	9	6
March	7	5	8	5	6	5
April	4	2	4	2	-	-
September	1	-	-	-	-	-
October	6	3	4	4	5	9
November	7	4	6	5	9	5
December	8	5	11	6	8	5

A Transatlantic Trio new to Norfolk: Ring-billed, Franklin's and Laughing Gulls

The welcome appearance of no fewer than three species of New World Gulls - and each an addition to the county list - resulted in red-letter days for many birders in 1991.

The Norwich Ring-billed Gull and the Laughing Gull both extended their visits into 1992, much to the delight of observers and photographers. Splendid portraits of these feature in this Report. In contrast, the handsome full summer-plumaged Franklin's Gull lingered but a few hours.

Ring-billed Gull: Long awaited in Norfolk (the first British example was recorded at Blackpill, West Glamorgan, in 1973), a first-winter bird identified by Neil Bostock at Pentney gravel pits on 5th February was watched for ten minutes before taking flight as it stood on ice.

It was described as larger than adult and first-winter Common Gulls present, but smaller than a single Herring Gull. It differed in structure from the former being deeper bodied and bulkier. The bill, yellowish-pink (looking pink at a distance) appeared blunt-ended displaying a broad black band. Closer views showed a narrow pale yellowish tip. By way of contrast, accompanying Common Gulls showed narrower pointed bills and appeared droop-tipped.

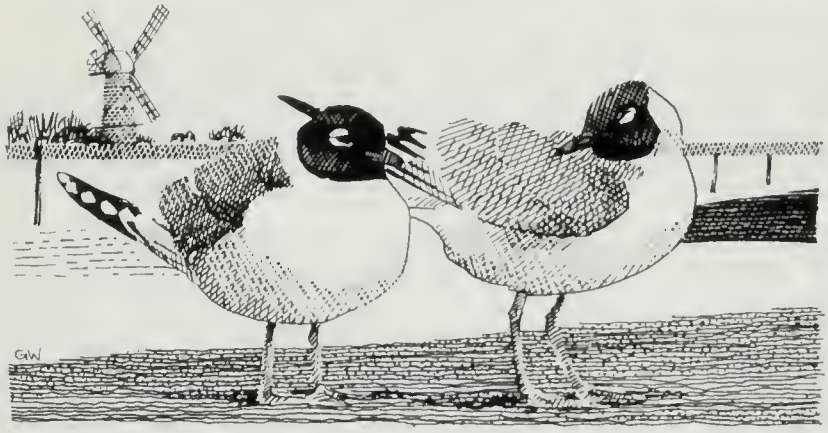
Ring-billed Gull (*Gary Wright – Richard Richardson Award Winner*)

A second-winter Ring-billed Gull was discovered by Mark Eldridge on 15th October on a small gravel island in the University Broad, Norwich. The bird was interesting in several respects being a rather small individual – presumably a female. It exhibited some advanced plumage features while showing somewhat retarded bare part colouration, albeit within the range of variation exhibited by this species. It was similar in size to a Common Gull, although slightly more thickset especially about the breast and with a stouter bill. The head and hind neck were lightly flecked grey with the upperparts paler grey compared with Common Gull and close to those of a Black-headed Gull. Consequently the thinner white tertial crescent contrasted much less with the remainder of the upperparts than in a Common Gull; often in bright sunlight it was not apparent at all. The scapular crescent was small and inconspicuous. When the gull alighted the wingtips appeared all black, with one or two minute white primary tips on the inner feathers only visible at close quarters. A very small white mirror on the outermost primary was

visible on the underside of the wing-tip at rest and also when wing-stretching. The black of the wing-tip extended along the leading edge of the forewing to the primary coverts.

In flight the wing-tips often appeared all black (the single mirror being inconspicuous). This feature, together with the paler inner wing and mantle, allowed for easy separation from Common Gull. The bill was stout and parallel sided with a blunt tip an appearance accentuated by its colouration; greyish with a broad black subterminal band and a yellowish tip. The legs were greyish; the feet, particularly the soles, more pinkish. The eye appeared dark (irides becoming paler in the New Year).

This Ring-billed often frequented the University campus and Broad taking advantage of food scraps discarded from the students' residences and from people feeding ducks. It would often pursue and rob Black-headed and Common Gulls. Once it was observed feeding on a small fish. Appearances were far from predictable and it was highly mobile. In addition to being found on nearby playing fields it also visited Colney gravel pits and Norwich Waterworks. However, it was often not to be found at these locations clearly



favouring undiscovered haunts and it was not established where the bird roosted. It remained in the area into the New Year.

Ring-billed Gulls breed in North America from the prairies and lakes of Canada south to California and winter south to Mexico. There has been a remarkable increase in numbers in Canada and the United States during recent years and this has doubtless contributed to an increasing presence in Britain. Many have become permanently resident on this side of the Atlantic migrating north and south along the European coastline.

Franklin's Gull: Visiting Breydon Water on 30th June to watch waders and gulls on the incoming tide, Keith Dye reached the East Hide overlooking The Lumps at 0935. High water was at midday forcing the birds into the north-east corner of the estuary.

At 1050 a solitary, small, dark-winged and black-hooded gull was noticed standing on a spit 300 yards away, but it soon flew off westwards landing half a mile away amongst Black-headed Gulls. Even at this range it stood out by reason of its much darker wings. It was reminiscent of a Little Gull, but larger, more bull-necked and deeper chested, sporting a full black hood and prominent white eye-crescents. Wings and mantle were dark grey – the colour of a British Lesser Black-backed Gull with a white band separating the grey from the black and white primaries. In flight a clear white trailing edge to the wings was 'wrapped round' the primary tips, giving the rounded wings a shortened appearance. Body was white, as was the tail apart from grey central feathers and the bill and legs were red.

Identified as an adult Franklin's Gull, this splendid vagrant soon returned to within 250 yards of the hide, ahead of the advancing tide. By this time bird-watchers began arriving. During the next 3 hours or so all enjoyed excellent views of it preening, wing-stretching, walking and making short flights. At 1445, after flying low across Breydon in

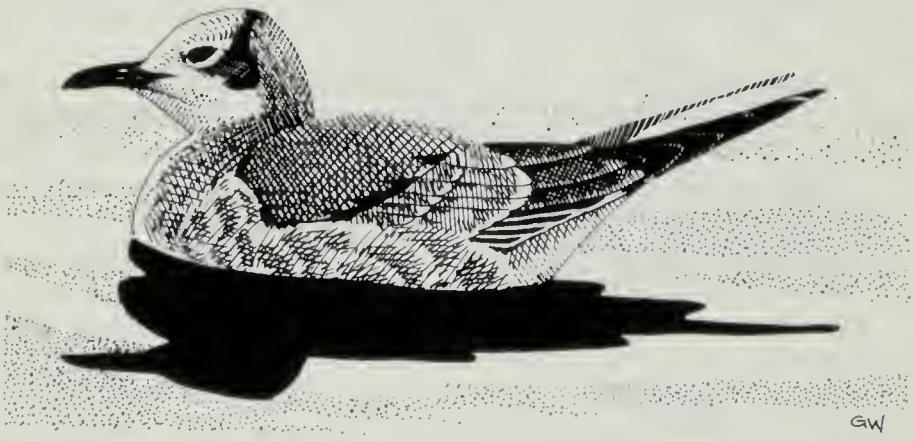
a southerly direction and circling the bridge, it returned only to disappear from view up the estuary.

To everyone's delight at 1800 the gull was relocated at Burgh Castle. It remained here until 2115 when it appeared to go to roost on Breydon with other gulls. Even against the sun it could be readily picked-out amongst Black-headed Gulls by the way in which it waddled across the muds. It was searched for from first light the following morning, but without success.

Franklin's gull is a North American inland nester on the prairies of Canada and USA described as 'accidental' on the Atlantic coast in New World Field Guides. Thus its appearance here was quite unexpected. This Breydon individual, photographed at a distance by Robin Chittenden and Jack Levene, brings the British and Irish records of the species to nineteen. Interestingly, what was almost certainly the same individual had lingered earlier in the month on Teesside and returned there at the end of August before being seen on and off in North Yorkshire, South Yorkshire and Humberside until early December.

Laughing Gull: Returning from Mundesley on a sunny Christmas morning, Mick Fiszer and his daughter decided to check the Purple Sandpiper high tide roost at Walcott. Walking along the sea wall she drew attention to a gull apparently covered in oil. Mick could scarcely believe his good fortune when for it was none other than a Laughing Gull. Eventually the bird became lost to view and further searches later in the day were unsuccessful.

Next morning (26th December) the stranger again passed overhead at Walcott before briefly joining other gulls seizing scraps. News soon spread and patience was rewarded when the bird alighted on the beach before an appreciative audience. During the next few days a pattern emerged. After arriving from the Mundesley direction in the early morning, this Laughing Gull spent some time on the shore and in the vicinity of nearby chalets before heading inland towards Ridlington. Here it rested on fields before bathing and



preening in rainwater puddles. Later, the beach was re-occupied until it was time to return to roost off-shore between Mundesley and Paston. At the year-end the Laughing Gull was in company with a first-winter Glaucous Gull.

During its fifteen day stay (until 8th January 1992) this attractive vagrant was also discovered at Bacton, Paston, Mundesley and away from the coastline at Witton and Ridlington. It was a fearless scavenger, dominating Black-headed and Common Gulls and refusing to give up scraps when pursued by larger gulls. Dressed in dark first-winter plumage this Laughing Gull showed a dusky nape, sides of neck and breast; dark grey mantle; full broad black tail band and strikingly long and slightly drooping black bill.

Laughing gulls breed along the eastern seaboard of North America from Nova Scotia through the Caribbean wintering as far south as the Amazon.

Lark Sparrow – new to Norfolk

May 15th dawned cold and drizzly in East Norfolk. Fresh north-westerly winds ruled out the prospect of any movement of passage migrants. As Barry Jarvis was driving towards Waxham Hall he glimpsed a bunting-sized bird with a prominent black tail boldly cornered in white. Fortunately for the ornithological record he had very recently returned from the United States and instantly recognised the stranger as a Lark Sparrow. This attractive North American bunting has only been previously recorded once in Britain.

The bird, although on occasions rather elusive, remained in the vicinity of the then derelict Waxham Great Barn until May 17th enabling many birders to appreciate the unmistakable quail-like head patterning with chestnut ear-patch and striped crown as it fed on seeding grasses. On occasions observers were entertained by singing performances; the song consisting of loud introductory notes followed by trills and unmusical buzzing.

Among the host of watchers was one observer who happened to be in this country from Florida and successfully added the bird to his British List! Colour photographs of this Lark Sparrow have featured in *British Birds*, *Bird Watching* and *Birdwatch* magazines.

It is interesting to note that shortly before mid-May a polar weather front spanned the Atlantic, west to east, with wave depressions travelling eastwards at 50 knots. Waxham's waif could have received all the assistance from the wind it needed to cross the Atlantic.

The first occurrences of a Lark Sparrow in the Western Palearctic was at Landguard Point, Suffolk, where a smart example docked between June 30th and July 8th 1981. At the time the BOU Records Committee whilst accepting the identification declined to place the species in category A (ships in fact travel direct from Texas to Felixstowe passing within a few hundred metres of Landguard). However, following re-writing the Rules regarding ship-assisted passage the bird deserves promotion.

As is so often the case the Waxham vagrant checked its calendar and vanished on the night of the 17th – much to the disappointment of many weekend watchers. But there was compensation: a male Red-breasted Flycatcher appeared in nearby stunted oaks next morning.

In North America, Lark Sparrows are found in open country from central southern Canada, across the whole of the United States (except the Atlantic coast states) south into Mexico. The species winters in the southern United States and in Mexico.

This record remains subject to acceptance by British Birds Rarities Committee.

Caspian Terns in East Norfolk

P.R. Allard

Following the sighting of a Caspian Tern moving north along the Suffolk coast at Covehithe before lingering an hour at Benacre Broad during the morning of July 5th, one – almost certainly the same individual – reached Breydon Water the following day. This bird, ringed on its left leg, saw the beginning of almost daily sightings as it rested on Breydon in between fishing excursions to Filby Broad. As this Caspian Tern was being watched at Filby July 12th a second bird put in an appearance simultaneously at Rush Hills Hickling Broad. The following day one of these two Caspians (or possibly even a third individual) penetrated the Yare as far as Cantley Beet Factory settling ponds. Two Caspian terns roosted together at Breydon on the 15th and between this date and July 18th one regularly commuted between the estuary and Hickling. Then followed an absence between July 19th and 24th, but one briefly at Lackford in Suffolk on 23rd may well have been one of the East Norfolk visitors.

A Caspian Tern returned to Hickling on the evening of 25th and the same or another was at Cantley next day. Between July 27th and August 1st a single Caspian travelled daily between Breydon and Hickling. On its final day it was found at Breydon for an hour in the morning before heading north to Hickling, but returned to Breydon by 17.30 hours. An hour later it departed high to the east over Yarmouth. Certainly two and perhaps three Caspian Terns were involved during this exciting period. One bird was ringed on its left leg and another ringed on its right leg. Evidence of a third individual rests with those observers who are confident that several sightings related to an unringed example (on one occasion at close range what appeared to be an unringed bird did in fact carry a bright silver ring on its leg above the joint). But without doubt a great many observers enjoyed these magnificent birds for the first time either at Breydon Water, Filby or Hickling Broads.

Nearest Caspian tern breeding colonies are situated in the Baltic. Here nesting takes place on rocky outer skerries and reefs. But the birds obtain food in the inner bays and lakes near the coast travelling several miles daily carrying food for nestlings. This trait continues outside the breeding season.

It is interesting to note that the first British record of a Caspian Tern was one shot on Breydon in October 1825; in fact thirteen of the first fourteen Norfolk occurrences were in the Yarmouth area.

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

Wash Wader Casualties following severe weather

Jacquie & Nigel Clark
BTO, National Centre for Ornithology, The Nunnery, Thetford.

The severe weather in February 1991 caused very high mortality amongst wading birds. Although short, lasting less than a fortnight, it left thousands of dead waders in south-east England. The effect on birds in Norfolk was particularly marked. Members of the Wash Wader Ringing Group (WWRG) made a regular catching visit to the Wash just before the onset of severe weather. As the Group is particularly interested in the effects of cold weather they made special efforts to catch the species which they expected to be worst affected and planned to return two weeks later if the forecast proved correct. On their return, as the severe weather was ending, they found that many waders had died. Small samples of birds were caught at high tide roosts and these were measured and released quickly so that they did not lose feeding time. Over 800 corpses were collected in the weekend from just a small part of the Wash.

The British Trust for Ornithology (BTO) subsequently organised a count of corpses all around the Wash involving Birds of the Estuaries Enquiry (BoEE) counters, birdwatchers, ringers and wildfowlers. A total of nearly 3,000 wader corpses were counted of which over 2,500 were in Norfolk. Distribution in the county was as follows: Terrington 522; Wootton/Wolferton 219; Snettisham 407; Heacham 280; Hunstanton 181; Holme 702; Thornham/Titchwell 148 and Brancaster/Scolt Head 68. Redshank and Grey Plover were particularly badly hit. Dunlin, Knot, Oystercatcher and Curlew also suffered (see Table). Nearly 2,500 dead birds were collected and taken back to the BTO in Thetford to be frozen for later analysis. The Departments of Energy and Environment recognised the scientific interest of this exceptional mortality and are funding the BTO and the Institute for Terrestrial Ecology to study it. It is hoped that this research following a natural reduction in the population may help us to understand how waders would respond to large changes to an estuary such as reclamation or the building of a power generation barrage.

The birds which were collected have been measured and sexed by dissection and analysis of the results is now underway. We are particularly interested in which birds died. From the measurements of Redshank we will be able to tell whether British or Icelandic breeding birds were most affected. For all species we will be able to see if the effect was greater on males or females, or on old or young birds.

We are able to look at the origins of the birds that died as many carried rings. All but 6 of the 250 ringed Redshank which were found dead in Norfolk had been caught on the Wash with 85% having been caught at Terrington – the main catching site for Redshank on the Wash. This clearly demonstrates that it was locally wintering Redshank which died rather than birds which had moved into the Wash from other wintering sites in response to the cold weather.

Fieldwork is continuing. The ITE have been following the recruitment of young birds into the population in the 1991/92 winter to see if more juvenile birds are able to establish themselves than normal and also to assess if they are able to use the more favourable feeding grounds from which they would normally be excluded by the adults. WWRG have made efforts to catch Redshank which have returned to the Wash for the 1991/92 winter, but have had little success. This may be explained by the low number of Redshank on the Wash this year as shown by BoEE counts. The early winter counts showed that less than half normal numbers were present.

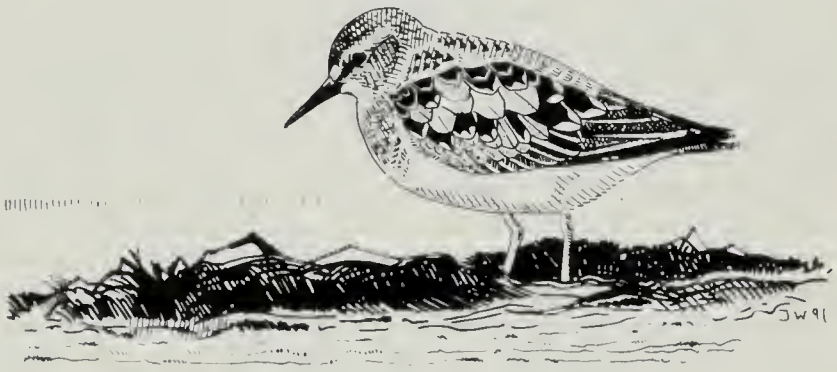
The severe weather of February 1991 clearly caused an exceptionally high mortality amongst the waders of the Wash, particularly Redshank. However, this natural catastrophy for a particular population has provided an opportunity for BTO/ITE studies which should increase our understanding of the factors which limit the numbers of waders on British estuaries.

Table: Numbers of Waders found dead in Norfolk after the severe weather of February 1991

Oystercatcher	92	Curlew	53
Grey Plover	354	Redshank	1365
Knot	116	Turnstone	19
Dunlin	519	Other Waders	9
	Total	2527	

Cley, a Rewarding Season

Mark Golley



1990 was such an exceptional year at Cley that I was more than a little reserved in my expectations for the 1991 season. Surely things could not improve on the rarity roll-call of the previous year?

I returned from the mild climes of Devon to be greeted by Bernard Bishop at a bitingly cold Sheringham station. My penthouse was going to be cold!! There was enough light to have a quck look at Simmond's Scrape where a fine drake Garganey paraded in front of me. A ringtail Hen Harrier caused a minor skirmish as 50 Avocets shrieked disapproval.

The departing days of March were notable thanks to obliging Water Pipits, a regular pair of Short-eared Owls, a lovely male Hen Harrier and the first summer migrants: White Wagtail and Sandwich Tern.

April Fool's Day produced a Wryneck in the village and a strange *Aythya* hybrid which on close inspection showed itself to be a Pochard x Tufted Duck, a rather less frustrating parentage to unravel compared to 1990's infamous Cley *Calidrid.* But I was eager to find good birds myself. A sulphureous Grey-headed Wagtail April 4th helped somewhat as did a doubtless suspect Ruddy Shelduck. I was in raptures next day as I enthused to an unimpressed hide-full of people my delight at having a Yellow-legged and a Scandinavian Herring Gull in the same 'scope view. Each to his own ...

Everyone seemed happy with the Kentish Plover I found on Arnold's Marsh April 10th, myself happier than most! As if that was not enough, numbers of Avocet, Black-

tailed Godwit and Ruff were all building up; Spotted Redshanks *chu-wit*-ed around the reserve, Little Ringed Plover *tee-u*-ed their presence, while Wood Sandpipers *chiff-if*-ed their arrival. Passerines filtered in: Swallow, Sedge Warbler and Yellow Wagtail. Much of April and May was to follow a quiet pattern with all the usual scarcities appearing: Spoonbill, Black Tern (struggling into double figures), Temminck's Stint and the expected spring day-trip by the almost migratory Broadland Cranes. Three Ospreys flew over in as many days in May, the last in the same view as a female Montagu's Harrier. An undoubted attraction were 100 Whimbrel in fields off the East Bank, but we lacked a 'crowdpuller'.

The job of wardening an area of such renown does have more to it than birding the finest reserve in Britain. Boardwalk maintenance, path clearance, people control, permit checking, liaison with other reserves and staff all play a vital part in maintaining the reserve. Perhaps the most important aspect of it is species protection. With numerous Schedule I birds on or near the reserve, the attraction for egg collectors is undeniable.

Four incidents arose in May, two resulting in prosecution. Under this pressure it was almost a relief that May was so quiet birdwise. One of the few days of note was the 21st, when at least 12,000 Swallows poured westwards from dawn to dusk. Many hundreds of House Martin, Sand Martin and Swift were also moving that day – a real spectacle.

Two *flava* Wagtails enlivened the first day of June; one resembled a 'Spanish' and the other a 'Greyheaded'. After close study I was happy that they were both hybrids – looking very similar to males I had watched on Majorca. Temminck's Stints lingered in the first week of the month along with a dozen dainty Little Gulls, and a couple of Spoonbills. June 7th dawned thick with mist and fog, visibility at less than 30 yards. As I headed to North Hide about 20 yards ahead on the fence I had a momentary glimpse of a pale, sandy wagtail-sized bird. Before looking at it through binoculars, it had gone. But I knew what it was so a little rashly I radioed the news – 'Tawny Pipit in the Eye Field'. And so it was, a fine adult, a Norfolk tick for me and the first I had found in this country. The obvious highlight of a poor spring and it stayed over a sunny weekend too.

The hot summer ahead had a dramatic effect on the reserve's appearance. As temperatures soared water levels began to fall away. Despite all our best efforts the level in the main catchwater drain dropped so low as to prevent a flow of water on to the reserve. It did, however, give the opportunity to carry out much needed improvement work on Pat's Pool once the breeding season had finished. With water so hard to come by, it was a tremendous struggle restoring the dry scrape.

June passed quietly after the excitement of the Tawny Pipit. A humid, thundery, afternoon on 19th produced a gleaming female Red-necked Phalarope, which stayed for just the evening. An obliging Long-eared Owl delighted many in the summer evenings from 24th and into July.

July, a month for expecting the unexpected, is one of my favourites on the reserve. Sadly 1991 didn't live up to the outstanding heights of 1990, but it did have one or two surprises. Spoonbills dibbled around the reserve and wader numbers began to rise (unlike the water). The season's second Red-necked Phalarope enjoyed a five day stay from 10th. Nineteen Crossbills on 12th gave some passerine interest. As the month progressed it became clear we were to have nothing really outstanding. However a brisk northerly breeze on 26th produced for me at 5.30 a Storm Petrel at sea. Just reward, I guess, for an early start!

August progressed in a disappointing manner, wader numbers were now poor, even in an average year. A White-rumped Sandpiper was nice, arriving on the same date as the 1990 bird, possibly the same one. Curlew Sandpipers peaked at 27. Other, more personal, highspots included a fine adult Mediterranean Gull and a stunning Yellow-legged Herring Gull.

The first days of September were enlivened by two juvenile Dotterel and the first Long-tailed Skuas. The dark juvenile on the 3rd heralded unprecedentcd numbers of this premier pelagic performer to be seen off Cley. Seawatching in 1991 was certainly exciting. At least forty-one Longtails were seen during the month, including seven on the 6th, four on the 29th (more of that day shortly) and then the unforgettable morning of the 30th. Four of five Longtails had passed between first light and 1000, but then things seemed to be easing off. Wrong! From around 1100 to 1300 the sea was electrifying! Longtails were coming from every conceivable angle – above, behind and below. At one point I had eight juveniles in the same 'scope view: whitc ones, grey ones, brown ones, just stunning. But so quickly it was over. At least 25 passed that morning. Using the numbers of pinprick Longtails on the horizon, I would be happy with a total in excess of 60! You should have been there ...

Another seawatch spectacular took place the previous day. The evening of the 28th had seen a ferocious weather front arrive into the county. Howling gales and torrential rain battered Cley from around 1700 to 0200. The 29th dawned becalmed; flat grey with heavy rain. Not a breath of wind. The sea looked like a mirror, not a white horse to be seen. The North Sea had never looked so menacing. Seabirds were moving in huge numbers. Slowly the rain ceased, skies cleared and the wind picked up – giving near perfect conditions. At least 26 Pomarine Skuas passed by – many full-spooned adults – auks whizzed by, as hundreds of kittiwakes swept past. News of little gems curtailed things mid afternoon as we charged up Blakcney Point. In the gathering gloom I contented myself with three gleaming Siberian Stonechats before I quickly returned to Cley Beach, my pace quickened by the now very strong north-westerly gale. The result: Leach's Petrel and a gorgeous adult Long-tailed Skua within ten minutes. How can people not enjoy seawatching?

Siberian Stonechat (*Ian Lewington – Richard Richardson Award Winner*)

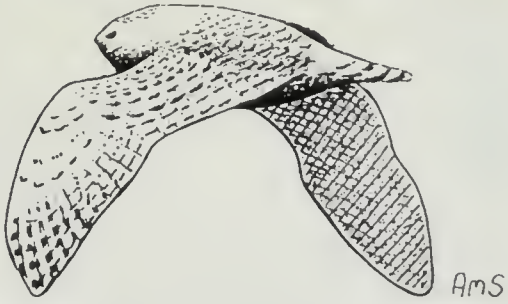
As for the remainder of September – after the seabirds nothing can match them. Howevcr, a juvenilc Red-necked Phalaropc and a Barred Warbler were among the best pcrformers.

October saw winter migrants, like Wigeon and Teal, arriving en masse. A flock of 21 Barnacle Geese livened things up and so did the hugely impressive female Goshawk coming in off the sea on the 6th. Once again I missed the middle of the month (I am unable to resist the Isles of Scilly), but a Shore Lark on my return was a fine sight parading round the Eye Pool.

November saw my time at Cley coming to an cnd. Water Pipit, Littlc Auk and Pomarine Skua were the main attractions to the marsh. A splendid selection to end the season, one that was quieter birdwise than I had hoped for, but in many ways far more rewarding in that it was much more of a wardening year. My last night at Cley was poetic ... gentle waves lapped the shingle ... the sky was full to overflowing in stars. As I stood on the penthouse balcony my eyes feasted on a stunning display of the aurora borealis. Nobody could have scripted such a fine finale ...

Snowy Owl in Norfolk

A.M. Stoddart & M.I. Eldridge



The 23rd March was bright and sunny, but the earliness of the date did not lead us to think that our walk along Blakeney Point would yield many birds. Indeed we were more than pleased to see 3 Pied Wagtails and our first Sandwich Tern of the year.

When approaching the end of the Point, however, M.I.E. spotted, at a distance of half-a-mile, a large white 'blob' on the gable-end of the chalet adjacent to the Lupin plantation. Knowing that there should be no white 'blob' there, it seemed likely to be either a Gyrfalcon or a Snowy Owl. Distance was closed as fast as possible until it became clear that it was the latter. Excellent views were then obtained from the cover of the neighbouring chalet. The bird was watched for 3 hours, both on the chalet roof and also on the fence behind, before it suddenly flew off high to the south-west. A visitor from the Morston ferry had been bribed to spread the word on her return to the mainland and some 20 exhausted observers managed to run from Cley to enjoy close views until the owl's abrupt departure.

This impressive visitor was of course instantly distinctive: large size, huge 'padded' feet with staring yellow eyes giving a curious resemblance to a large white cat. Bright white plumage was relieved by dark brown spots and bars on the crown, mantle, scapulars, remiges and retrices and dark barring was also present on the flanks. Flying, it looked surprisingly like a large gull, heavy and ponderous when taking off, but soon looking light and buoyant when well up in the air and indulging in frequent long glides.

The extent of the dark markings, combined with moderate size (for a Snowy Owl) identified it as the well-watched and photographed immature male which had wintered around Wainfleet in Lincolnshire since 24th December 1990. It was last seen at this site on 18th March 1991, five days before appearing on Blakeney Point. Later, on 23rd March it was relocated at Warham. The following day it was at Burnham Overy before spending the 25th close to Scolt Head Island. Progress continued to be tracked and it was seen on its way north at Easington, Humberside, on 30th. Thereafter an immature male Snowy Owl, quite possibly this individual, wandered from Sanday to Stronsay to North Ronaldsay, Orkney, during April.

The bird's movement through north Norfolk gave many birders their first opportunity of seeing this species in the county. There have been 13 previous Norfolk occurrences; the last, at Gunton, was as long ago as 27th October 1938.

Will the Bitterns Survive

Glen Tyler

The return of the Bittern as a breeding species in Norfolk in 1911 was greeted with rejoicing by ornithologists of the time, although observers such as Riviere thought that we barely deserved such good luck as the extinction of the bird had been almost entirely due to human activities (Riviere 1930). We now appear to be in the situation where the Bittern is once more on the verge of disappearing as a breeding species in this country, this time apparently despite vigorous protection and safeguarding of breeding sites. Most observers feel that the reasons for the decline have remained obscure (George 1992), but this must in part at least be due to the faet that the Bittern itself is one of the more obscure breeding birds of Britain. Reedbeds where Bitterns spend their lives are a nearly impenetrable habitat, at least as far as the easual observer goes, and the bird is about as cryptic and secretive as it ean be, despite having one of the most reeognisable and far-carrying songs of all British birds. It was the return of this song to the marshes of the Norfolk Broads in the early years of this century that led Miss Turner and Jim Vincent to discover the first young Bittern in Britain for over 20 years; the story is superbly told in Miss Turner's book *Broadland Birds.*

After eolonisation of Norfolk in the early 1900's Bitterns spread as a breeding speeies firstly throughout the Broads, then around the eoast of East Anglia and then north and westwards until in the 1960's they bred in 7 eounties and had an estimated population of some 80 pairs. Counts of Bitterns are almost always counts of booming males, which are polygamous and so may have none, one or more mates (up to 5 has been recorded in Germany). As Miss Turner diseovered some 80 years ago, male Bitterns have individually distinctive voiees and we have been able to exploit this by tape-recording birds and counting them very aeeurately, and even deteeting the presenee of the same individuals between years.

By the late 1960's a deeline in Bittern numbers had been noted in Broadland and a eount in 1970 showed that numbers had almost halved there, sinee the last eount in 1954. Soon after it became apparent that the populations outside the Broads were also in deeline. By 1985 Bitterns no longer bred outside Norfolk and Suffolk – exeept at one site, Leighton Moss in Lancashire. Even then the deeline did not halt and within this restricted range numbers fell. In 1990 there were only 20 booming males in England. Last year (1991) this had fallen to only 16 at 9 sites.

In 1979 Colin Bibby and Jeff Lunn undertook a reedbed survey for the RSPB and mapped all the reedbeds in England and Wales over 2ha in size (Bibby and Lunn 1982). They found that the presence of Bitterns at a site was related to the size of the reedbed, the amount of wet reedbed and the presenee of open water and dykes within the reedbed. Over the last eouple of years I have been working for the RSPB studying more specifieally both the habits and the habitat of the Bittern. My researeh has been centered at

Leighton Moss where we have radio-tagged three Bitterns to appreciate how individual birds use the habitat. Also, as well as monitoring numbers by tape-recording the booming males, I have been looking at a seleetion of large reedbeds throughout England and Wales to discover how the habitat differs between reedbeds that hold Bitterns and those that have now lost them as a breeding species.

Leighton Moss is a large reedbed and probably one of the wettest in England, with a good population of fish of several species and a high invertebrate productivity. Even so at this site the home ranges of the Bitterns were surprisingly large, up to 70 hectares (though this measure includes open water and willow scrub as well as reedbed). The birds spend most of their time feeding close to the reed/water interface, where they catch their prey (especially eels) in shallow water. Generally they avoid areas of dry reedbed and scrub except during short periods of the year when water levels are high and they may take advantage of a food abundance (such as frogs at spawning time). Bitterns do not normally feed in the open but may do so on occasion (such as when catching tadpoles in late spring). The males appear to be quite territorial during booming time, but wander more freely around the marsh outside this period.

The wider reedbed habitat survey that I undertook helped place this information in a national context. Reedbeds that held Bitterns were larger, wetter and contained more pure reed and less Willow scrub than reedbeds that no longer held them, just as one would expect from the radio-tracking data at Leighton Moss.

So how does this help explain the decline of the Bittern? Taking sites outside the Broads there is a pattern to the rise and fall of populations, consistent with the results from the radio-tracking and habitat survey. Most of the reedbeds that were colonised by Bitterns between 1940 and 1960 had been created after 1920. When reeds colonise shallow open water they begin a process which eventually leads to a drying out of the reedbed itself and a succession to willow scrub, and a closing over of open water leading to a great reduction in fish populations. Unless remedial action is taken these sites may quite quickly become unsuitable for Bitterns. The period of suitability varies due to the production rate of the reedbed and the deposition rate of silt around the reed roots, but most East Anglian reedbeds appear to be of the fast drying types (this is not helped by recent dryer winters and summers of course).

Within the Broads the situation is probably slightly different. About a hundred years ago the rate of reedswamp spread was speeding up in the broads, probably due to a combination of gradual water enrichment and a slight shallowing of the broads until they were reaching a depth where reed could very quickly colonise. Luckily for Bitterns this meant that at the time of their recolonisation there was a maximum of new, wet reedswamp available – just the right habitat, and in a very rich and productive wetland system. After 1960 the changes in Broadland swamps were becoming obvious to naturalists in the area including Ted Ellis (Ellis 1965). The culprit appeared to be the coypu which seemed to be literally eating Bitterns out of house and home as well as directly disturbing them at nest sites. However more recent studies have shown that other changes in Broadland ecology were taking place at the same time (George 1992, Crook et al 1983) and at least some of the reed swamp loss is due to changes in water chemistry, certainly the erradication of the coypu brought no upturn in the fortunes of either the reed swamp or the Bittern. As the encroaching wet reed swamp was lost, and the formerly clear water became cloudy, Bitterns were faced with fewer places to feed and possibly more problems in finding food as they feed for the most part by sight. The population declined and the birds retreated up the river valleys where both the water quality and the reed swamp had declined least.

Is there then a future for Bitterns in Britain? It appears that having regained the bird by luck we may have to work to keep it. During the expansion phase in the first half of this

century, European populations (at least in our neighbouring countries such as Sweden, The Netherlands and France) were also increasing, but now most seem to be declining for similar reasons to ours. It appears unlikely at present that the Broads will ever become the wonderful wetland system that it was a century ago and most of the coastal marshes are gradually ageing and drying out.

In the Broads, efforts by the Broads Authority and the RSPB to isolate marshes and provide them with less eutrophic water sources may provide a solution at some sites. But the cost and effort is great. However the differences this technique has made to Strumpshaw Fen RSPB reserve are obvious and a Bittern boomed there briefly last spring. Outside the broads, on the coastal floodplain new reedbeds will need to be created on agricultural land so that work can take place on some of the other existing reedbeds without jeopardising the Bittern's foothold. At least this time new reedbeds can be created with forward planning to allow us to raise water levels in future and thus prolong their life. Older reedbeds can then be embanked and perhaps even lowered by excavation to create them anew. The sea defences at some of the coastal reedbeds will require additional thought if sea levels rise as predicted.

Whichever way it is done, action must be taken soon while we at least have some 'seed stock' left. Bitterns returned from extinction once, twice might be asking too much.

References: BIBBY C. J. and LUNN J. (1982) *Conservation of Reedbeds and their Avifauna in England and Wales.* Biological Conservation 23, 167-186. CROOK, C. E., BOAR R. R. and MOSS B. (1983) *The decline of Reedswamp in The Norfolk Broadland: Causes, Consequences and Solutions.* U.E.A. report to Broads Authority, BARS 6. ELLIS E. A. (1965) *The Broads.* New Naturalist, Collins. GEORGE M. (1992) *The Land Use, Ecology and Conservation of Broadland.* Packard, Chichester. RIVIERE B. B. (1930) *A History of the Birds of Norfolk.* Witherby. TURNER E. L. (1924) *Broadland Birds.* Country Life.

Montagu's & Marsh Harriers in West Norfolk 1987-1991

R. A. Image (R.S.P.B.)

The **Montagu's Harrier** is included in *Red Data Birds in Britain* as a rare breeding bird and is afforded special protection by the Wildlife and Countryside Act 1981. The species is also listed in Annex 1 of the EC Directive on Wild Birds. British breeding population built up to about 30 pairs in the early 1950's, but then decreased and since 1970 numbers have been very low, with a maximum of 12 nests in 1990. There were just three successful nests in 1991, two of them in Norfolk.

Norfolk remains the stronghold of Britain's small breeding population and this feature summarises the fortunes of this summer visitor over the five-year period. An article in the 1986 *Norfolk Bird Report* covered the previous five years.

Twenty-two females and 14 males bred or attempted breeding over the five-year period and 7 of the males were bigamous; the secondary females of 4 of them failed. In 1991 an unpaired female built a nest and laid 6 eggs which were eventually deserted. This was the only clutch of 6 since 1983 and that nest fledged 2 young. From a total of 22 nests, 16 were successful fledging 48 young. This compares with 13 nests (of which 10 successful) fledging 26 young during 1982-1986. Overall 2.8 young fledged per successful nest and 2.2 for all nests over the ten-year period 1982-91. Co-operation from the

majority of farmers, landowners and contractors was encouraging. No nests or young monitors monitored were lost or injured due to routine farming activities. Precautions were taken at three nests to prevent unfledged young from being harvested and birds from other nests fledged just in time. Emergency visits were made to two nests during incubation to uncover them, after heavy rain. Similar precautions were taken at other sites. Nineteen nests were in arable crops – mainly wheat – and over the ten-year period 60% of nests were in this crop, with 20% in rape, and 8.6% in barley.

All young were colour-ringed. Three breeding birds were observed to have been colour-ringed in Norfolk: a male and two females. The male bred in at least three consecutive years: 1987, 1988 and 1989, fledging a total of 17 young from four nests. One female, fledged in 1986, was observed breeding in 1988; and the other one, rearing two young in 1990 was only some ten months old, having fledged the previous summer. In addition a female in 1988 was thought to have been a foreign-ringed bird, and a non-breeding pair in 1991 were both colour-ringed. Two other breeding females carried colour rings but it was not possible to identify them. Other Norfolk-ringed birds were seen breeding elsewhere in the country. Two birds ringed as nestlings were recovered abroad. The remains of one found in an Eagle Owl's nest in the South of France during September 1986 had been ringed in July 1985. The second bird was discovered in France, some 420 miles distant, during September 1987, and had been ringed in August. Apparently not shot, recovery date was given as September 23rd, yet on the 14th the bird was still in the breeding area with the remainder of the brood, not until the 20th had they all departed.

So long as the breeding population remains at a low level, it is necessary to closely monitor and manage nests and enlist the help and co-operation of the agricultural community if we are to retain this beautiful raptor.

Montagu's Harrier (*Andrew Birch – Richard Richardson Award Winner*)

Nesting Success of Montagu's Harriers in West Norfolk 1987-1991

	1987	1988	1989	1990	1991
Breeding Males	3	2	3	4	2
Breeding Females	3	3	5	7	4
No. of Nests	3	3	5	7	4
Fledged Young	9	6	13	13	7

Note - the above figures include six failed nests - 1988 (1) 1989 (1) 1990 (2) 1991 (2)

Marsh Harriers are subject to the same protection laws as Montagu's. Compared with the previous five-year period numbers nesting in arable crops in the county has more than quadrupled, with a minimum 37 nests fledging at least 109 young. This is encouraging news for this traditionally reed-nesting species. Nesting in arable crops is fraught with

danger from day-to-day farm work including spraying and harvesting. However, as with Montagu's co-operation from sympathetic farmers and contractors has seen continuing success. Heavy or prolonged rain also threaten nests by crop fall, but Marsh Harriers are not at such risk as Montagu's as nests are usually more substantial and higher although still placed on the ground.

At least 16 nests were known in 1991. But with 29 young fledged from seven nests (including two broods of six) 1989 had the best fledging success. Nesting densities were impressive, and in 1991 three pairs nested in a 75 acre field, with a fourth pair in an adjacent field; all were successful. In 1990 a 44 acre field held two Montagu's and one Marsh Harriers nest. Over the five-year period several nests were thought to have been predated by Foxes. Of a sample 45 nests (including nine in reed), the average clutch size was 4.08. This compares with 4.66 from a study of 79 clutches in Finland (Hilden and Kalinainen 1966). Hatching and fledging success was encouraging for the Norfolk birds. From 184 eggs laid in the sample nests, 139 hatched (75.5%) giving a brood size of 3.08 for all nests. In a Finnish study of 51 nests the figure was 2.29 (Hilden and Kalinainen 1966). Of eggs that hatched 89.9% fledged young with similar results in the Finnish study. In another European project involving 53 pairs, 43% of eggs laid fledged young, which equalled 1.9 fledged for all pairs (Glutz et. al. 1971). In Norfolk the figure was 2.77.

Occasionally males of breeding pairs disappeared shortly after hatching, leaving the females to rear broods on their own. In 1989 at one site roles were reversed when the female disappeared shortly after hatching, leaving her partner to rear the brood of two on his own. This he succeeded in doing. Warm summers such as we experienced in 1990 tend to encourage late nesters. It was towards the end of June before one female commenced incubation, fledging at the end of August. Early harvest meant the brood were unfledged and measures had to be taken to protect the young.

Three birds that had been ringed as nestlings were recovered dead, all in this country. Birds of prey are still subject to persecution, protected or not. At least one Marsh Harrier was shot in North Norfolk during summer 1991. Also that year a brood of nestlings in the west of the county disappeared under highly suspicious circumstances. Another unfortunate bird, uninjured even after passing through a crop swarther at harvest in 1990 when still a fledgling, was found dead in Humberside during June 1991.

Amongst the usual prey of birds and animals, remains of Rats and Woodpigeons were found at nest-sites. During harvest a well-grown Rat disturbed from standing corn by a combine harvester ran towards a dyke. A juvenile Marsh Harrier soon swooped and killed it, whereupon a second juvenile attempted to steal the prey. Another juvenile fed on a fully-grown rabbit carcase, but whether the bird killed it is not known. During late summer juvenile Starlings roam the fields and these are important prey items. Spotting such a flock in a rape field a male Marsh Harrier would fly fast and low towards the birds taking them by surprise. Prey is either seized on the ground or in flight.

Nesting success of Marsh Harriers in crops in West Norfolk 1987-1991

	1987	1988	1989	1990	1991
Breeding Females	2	8	8	14	16
No. of Nests	2	8	8	14	16
Fledged Young	3	21	29	27	29

Note - the above figures include 11 failed nests - 1987 (1) 1989 (1) 1990 (6) 1991 (3)

References: Hilden O., & Kalinainen, P., 1966. *Ornis Fenn.* 43: 85-124. Glutz, U. N., 1971. *Handbuch der Vogel Mitteleuropas* 4.

Red-necked Grebes appeared during the year at 67 localities.
Slavonian Grebe, Cley, January; very confiding it occupied a beach pool for several days.

Redwing entered many observers' gardens during the February cold spell.
Ring-necked Duck, Acle, February 10th.

Norfolk's Bean Geese

Mariko Parslow-Otsu

At dawn on 14th February 1992 my husband watched as the last 65 Bean Geese of the winter flew off NE from their roost in the Yare Valley; 7 hours 22 minutes later, 650 km away on the coast of Jutland, they came in from the North Sea, passing 50 metres over my head. They landed a short way inland, joining the other Bean Geese which had wintered with them in Norfolk and which had migrated, as several units, over the previous two weeks. By late April they would be on their way north again to breeding grounds in central Sweden. Until recently, we had little information about these geese, other than they belonged to the western race *fabalis*, formed the only permanent wintering population of the species in Britain, and had increased since reaching a low point in the 1960s. In 1987*, however, 22 of them appeared bearing neckbands. These were from 36 captured in a moulting flock of 300 in Åsele Lappmark in summer 1987. They provided an extra stimulus to work I had been doing on the behaviour of the geese since 1982.

Status in Norfolk: As elsewhere in Britain, the early history is obscured by confusion with Pink-footed Geese. Stevenson (1866-90) named several places which it had gradually abandoned, for example, 'wild country about Thetford and Wretham' and 'about Westacre'. By his time and in Riviere's (1930), Bean Geese were evidently scarce. Scott (1936 and personally) referred to Western Bean Geese visiting Terrington in two winters around 1929.

From 1924, 200-300 were found wintering in the Yare Valley, with reports of 5,000 in 1927 and 1,000 in 1936 (Seago 1982). Counts since 1939 have shown that numbers were lowest in the 1960s but have since increased, with a modern peak of 485 in January 1991. Decadal means were: 159 during 1940-49, 60 in 1950-59, 43 in 1960-69, 104 in 1970-79 and 311 in 1980-89 (Parslow-Otsu 1991). These geese rarely stray far from the valley – occasionally visiting the Bure Marshes and once, in severe weather in February 1979, 120 went as far as Winterton.

Elsewhere, small groups of *rossicus* Bean Geese have occurred in most recent years on the north coast or inland at Welney. Two groups that came to the Yare Valley kept apart from the *fabalis* flock. Waxham, Hickling and Heigham Holmes have been visited in some recent winters by up to 28 Bean Geese. Their origin is unknown. In one year (1987) they resembled *rossicus*, but some early spring records might refer to a small unit from the Yare remaining after the departure of the main flock.

Distribution in the Yare Valley: Key factors determining the distribution of the geese in both Norfolk and NW Jutland are the availability of secure roosts close to suitable undisturbed feeding areas. The roosts are often on quite small, well-hidden lakes. The main Yare Valley site is on a private estate; when frozen or disturbed by occasional shooting, Surlingham Broad offers an alternative. Exceptionally, the geese have roosted at Rockland Broad, on the river itself and briefly, a few years ago, at Breydon Water and Fritton.

Buckenham Marsh has long been synonymous with Bean Geese, so that even when noted elsewhere in the valley they were recorded as the 'Buckenham flock'. Buckenham was indeed their favoured feeding site for some periods of time (1946-52, 1965-78, 1980 and probably 1930-39) but in 1940-45 they fed mainly south of the river, and during 1955-64 and 1981-91 the adjoining Cantley Marsh was favoured. Some shifts in preference can be traced to specific events – for example the ploughing and flattening (and sub-

* Throughout this article winter seasons are dated by their December.

sequent re-seeding) of parts of Buckenham in 1940 and 1979, a sudden increase in wildfowling at Cantley in the mid 1960s, and to periodic overgrazing by sheep at either site. A dozen or so other feeding sites have been used.

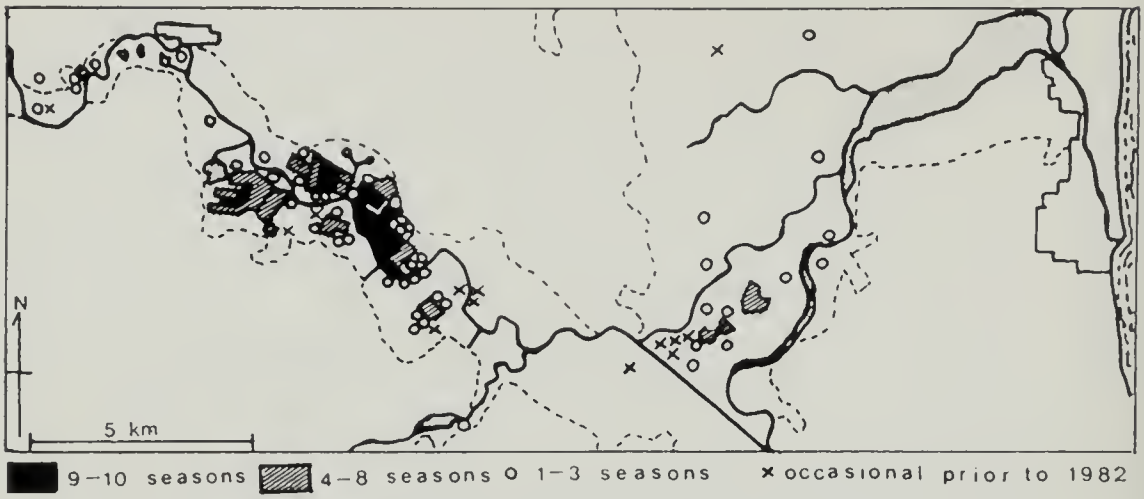


Fig 1. Fields used by feeding Bean Geese in the Yare Valley during 1982-91 seasons; plus earlier known usage.

In the last three years, 95-99% of total usage (goose-hours) have been concentrated on one complex of five sites – Cantley, Rockland/Claxton, Buckenham, Langley Green, and Langley/Hardley Marsh. From 1984-87, the usage of Haddiscoe Island was relatively high (up to 27%) but it has been recently abandoned due to an increase in farming activity. Before 1985, Postwick was used quite frequently but is now avoided owing to recreational development along the river banks and more intensive farming.

Within the valley, the geese have established a pattern of site usage, which varies a little from year to year according to livestock regimes, disturbance and winter weather, and with an apparent 'psychological need' to occasionally explore pastures new. On arrival, they always select the same particular fields at Cantley and Buckenham regardless of the availability of food elsewhere. These fields are those where the geese feel safest – close to their roost, often with an undulating terrain and containing or edged by taller vegetation, where even several hundred can remain surprisingly well hidden; they are also the least disturbed by livestock, shepherds, wildfowlers and birdwatchers. Later in the season their behaviour becomes more food orientated and their usage of Cantley/Buckenham, which totals 70-90% of their feeding time through the winter, diminishes in favour of other sites.

In recent seasons, and especially the last two, increased numbers of sheep have been out-wintered at Cantley, thus reducing the space and food available for the geese. Ironically, the sheep (maximum 2,500, with 700 throughout winter 1991) were largely moved there in autumn from Buckenham under a management system designed by the RSPB to provide better grazing conditions for waterfowl at the latter site. Unlike Cantley, it is an SSSI. Even so, the geese spent only 9% of their feeding time at Buckenham in winter 1990; while in 1991, when the grass failed to recover from summer overgrazing, they spent 0.1% of their time there. Instead, a few relatively undergrazed fields at Cantley completely sustained up to 405 Bean Geese (plus 225 Whitefronts and occasionally up to 400 Greylags and 4,000 Wigeon) until 4th January. They then tried to exploit other fields at Cantley but were restricted by the presence of numerous sheep, so moved

south of the river, to Langley Green and Langley/Hardley Marsh, for the remainder of their stay.

Food: Allport (1989) found that the Bean Geese in the Yare Valley fed mainly on unimproved grassland, selecting meadow grasses *Poa* spp, which they can digest more efficiently than Ryegrasses *Lolium* spp, which are dominant in improved grassland. My own observations during 1989-91 largely confirm Allport's, but suggest considerable seasonal variation in the proportion of different grass species eaten (Fig. 2). In both Norfolk and Denmark, these geese have retained a 'natural' herbivorous diet.

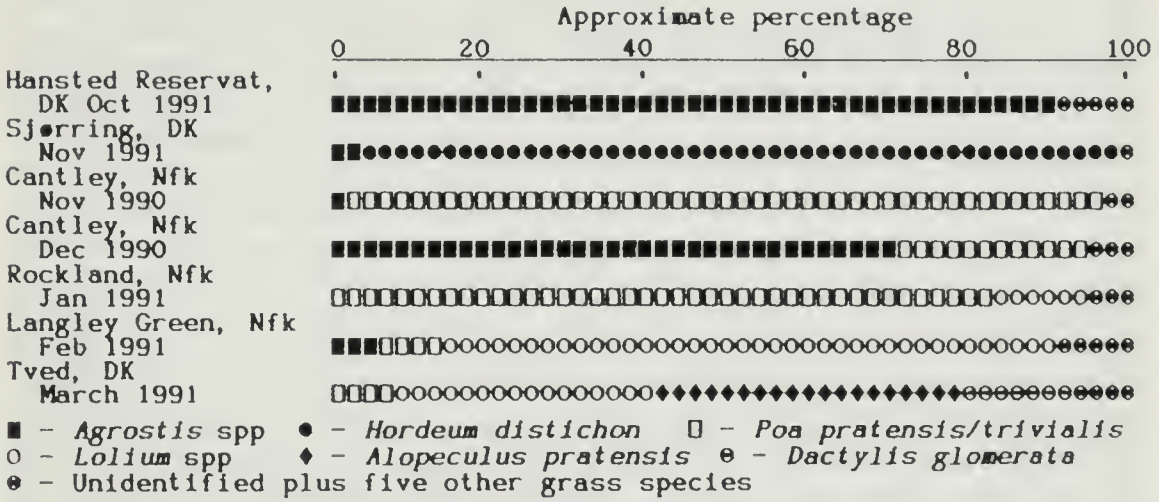


Fig. 2 Proportion of different grass species in diet of 'Norfolk' Bean Geese.
(Faecal analysis; uncorrected for difference in fragmentation.)

The bulk of the 80,000 world population of the subspecies, which stages and winters in the south Baltic, has changed its feeding habits in response to agricultural changes and now depends mainly on root crop remnants and winter cereals, only shifting back to grasslands in spring (Markgren 1963, Nilsson 1991, Madsen 1991).

Migration and population structure: The Yare Bean Geese come from the extreme SW part of the main breeding range – in central Sweden, where there has been a marked decline in recent centuries. The geese are present from late April to September (Eriksson & Henricsson 1990). Most reach NW Jutland by the second half of September, but for a time they remain largely hidden in a 4,000 ha 'no-entry' reserve, comprising more than 20 small lakes surrounded by heathland and dunes, before moving to more open sites. This autumn flock currently totals 1100-1300, of which 30-40% move on to Norfolk, mainly at intervals during mid-November to mid-December, but with some into January. They remain in Norfolk until the first half of February, departing over a period of 10-14 days; migration is somewhat earlier in mild winters, somewhat later in cold ones. Most cross the coast, at no great height, north of Caister.

When they reach NW Jutland they become part of a larger population of 1200-1350 Bean Geese, most of which have overwintered locally as two separate 'behaviour units'. Some individuals will have wintered in the Yare Valley in previous years. One unit currently numbers about 350 and contains few juveniles. The other holds up to 500 and has included dozens of family groups in the last two seasons. The Yare flock (very few juve-

niles) forms a third, which usually keeps to itself, but occasionally mixes with the other two. Their spring sites comprise four different roosts, hidden amidst dunes and heathland, and a dozen grassland feeding areas which differ from those used in autumn.

Conservation: The productivity of this central Swedish population is lower than in the main breeding range lying to the north and east. On the other hand, winter mortality due to shooting is also much lower. Nevertheless, the geese are shot in NW Jutland, causing an additional mortality of at least 5% p.a. In view of the low reproduction rate, Parslow-Otsu & Kjeldsen (in press) have proposed the introduction of local bye-laws to protect the species. Shooting, together with agricultural activity (notably ploughing), also greatly restricts the range of feeding sites available to them in Jutland in November-December, and may partly explain why so many continue to make their way to Norfolk.

In the Yare Valley, actual or potential threats fall under two main headings – habitat deterioration and disturbance. In recent years, low intensity cattle grazing has been largely replaced by high densities of sheep. Aside from the increased competition for grass, Bean Geese avoid fields containing livestock. The principal site for the last 11 years, Cantley Marsh, is now at risk from over-grazing; it still lacks formal protection. The main roost is protected largely through the goodwill of the present owner. Potential roost sites are extremely restricted and the adequate safeguard of those that exist is crucial.

Bean Geese are intolerant of low-flying aircraft and of human disturbance on the ground. Fortunately, the incidence of helicopter flights over the area, which reached a peak in 1989-90 (and caused up to 25 'escape flights' a day), has lately decreased. The same cannot be said for the numbers of birdwatchers. Until 1987, most went to Buckenham, which the geese steadily forsook. Since 1988 there has been a marked increase at Cantley, including organised groups, with a peak of 235 on 13th January 1991. This has had a negative effect on the geese. Some birdwatchers (especially lacking telescopes) try to get too close, causing unnecessary escape flights. More seriously, the continuous use of the footpath has caused the geese to abandon some nearby fields, thus reducing the area available for feeding. Individual, careful birdwatchers, approaching on the footpath no closer than about 250 metres are usually tolerated.

Cantley/Buckenham has remained important because shooting has been restricted (mainly to parts of Cantley). Bean Geese were protected under the 1981 Countryside Act. Fortunately this fact is well known among local hunters; unfortunately some are incapable of recognising them. On several occasions, in moonlight and at dawn, I have seen flocks of Bean Geese, or mixed flocks containing Bean Geese, being shot at. Any increase in Greylag or Whitefront shooting in the area would clearly put the Bean Geese at greater risk, especially when feeding at sites beyond Cantley or when flighting to and from the more distant roosts. An educational programme is needed.

Acknowledgements: My special thanks to M. J. Seago, who has kept a careful watch on the Yare geese for over 40 years. Also to P. R. Allard, G. Allport, B. Harding and others for information; to Skov-og Naturstyrelsten for facilities in Denmark, and the RSPB and WWF-UK for financial help with the first two of my four visits there.

References: Allport, G., (1989) *RSPB Conservation Rev.* 3:59-60. Eriksson P. & T. Henricsson, (1990) Vår Fågelvärld 49:7-14. Madsen, J., (1991) *Ardea* 79:113-122. Markgren, G., (1963) *Acta Vert.* 2: 297-418. Nilsson, L., (1991) *Ornis Svecica* 1:81-92. Parslow-Otsu, M., (1991) *Brit. Birds* 84:161-170. Parslow-Otsu, M. & J. P. Kjeldsen (in press), *Dansk Orn. Foren. Tidsskr.* Riviere, B. B., (1930) *A History of the Birds of Norfolk.* Scott, P., (1936) *Morning Flight.* Seago, M. J. (ed), (1982) *Norfolk Bird Report* 1981. Stevenson, H., (1866-90) *Birds of Norfolk.*

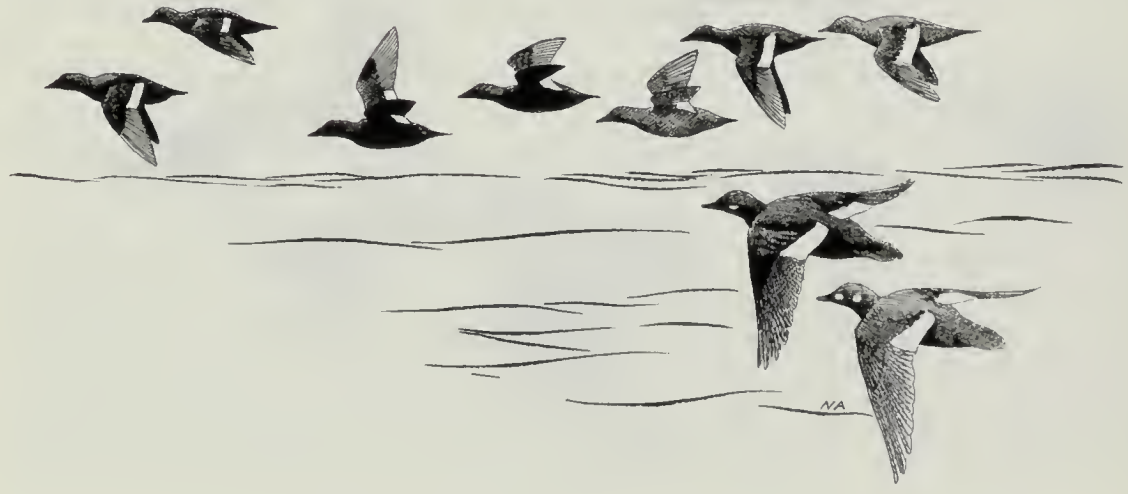
1990/91 Norfolk Wildfowl Counts

(including Welney Washes)

	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Sites Counted	34	30	38	38	39	36	37
Little Grebe	81	79	184	184	175	169	111
Great Crested Grebe	163	147	164	161	156	76	212
Cormorant	425	663	794	746	864	617	737
Mute Swan	346	383	513	597	599	537	474
Bewick's Swan	–	44	3490	4043	3067	3216	340
Whooper Swan	–	2	415	530	604	453	427
White-fronted Goose	24	1	127	194	573	228	29
Grey-lag Goose	1683	1471	1799	2101	2311	1165	1124
Canada Goose	633	980	946	541	527	529	589
Brent Goose	171	4903	14707	8940	13523	17730	7442
Egyptian Goose	53	77	66	78	62	31	58
Shelduck	1878	6477	8863	4964	6157	10261	7188
Wigeon	5289	12476	28252	22642	31561	21178	12626
Gadwall	662	712	306	536	694	348	564
Teal	3905	5300	6290	8374	5867	5054	2837
Mallard	4934	5833	6353	6813	8267	6706	3149
Pintail	638	1466	2666	1428	1744	2923	303
Shoveler	201	314	466	362	558	181	621
Pochard	88	338	612	829	1498	1310	698
Tufted Duck	321	466	858	988	1142	729	1056
Scaup	1	6	6	2	18	79	31
Eider	13	18	17	58	81	270	160
Long-tailed Duck	–	2	35	24	53	68	72
Common Scoter	12	95	54	117	1	470	531
Goldeneye	–	5	139	290	262	372	230
Red-breasted Merganser	4	75	213	93	99	89	53
Coot	1327	2030	2060	2549	2825	2982	1787

Birds of Estuaries Enquiry 1991
Complete Wash Counts

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Great Crested Grebe	8	4	16	9	14	7	17	34	79	124	52	26
Cormorant	155	112	122	82	44	18	96	141	180	184	193	113
Mute Swan	13	11	12	25	5	–	4	8	7	6	15	3
Bewick's Swan	31	21	50	–	–	–	–	–	–	79	18	72
Brent Goose	19842	20215	15662	12522	3697	4	5	8	3	17348	20249	21186
Shelduck	10739	14867	7742	3653	1964	170	3276	1593	763	13297	8730	10556
Wigeon	826	3849	1161	4	2	–	3	–	178	2117	5441	4609
Gadwall	54	70	27	6	7	–	–	2	–	6	6	29
Teal	694	840	197	34	–	–	–	9	657	469	631	267
Mallard	4016	3428	861	254	172	95	94	149	815	2457	2702	1668
Pintail	1289	1879	50	6	–	6	–	1	33	281	144	489
Shoveler	6	4	3	2	2	2	–	3	11	49	1	8
Tufted Duck	84	75	45	30	13	–	14	10	39	78	28	76
Eider	75	484	173	135	43	88	101	130	69	83	18	32
R-b Merganser	78	75	19	17	6	–	1	–	–	100	120	45
Oystercatcher	26495	33791	24731	9703	5765	921	9737	27044	28069	29064	19823	28303
Avocet	–	1	40	12	4	–	15	40	3	–	–	–
Ringed Plover	223	12	157	193	422	139	150	1892	733	240	113	29
Golden Plover	1583	2245	30	52	60	6	1212	2712	1284	883	1820	2202
Grey Plover	5232	7432	6023	7671	11137	561	1732	5682	8654	13945	6321	5720
Lapwing	1590	2582	2255	60	32	16	964	549	375	4119	5785	3527
Knot	123244	92433	41678	19456	5651	276	6868	45464	352411	083131	333151	00261
Sanderling	302	251	287	89	156	220	180	1661	683	513	378	230
Purple Sandpiper	15	18	–	–	–	–	–	–	–	1	–	–
Dunlin	43233	30654	35978	24764	19491	526	21994	37035	37981	57781	29302	21154
Snipe	4	8	5	3	1	–	–	15	17	37	19	9
Black-tailed Godwit	68	17	42	341	3	–	626	581	1354	915	217	13
Bar-tailed Godwit	9803	14834	7526	1262	1411	176	3317	10816	8756	14735	7877	3356
Whimbrel	–	–	–	11	36	4	267	272	30	–	–	–
Curlew	2252	3578	3306	1633	549	95	8582	8907	6160	2935	2396	3727
Spotted Redshank	1	–	–	–	–	–	29	158	78	24	–	–
Redshank	2439	2771	880	1529	707	294	2127	5116	3246	2560	1339	1239
Greenshank	1	1	1	2	4	–	137	131	257	14	1	1
Turnstone	608	618	456	409	427	25	370	1218	1080	962	896	466



Birds of Estuaries Enquiry 1991
North Norfolk Complete Counts
(Holme – Salthouse)

	JAN	FEB	MAR	SEP	OCT	NOV	DEC
Little Grebe	23	27	28	2	4	20	36
Slavonian Grebe	3	3	–	–	7	5	6
Red-necked Grebe	1	1	–	–	3	–	–
Great Crested Grebe	5	15	11	7	35	23	32
Cormorant	62	62	81	174	82	67	102
Mute Swan	115	132	128	53	53	64	74
Bewick's Swan	4	4	3	–	–	28	–
White-fronted Goose	194	218	28	–	12	11	163
Greylag Goose	623	293	236	581	93	124	132
Canada Goose	144	84	152	95	110	211	114
Brent Goose	9885	11889	4217	–	2139	11715	10784
Egyptian Goose	2	5	3	69	73	45	13
Shelduck	1020	767	628	48	369	1074	838
Wigeon	8765	8103	2853	511	7559	15085	15834
Gadwall	102	98	123	42	71	97	49
Teal	1868	2569	625	764	911	3073	3199
Mallard	890	1364	425	357	652	760	882
Pintail	321	951	36	4	619	918	1569
Shoveler	83	71	93	82	47	109	110
Tufted Duck	13	33	50	4	–	12	12
Scaup	6	31	5	–	–	1	1
Eider	81	140	84	49	32	12	43
Long-tailed Duck	48	65	52	–	–	23	64
Common Scoter	1	470	531	11	96	3207	3108
Velvet Scoter	3	2	–	–	–	47	126
Goldeneye	104	175	41	–	7	46	87
Red-breasted Merganser	39	32	44	–	13	97	70
Coot	199	517	230	38	34	73	94
Oystercatcher	3760	3361	3945	3684	3866	2811	2796
Avocet	–	6	110	17	–	2	–
Ringed Plover	96	73	390	1296	380	211	96
Golden Plover	1989	500	284	824	293	1678	2001
Grey Plover	798	851	1065	844	813	764	811
Lapwing	3953	1158	501	277	814	1216	2799
Knot	1574	13298	411	899	3071	6142	2333
Sanderling	137	187	371	475	428	339	169
Little Stint	–	–	–	16	3	–	–
Curlew Sandpiper	–	–	–	24	–	–	–
Dunlin	3858	4541	2615	1421	2390	3176	3093
Ruff	1	22	34	34	–	–	44
Snipe	101	30	24	71	25	18	42
Black-tailed Godwit	3	1	3	22	11	4	3
Bar-tailed Godwit	1246	1653	517	499	953	476	630
Curlew	399	323	363	620	285	335	489
Redshank	404	437	370	965	502	540	439
Greenshank	–	–	–	63	6	–	–
Turnstone	131	212	135	252	209	208	170

Birds of Estuaries Enquiry 1991
Breydon/Berney Marshes Counts

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Little Grebe	18	12	7	4	9	6	11	11	5	7	27	22
Great Crested Grebe	16	36	9	14	16	53	76	70	32	23	20	7
Cormorant	94	63	86	51	28	41	105	110	126	92	48	81
Mute Swan	117	117	118	83	40	44	39	33	32	51	129	147
Bewick's Swan	167	150	150	3	–	–	–	–	–	24	56	56
White-fronted Goose	75	20	50	–	–	–	–	–	–	–	20	7
Greylag Goose	120	96	79	63	75	55	108	186	186	119	99	91
Canada Goose	10	21	18	16	14	24	24	8	28	21	28	26
Barnacle Goose	–	25	–	–	–	–	–	–	–	4	–	1
Brent Goose	–	30	9	2	–	–	–	–	19	16	20	14
Shelduck	451	501	584	463	584	340	338	42	55	268	413	356
Wigeon	1700	1550	1100	40	11	1	1	12	87	95	3500	3000
Gadwall	58	24	93	20	8	4	1	4	3	1	4	8
Teal	200	150	120	80	28	4	7	17	9	51	120	420
Mallard	220	247	89	35	36	47	42	52	95	239	229	203
Pintail	154	170	112	2	–	–	1	8	13	66	121	122
Garganey	–	–	–	–	1	–	–	2	–	–	–	–
Shoveler	24	23	136	40	11	4	18	12	4	5	11	38
Pochard	5	29	5	5	4	4	3	4	4	59	1	–
Tufted Duck	2	31	1	4	4	3	1	7	6	6	1	5
Scaup	1	22	3	–	–	–	1	2	–	–	5	–
Goldeneye	4	27	10	1	–	–	–	–	–	–	3	9
Oystercatcher	140	302	404	293	183	125	286	312	148	96	114	136
Avocet	2	3	5	9	3	2	4	–	3	1	1	–
Little Ringed Plover	–	–	1	4	3	1	5	3	–	–	–	–
Ringed Plover	112	87	66	44	267	260	49	346	314	128	87	90
Golden Plover	1600	1500	1200	329	80	2	6	364	370	700	2000	2000
Grey Plover	72	95	58	28	61	39	6	20	30	103	108	54
Lapwing	11000	10500	950	31	35	100	100	350	300	4000	16000	22000
Knot	93	750	257	6	11	17	31	11	37	55	94	112
Sanderling	36	22	54	15	14	5	2	3	2	16	42	57
Little Stint	–	–	–	–	8	–	1	3	2	3	–	–
Curlew Sandpiper	–	–	–	–	1	2	19	51	61	9	–	–
Dunlin	1700	1300	1200	1300	2000	478	400	800	1500	1450	1600	1700
Ruff	–	7	12	20	14	8	3	7	10	3	3	–
Snipe	70	246	104	12	20	2	4	8	10	60	100	30
Black-tailed Godwit	–	1	4	8	3	3	19	4	3	3	6	3
Bar-tailed Godwit	3	10	7	44	83	68	18	17	42	43	20	18
Whimbrel	–	–	–	34	188	2	35	200	6	1	–	–
Curlew	705	671	586	461	74	179	609	711	626	690	582	601
Spotted Redshank	1	1	1	4	1	4	4	7	4	4	2	1
Redshank	650	450	645	600	58	115	527	700	600	720	560	670
Greenshank	–	–	–	6	8	12	24	8	8	11	–	–
Green Sandpiper	1	–	–	1	2	1	5	25	5	2	1	1
Wood Sandpiper	–	–	–	–	–	1	–	2	1	–	–	–
Common Sandpiper	–	–	–	2	8	2	15	17	8	3	–	–
Turnstone	33	22	27	48	21	16	7	21	22	27	14	22
Little Gull	–	–	–	–	3	2	5	–	1	2	–	–
Black Tern	–	–	–	22	4	–	1	–	–	–	–	–
Twite	40	51	35	22	–	–	–	–	–	20	35	35

Winter Diet of Long-eared Owls

J. B. Kemp

Long-eared owls occur throughout the county, but due to their secretive nature are frequently overlooked. The species is most obvious when feeding young or as a tired immigrant arriving off the sea in autumn. Once settled into winter quarters their nocturnal behaviour and preference for undisturbed areas makes them the least obvious of our native owls. Though there have been studies on the diet of both Short-eared Owl (Buckley 1973) and Barn Owl (Buckley and Goldsmith 1971) there is no recent data on the diet of the Long-eared Owl in the county.

Roost-sites are traditional and may be used for many years in succession provided they are not subject to continual disturbance. Some Norfolk roosts have suffered from this and no longer hold regular wintering birds. A wide variety of habitats may be used: conifer belts and dense thickets of hawthorn with maybe elder and other shrubs are particularly favoured. Roosts may contain just solitary birds although up to twenty individuals are not unknown at some sites outside the county. Daylight hours are spent sitting relaxed, feathers fluffed out, performing grooming activities or sleeping. When alarmed a thin vertical branch-like pose is adopted.

Wintering birds normally hunt only at night. They are relatively long-winged and like the Short-eared Owl hunt primarily by methodically quartering open ground. They also hunt within tree-cover and by the sit-and-watch technique, overlapping between the open terrain Short-eared Owl and woodland Tawny Owl. Short-eared Owls may occur close to or even within a Long-eared Owl roost.

Roost sites

Four roosts were involved in this study:

Roost 'A' was on 20 ha. of heath with dense hawthorn, some open bracken and rough grass clearings surrounded by arable and scattered woodland. Up to five owls roosted here in hawthorn.

Roost 'B' was on 100 ha. of heathland and some conifer stands, with large areas of bracken, heather and dense silver birch. The surrounding land was mostly mixed woodland interspersed with a limited amount of arable and permanent pasture. Up to six owls here in isolated conifers.

Roost 'C' was on 40 ha. of heath with bracken and gorse interspersed with a few dense

hawthorn thickets. The surrounding land was arable with some blocks of deciduous woodland. Up to four owls roosted here in hawthorn.

Roost 'D' was along three hundred yards of riverbank overgrown with rank grass, bramble and dense hawthorn and elder hedge. The surrounding land was mostly arable. Up to fourteen owls roosted here in hawthorn or elder.

The term 'winter-roost' covers the period from October to April; on occasions some individuals were still using the communal roost-sites well into spring.

Regular roost-sites are conspicuous by the splashes of 'whitewash'. A closer investigation will reveal pellets scattered on the ground below. As owls regurgitate one or two pellets a day, regular roost-sites with a number of owls soon produce a useful representative pellet sample for analysis. Pellets for this study were collected at infrequent intervals to avoid disrupting the roosts too regularly. Long-eared Owl pellets average 3.3. cm. x 1.9 cm. (Glue 1974) being marginally smaller and in my experience darker and tighter than those of Short-eared Owls. While a reasonable sample would be distinct, an individual pellet may be difficult to positively assign to one or other of the species. In this study all collected pellets have come from sites where the birds have been seen and positively identified as Long-eared Owls.

Pellet analysis

The pellets collected for analysis were gathered over a ten-year period mostly in the winters of 1980/81, 81/82, 88/89, 89/90 and 90/91. A total of 1,172 Long-eared Owl pellets were examined and produced 1,828 separate prey items. This information is summarised in Table 1. Totals for mammal prey have been gathered by counting the number of skulls or lower jaws for each species present in the pellets. Previous experiments have shown a good correlation between prey eaten by owls and the number of skulls/lower jaws recovered in pellets.

A comparison of the Norfolk owls' diet with a national survey (Glue and Hammond 1974) shows Norfolk birds to have an unusually high dependence on Wood Mice (See Table 2). The national survey included Ireland which largely has no voles, resulting in a high percentage of Wood Mice taken in that fair green isle, consequently slightly boosting the National figure to 18%. Clearly Wood Mice are an important prey species in Norfolk especially at roost 'D' where they numerically formed 46% of the diet. Other figures such as that for Bank Vole (12.4%) and Rat (3.8%) compare closely with the national figure. The national survey found a few other species such as Weasel and Water Shrew in the diet, but in insignificant numbers.

Importance of individual Prey Species

The analysis in Table 1 shows both the numbers of prey species caught and the importance of individual prey by weight. Obviously one Rat is a more substantial meal than one Harvest Mouse though an analysis based solely on prey numbers does not show this. Traditionally a conversion figure for prey based on a Field Vole as one prey unit has been used to assess the importance of individual prey species. This method for example gives Birds, Wood Mice, Field and Bank Voles all a factor of one with Rats as five and so on. This method though simple to use is not fully accurate as all the species with a factor of one do not weigh exactly the same. The method used here has been based on giving all species a direct estimate of individual weight so that Field Vole is 21g, Bank Vole 16g and Wood Mouse 18g etc. as used in Morris and Yalden 1990.

Vertebrate diet of Long-eared Owls at four Norfolk winter roosts (From analyses of 1,172 pellets)

	Average prey weight (gms)	*No. of Individuals*	*Percent Numerical*	*Total prey weight (gms)*	*Percent Prey Weight*
Wood Mouse	(18)	729	39.8	13,122	33.3
Field Vole	(21)	578	31.6	12,138	30.8
Bank Vole	(16)	227	12.4	3,632	9.2
Bird (Finch sp.)	(25)	142	7.7	3,550	9.0
Rat	(60)	71	3.8	4,260	10.8
Harvest Mouse	(5)	38	2.0	190	0.4
Bird (Thrush sp.)	(85)	28	1.5	2,380	6.0
Pigmy Shrew	(4)	8	0.4	32	0.08
Common Shrew	(8)	6	0.3	48	0.12
Long-eared Bat	(4)	1	0.05	4	0.01
		1828	–	39,356	–

Note: *'Percent prey weight' is calculated by multiplying the total individuals of a species by its estimated average weight. The total prey weight so calculated is expressed as a percentage of the combined weight of all prey.*

Example: *Wood Mouse* $\frac{729 \times 18 \times 100}{39{,}356} = 33.3\%$

Table 1

Bird Prey

Difficulties arise with the accurate identification of bird remains in pellets as frequently the body is decapitated before ingestion. Consequently humeri have played an important part in assessing bird numbers in the pellets, though identification remains difficult. Without a large reference collection of bird skulls and humeri it is almost impossible to accurately identify all bird prey remains in pellets. Consequently humeri have been placed into two groups based on size: (a) (small) finch sized and under (25gms) and (b) (large) thrush sized (85gms) to enable the calculation of percent prey weight. The above estimates though not fully accurate are probably more so than giving all birds a conversion factor of one. In practice most bird prey species fell neatly into one of these categories. Where skulls were present it was found that finch types (Sparrows, Greenfinches

TABLE 2 **Percentage numerical comparison of figures from National and Norfolk analyses of Long-eared Owl pellets**

	Wood Mouse	Harvest Mouse	Field Vole	Bank Vole	Rat	Long-eared Bat	Pipistrelle Bat	Pigmy Shrew	Common Shrew	Bird
National	18.0	<0.05	47.4	11.0	3.0	–	0.1	1.3	2.6	15.0
Norfolk	39.8	2.0	31.6	12.4	3.8	0.05	–	0.4	0.3	9.2

Comparison of Long-eared Owl prey items at three Norfolk Sites (An analysis of 947 pellets containing 1524 prey items)

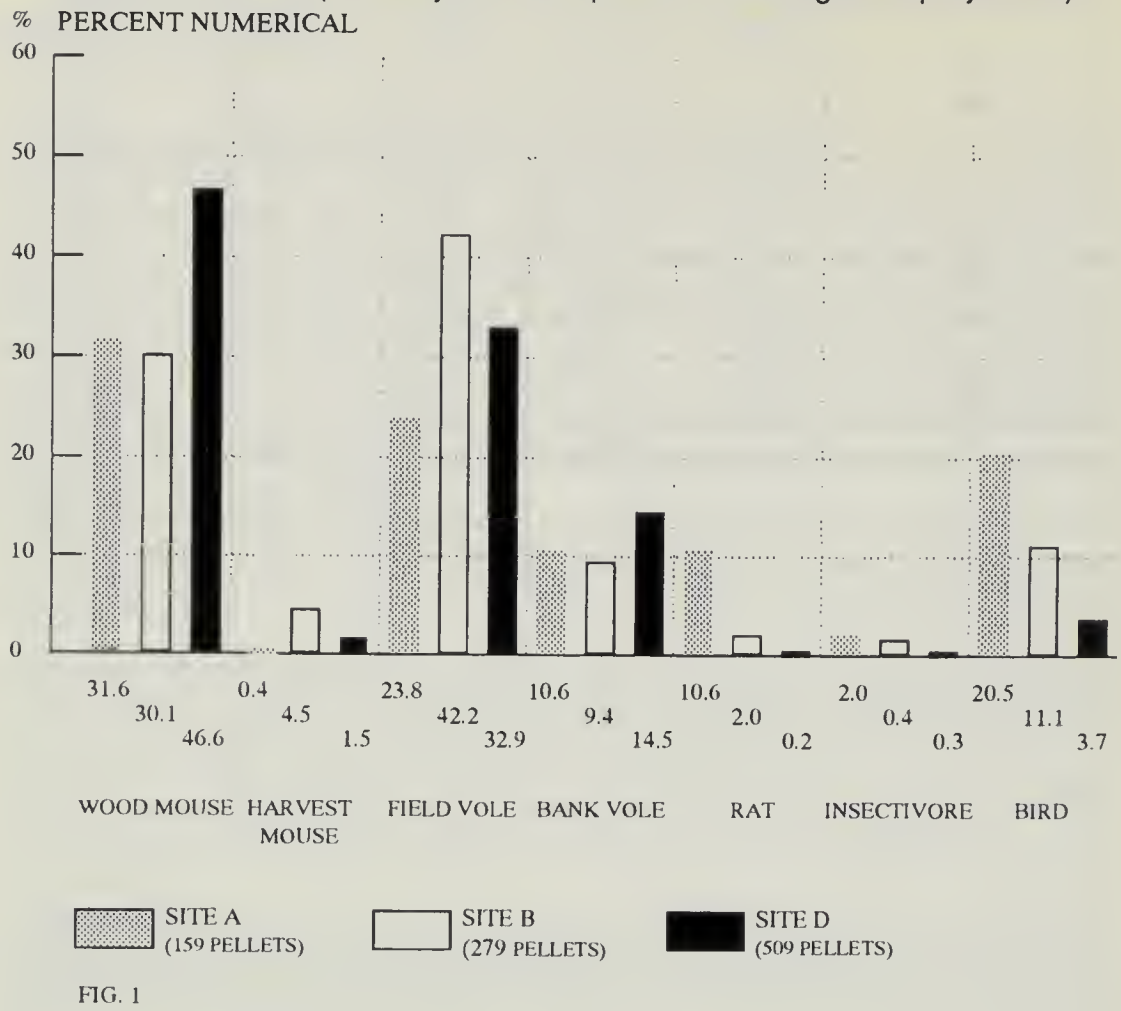


FIG. 1

etc.) formed a large proportion of the small bird items.

Site variation in prey items

Clearly, the immediate surroundings of the roost will influence the spectrum of prey species in the diet. The proximity of grassland will favour the presence of Field Voles while scrub should harbour Wood Mice and maybe a finch roost. Fig. 1 and 2 show the variations in diet found at three of the Norfolk roosts. At site 'A' the proximity of pheasant feeders and large bales of straw lying out all winter encouraged both finches and rats. This was reflected in the pellet analysis which showed birds constituted 20.5% of the diet numerically and 28.6% by weight. Rats were 10.6% numerically and 24.1% by weight. Both sets of figures well above the county average.

Site 'B' was obviously a small haven for the Harvest Mouse which numerically formed 4.5% of the diet, well above the national figure where they comprised <0.05% of the diet. Permanent grassland close to this site resulted in Field Voles featuring highly in the pellet analysis.

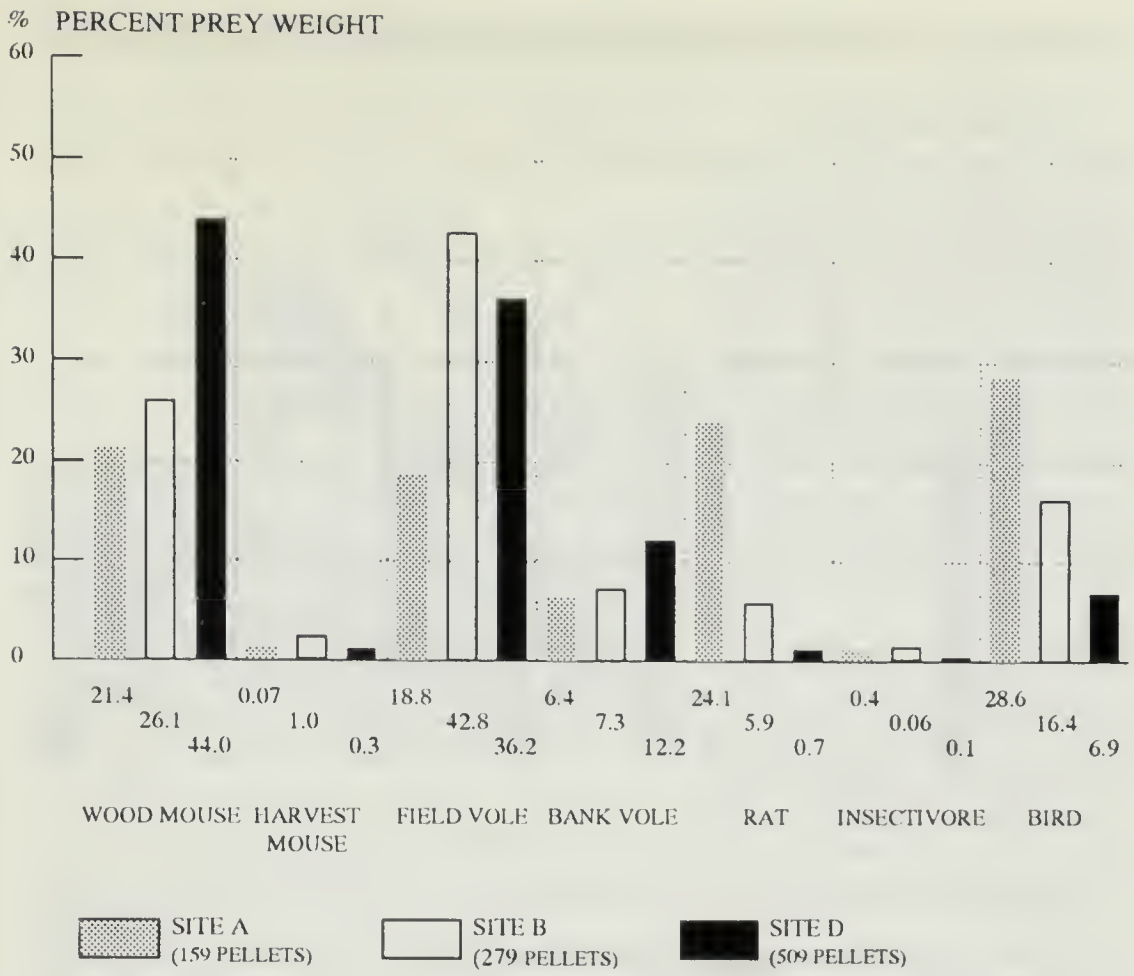


FIG. 2

Seasonal variation in prey items

Previous studies have shown variations in pellet analyses during the seasons. Some of the changes may be due to cyclical peaks and troughs shown by vole populations in particular. A gradual loss of ground cover during the winter may make some species more vulnerable to capture whilst snow cover may give temporary shelter causing a switch to Bird prey.

Fig. 3 compares two pellet analyses from site 'D', during mid-winter and early spring, on dates over two years apart. Probably the most striking feature is the large numerical drop in Wood Mouse numbers from 58.2% to 36.2%, partly compensated for by an increase in Field Voles. Some previous studies on Short-eared Owl (Buckley 1973) have shown Wood Mice to normally increase as a prey item in late winter/spring, suggesting the fall in numbers at Site 'D' is part of a longer term cyclical decline.

No attempt was made to properly analyse non-vertebrate prey, which normally does not form a significant part of the diet. Nevertheless a number of large beetle (*Geotrupes* sp.) remains were found; most notably ten beetles from site 'B' in a sample of 80 pellets in April 1981 and fourteen beetles in a sample of 222 pellets from site 'D' in March 1991.

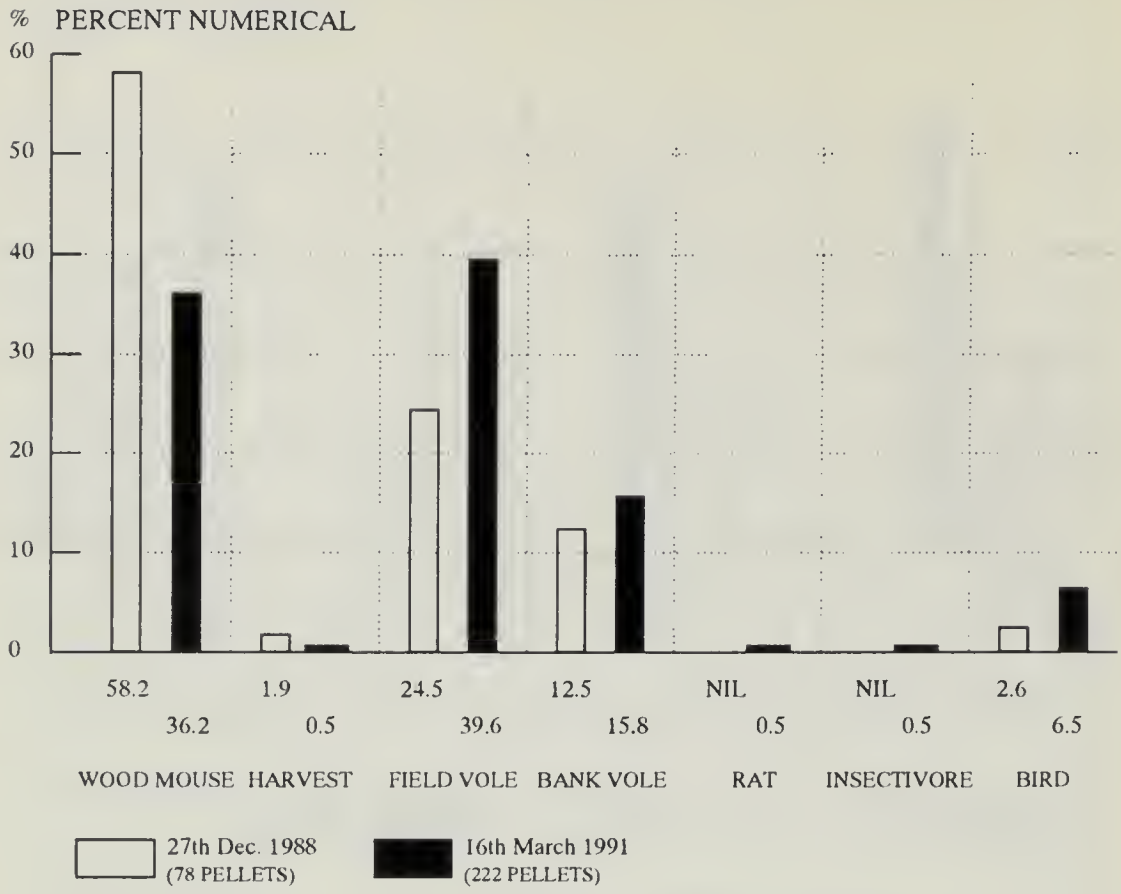


FIG. 3

Summary

An analysis of 1,172 Long-eared Owl pellets from four Norfolk winter roosts produced 1,828 vertebrate prey items, predominantly Wood Mice, followed by Field Voles, Bank Voles, Birds and Rats. The figures are compared with a national survey showing Norfolk Long-eared Owls catch signifieantly more Wood Mice than elsewhere in mainland Britain. Individual site results are compared as are seasonal fluctuations in prey species.

References

BUCKLEY, J., and GOLDSMITH, J.G., 1971. *Barn Owls and their Prey in East Norfolk. Norfolk Bird & Mammal Report* 1971. 320-324. BUCKLEY, J., 1973. *Short-Eared Owls and their Prey. Norfolk Bird & Mammal Report* 1973. 86-88. GLUE, D.E., and HAMMOND, G.J., 1974. *Feeding Ecology of the Long-Eared Owl in Britain and Ireland. British Birds.* 67:361-369. MORRIS, P.A., and YALDEN, D.W., 1990. *The Analysis of Owl Pellets. The Mammal Society.*

Acknowledgements

Thanks are due to David Butler, Linda and Stephen Butler for assistanee in the preparation of this paper.

Ringing Report

Allan Hale

Ever increasing numbers of birds are being ringed in Norfolk – during 1991 it was in excess of 25,000. In addition to the traditional ringing effort, a welcome number of species-specific projects are being undertaken. Amongst these is some particularly interesting work on north-west Norfolk's Snow Buntings; the first fruits of this labour are already appearing in the recovery section below.

As ever, the more unusual birds ringed tend to command the most interest. This year Norfolk ringers were fortunate enough to handle Scaup, Hobby, Waxwing, Dipper and Red-backed Shrike. The usual sterling efforts of the Wash Wader Ringing Group was backed up by a commendable number of waders being ringed at Cantley.

As usual the mass of information available has meant that many recoveries have been omitted through lack of space. However, attention is drawn for the second year to the data resulting from colour-ringing, with no less than eight species being represented in this way. 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

Cormorant: First was a bird of the continental race *sinensis*, which returned to its Dutch natal colony after wintering in Norfolk. The second was one of only a few Welsh-bred birds that move to the east coast. Interestingly, the displacement of the Welsh bird was more than that of its Dutch counterpart.

1	05.06.89	Oostvaardersplassen, Ijsselmeer, Netherlands
vv	17.01.90	Welney, Downham Market
vv	16.05.90	Oostvaardersplassen.
vv	22.03.91	Oostvaardersplassen.
vv	11.04.91	Oostvaardersplassen. 360km E

1	18.06.88	Puffin Island, Anglesey, Wales
x	08.03.91	U.E.A. Broad, Earlham, Norwich. 380km ESE

Shag: Not surprisingly, the majority of Shag recoveries in Norfolk concern first-winter birds.

1	14.07.90	Ousdale Burn, Helmsdale, Highland Region, Scotland.
x	20.02.91	Great Yarmouth. 700km SSE

Spoonbill: The wanderings of two Dutch-bred Spoonbills are easily followed as the result of colour-ringing. It would be nice to think that they were 'prospecting' potential breeding sites.

1	20.05.89	Terschelling, West Fresian Islands, Netherlands.
vv	18.08.89	Last observation on Terschelling.
vv	18.06.91	Bough Beech Reservoir, Kent.
vv	07.07.91	Breydon Water, Great Yarmouth.
vv	10.07.91	Hickling Broad.
vv	18.07.91	Horsey Mere.
vv	03.08.91	Titchwell, Hunstanton.
vv	06.08.91	Benacre Broad, Lowestoft.

1	30.05.90	Vlieland, West Fresian Islands, Netherlands.
vv	18.06.91	Bough Beech Reservoir, Kent.
vv	29.06.91	Hickling Broad.

Bewick's Swan: A trio of colour-ringed birds were seen near Waxham on 23rd November 1991. They were all ringed at Martin Mere, Lancashire; UCF (female) on 13th Dec. 1990, and a pair, TYS (male) and TYY (female) both on 24th Jan. 1991. TYS and TYY were thought to have had one cygnet during 1990.

Intriguingly two of these birds, UCF and TYS, returned to Martin Mere during autumn 1991, prior to their occurrence in Norfolk. It seems likely that TYS, having appeared at Martin Mere without its mate, travelled to Norfolk (or indeed beyond) to search for TYY, to which end it was successful. UCF is presumably a relative of the pair (i.e. a former offspring) and therefore followed TYS during its search for TYY. All three had returned to Martin Mere by Dec. 1991.

Whooper Swan: Both of the colour-ringed families detailed in last year's ringing report remained in the Waxham/Catfield area into Feb. 1991. One of the adult females (FFU) returned to Waxham during Dec. with a new mate (FUY) and a single cygnet.

The multiple movement bird detailed below appeared to prefer the first half of the winter at Welney followed by the second half in Northern Ireland.

1	17.08.88	Anauatn, Jokuldalur, Iceland.
vv	27.02.89	Lough Neagh, Northern Ireland.
vv	19.01.90-25.03.90	Lough Neagh, Northern Ireland.
vv	10.11.90-26.01.91	Welney, Downham Market.
vv	26.02.91-27.03.91	Lough Neagh, Northern Ireland.
vv	16.11.91-Jan. 1992	Welney, Downham Market.

Brent Goose: It is not often that we get recoveries of Brent Geese from their breeding area (note the distance travelled). These again show the benefit of colour-ringing, enabling live birds to be individually identified without the need for capture.

2 17.07.89 Taymyr Peninsula, U.S.S.R.
vv 08.11.90 Burnham Overy Staithe Harbour. 4,600km WSW

4m 20.05.86 Nordstrand-Nord, Schleswig-Holstein, Germany.
vv 23.12.90 Wells-next-the-Sea. 630km WSW

Wigeon: This complements a similar movement last year when a Wigeon from Pensthorpe travelled 394 kilometres NW to Galloway, Scotland.

4 17.01.88 Welney, Downham Market
+ 15.01.90 Strangford Lough, Down, Northern Ireland. 445km WNW

Teal: It is distinctly unusual for Norfolk-ringed Teal to be recovered quite so far east.

2 14.12.89 Pensthorpe, Fakenham.
+ 27.08.90 Vyazikovsky, Vladimir, U.S.S.R. 2,679km ENE

Tufted Duck: Two interesting recoveries showing different autumn dispersal directions.

3m 10.08.91 Pensthorpe, Fakenham.
+ 13.09.91 Lough Foyle, Londonderry, N. Ireland. 582km NW

3m 18.08.91 Pensthorpe, Fakenham.
x 07.10.91 Ijsselmeerpolders, Netherlands. 326km E

Goldeneye: The Swedish bird was surprisingly far north-east at a time when Goldeneye autumn migration would normally be complete. Small numbers do winter in this part of Sweden, but this might not be expected of a bird that spent the previous winter in Britain.

6f 05.02.90 Pensthorpe, Fakenham.
x 15.01.91 Koudum, Friesland, Netherlands. 308km ENE

2 16.02.90 Pensthorpe, Fakenham.
+ 08.12.91 Rensholmen, Nykoping, Sweden. 1,211km NE

Marsh Harrier: There were three recoveries of Norfolk ringed nestlings (ringing sites confidential). One travelled to Humberside whilst the other two were found within the county. Regrettably one of the latter had been shot.

Osprey: This bird became trapped in protective fish netting at a trout farm. It was tended by the R.S.P.C.A. and released at the same site three days later.

1 24.09.89 Site confidential, Northern Scotland.
x 05.05.91 West Acre, Swaffham. 635km SSE

Kestrel: It is normal for Dutch-bred Kestrels to winter in Britain. They do, however, also winter south to the Mediterranean, whilst others remain in The Netherlands.

1 10.06.90 Marssum, Friesland, Netherlands.
v 27.10.90 Wells-next-the-Sea. 326km W

Oystercatcher: The first was only the ninth Wash-ringed bird to be found in Iceland (the majority breed in Scandinavia) – a similar movement was highlighted last year. The second was only the second British-ringed Oystercatcher to Greenland, where the species can best be described as only a straggler. The Wash longevity record for Oystercatcher was broken during 1991 with a 23 years 6 months old bird.

8 07.05.77 Heacham, Hunstanton.
x 15.04.90 Djupivogur, Sudur Mula, Iceland. 1,554km NNW

7 08.08.79 Terrington, King's Lynn.
+ 20.08.91 Kangerlussuaq, Greenland. 2,432km NW

Stone-curlew: Exact details are not yet to hand but one colour-ringed as a chick at Methwold, May 1990 was at Zeebrugge, West Flanders, Belgium, 13th March 1991, but had relocated to Norfolk a few days later.

Knot: Two birds were caught together in Iceland, probably en-route to more westerly breeding grounds in Greenland or Canada, and caught together again at Holme.

4 28.05.87 Vestur Bardastrander, Iceland.
v 15.09.89 Holme-next-the-Sea, Hunstanton. 1,927km SE

Curlew Sandpiper: Only the second Wash-ringed Curlew Sandpiper to be found in Poland.

3 26.09.88 Terrington, King's Lynn.
v 17.08.91 Ujscie Wisly K Swibna, Gdansk, Poland. 1,240km E

Dunlin: The River Alvor is a regular spring passage site for Dunlin. Another bird, ringed at Terrington Bund 22.07.89, was also trapped at this Portugese site on the same day as the first bird shown below. There is no precedent for the Icelandic-ringed bird on The Wash, although there have been five movements in the opposite direction.

6f 02.07.88 Terrington Bund, King's Lynn.
v 03.05.91 River Alvor, Faro, Algarve, Portugal. 1,876km SSW

4 02.05.87 Hraun Floi, Arnes, Iceland.
v 19.08.89 Terrington, King's Lynn. 1,737km SE

Redshank: Nearly 25% of the Redshank caught 07.10.90 were found dead during the following winter's cold weather (more doubtless perished never to be found). Pleasingly this bird survived; however it subsequently became a road traffic victim at its Icelandic breeding ground. The second bird was British bred, one of a brood of two from the NE Highlands of Scotland.

4 07.10.90 Terrington Bund, King's Lynn.
x 29.07.91 Stykkisholmur, Iceland. 1,885km NW

1 07.06.87 Houstry, Dunbeath, Highland Region, Scotland.
v 07.10.90 Terrington Bund, King's Lynn. 653km SSE

Turnstone: Only the fourth Wash Turnstone to The Netherlands. Another Wash bird became a new national record-holder for the species by exceeding 19 years of age.

6 01.02.87 Snettisham, King's Lynn.
v 08.08.91 Pad Van 20, Vlieland, Netherlands. 308km E

Black-headed Gull: There were five movements in excess of 300 kilometres involving nestlings from the Cantley breeding colony. They were from Cumbria, Lancashire, Durham and Gwynedd and followed the vaguely westward pattern set in previous years.

Recoveries involving wintering birds in Norfolk were from The Netherlands (2), Germany (2), Denmark, Finland (2), Poland and the U.S.S.R. (2). Only three of the most distant are treated individually below.

1 17.05.84 Staw Gadzinowy, Godnowa, Wroclaw, Poland.
x 05.05.90 Hardingham, Norwich. 1,121km W

5 20.01.85 Sheringham.
x 11.05.90 Haapala, Ulllava, Vaasa, Finland. 1,777km NE

5 11.01.85 Thorpe St. Andrew, Norwich.
x 18.04.91 Treimani, Parnu, Estonia, U.S.S.R. 1,567km ENE

Common Gull:

6 31.07.77 Holt.
x 28.05.91 Ekebol, Dals Langed, Alvsborg, Sweden. 967km NE

5 12.01.87 Thorpe St. Andrew, Norwich.
x 28.05.90 Saltsjo-Bo, Stockholm, Sweden. 1,285km NW

Great Black-backed Gull:

6 25.11.77 Coltishall, Norwich.
xL 27.07.90 Goteborg Och Bohus, Sweden. 881km NW

Herring Gull: Varanger Fjord, at over 70 degrees north, is part of the Arctic Ocean. The bird was over four years old when ringed; its total life span must therefore have been in excess of 23 years.

10 18.12.68 Norwich.
x 15.07.88 Nesseby, Varanger Fjord, Norway. 2,411km NNE

Sand Martin: This gives some clues as to the origin of the birds in last year's hirundine roost at Stoke Ferry.

3 26.09.90 Stoke Ferry.
v 02.07.91 Drumbeg Quarry, Central Region, Scotland. 490km NW

Swallow: Incoming birds at a roost near King's Lynn during September came from South Yorkshire, North Yorkshire (2) and Northern Scotland (less than 20 kilometres from John O'Groats), plus two from the same nest at North Creake. They were all ringed

as nestlings during 1991. The recovery dealt with individually represented the second Norfolk Swallow to South Africa in less than a decade.

1 08.07.90 North Runcton, King's Lynn.
x 09.01.91 Letaba, Transvaal, South Africa. 9.042km SSE

Dipper: This bird had been at Burnham Market since 27th Oct. 1990 and remained there until 24th March. It was present at Belstead from 7th Nov. 1991.

5 16.02.91 Burnham Market.
v 14.11.91 Belstead, Suffolk. 105km SSE

Robin: Ringed during a fall of continental Robins in a strong easterly wind, this bird was presumably of Scandinavian origin. Note that it moved back to the continent to winter in The Netherlands suggesting that, not surprisingly, it had been displaced further west than its originally intended direction when ringed. Its death occurred in rather unfortunate circumstances – it was accidentally killed in a mouse trap!

3 21.10.90 Sheringham.
+F 30.12.90 Arnemuiden, Zeeland, The Netherlands. 233km SE

Blackbird: There were two examples of autumn migrants (from Sheringham and Holme) recovered in Wales later in the same winter. Another autumn migrant from Sheringham travelled to Sweden, whilst winter birds from Burnham Market and Garboldisham were in The Netherlands the following spring.

Song Thrush: The first bird was ringed during a large fall of Scandinavian migrants, and was presumably of similar origin. Although the majority of northern European birds winter in France and Iberia, they are also known to winter in Wales. The second bird was probably still migrating at both points of capture.

3 19.10.90 Sheringham.
xF 26.01.91 Kidwelly, Dyfed, Wales. 397km WSW

3 12.10.88 Low Hauxley, Northumberland.
v 20.10.90 Waxham, Hickling. 350km SE

Fieldfare: It is typical of Fieldfares to winter in completely different parts of Europe during successive winters.

3f 03.12.88 Walpole Highway.
+ 21.11.90 Cunlhat, Puy-de-Dome, France. 820km SSE

Sedge Warbler:

4m 12.05.91 Earlham, Norwich.
v 29.07.91 Icklesham, Sussex. 194km S

Reed Warbler: A scarce migrant at the Sheringham site, this bird arrived with Scandinavian 'drift' migrants and was clearly of continental origin. Such birds tend to return to their northern European breeding grounds later than their British counterparts,

so the apparently late date of 26th May at Beaugency is probably unremarkable.

The second bird was Norfolk's first recovery connected with the 'European Migrant Birds in Africa' project in Northern Senegal (Norfolk ringers have been much involved at Djoudj). Although the majority of *Acrocephalus* warblers caught at Djoudj are Sedge, the date was typical for British Reeds which pass through in late March and early April.

Additionally there were three interchanges between Earlham, Norwich, and the major ringing site at Icklesham, Sussex.

3 28.08.90 Sheringham.
v 26.05.91 Beaugency, Loiret, France. 575km S

3J 09.08.88 Weybourne, Sheringham.
v 08.04.91 Parc National du Djoudj, Senegal. 4,341km SSW

Chiffchaff: Confirmation of the route taken southwards.

4m 12.04.91 Shimpling, Diss.
v 01.11.91 Vilamoura, Faro, Algarve, Portugal. 1,853km SSW

Greenfinch: A good year for long movements with six in excess of 150km, and a further five of between 100 and 150km). Only the two most distant are shown below.

6f 03.02.91 Shifnal, Shropshire.
v 12.04.91 Shimpling, Diss. 241km E

5m 03.08.90 Broomscott Common, Garboldisham, Diss.
v 02.12.90 Cirencester, Gloucestershire. 232km SW

Redpoll: The recovery site in Scotland was a mere 15 kilometres south of Cape Wrath.

4 01.01.91 Earlham, Norwich.
x 21.07.91 Old Shoremore, Highland Region, Scotland. 759km NNW

Snow Bunting: An example of winter site fidelity and the longest movement of the year are shown in full. Two additional birds caught at Hunstanton had been ringed during previous winters in Grampian and Cleveland respectively, whilst another travelled from Hunstanton to Humberside. Birders are asked to scrutinise Norfolk flocks for colour-ringed birds and to report sightings please. An article on the racial origins of this species will appear in a future Report.

4f 19.02.89 Titchwell, Hunstanton.
v 03.02.91 Hunstanton. 7km WSW

5f 22.03.89 Lecht, Grampian, Scotland.
v 02.01.91 Hunstanton. 527km SSW

Classified Notes

These notes are based on Birds of Norfolk (1977 edition). Attention is drawn to migration records appearing in the bulletins of Cley Bird Club and also featuring in NOA's Annual Report. In addition, the NARVOS Report for 1991 contains considerable detail regarding distribution in West Norfolk.

The order used is that of Voous (1977) List of Recent Holarctic Bird Species. Observations refer to 1991, unless otherwise stated. To save space, all but the most essential initials have been omitted. Reeords are of single birds unless otherwise stated.

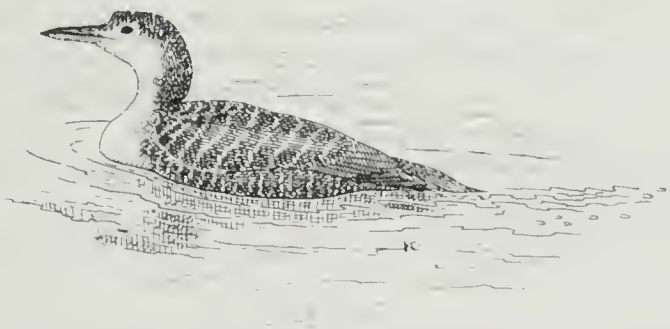
Red-throated Diver: Coastal reeords until early April and from Aug 19th with out-of-seasons sightings of 8 singles at Cley between June and Aug and 2 off Sheringham June 27th.

Highest counts: 94 Horsey Nov 16th, 52 Paston March 3rd, 60 Sheringham Jan 28th and 90 Nov 30th and 74 Holme Feb 19th.

Inland: Denver Sluice Jan 8th, Ten-mile Bank Jan 13th-16th, Wells Boating Lake March 2nd and Breydon Nov 14th.

Black-throated Diver: Wintering birds off Sheringham (2) Jan 28th, Titchwell Jan 5th, Thornham Point Jan 27th, Holme Feb 20th and Hunstanton Jan 25th. During spring off Horsey Mareh 30th, Overstrand Mareh 10th and Sheringham May 28th.

First in autumn 2 Cley Sept 27th followed by ones and twos off N/E coasts until year-end although few after Nov; also 3 off Winterton Sept 29th. Inland: Breydon Feb 17th, Ormesby Broad Dec 27th-31st when another at Surlingham.



Great Northern Diver (*Keith Colcombe – Richard Richardson Award Winner*)

Great Northern Diver: Coastal singles Sheringham to Hunstanton up to end of March; also 2 Thornham Point Jan 27th and 2 off Hunstanton Feb 1st. During May four or 5 in breeding plumage lingered between Burnham Overy and Holme (at latter site present daily 18th to 27th); also single off Holkham May 18th.

In Autumn from Sept 28th, but mainly Oct/Nov. Majority singles, oeeasionally 2, 3 or 4. Four Dec oeeurrences. Inland: Potter Heigham Dee 31st.

Little Grebe: Concentration of 40 breeding pairs Holkham NNR. Largest groups: Hickling Candle Dyke 21 Feb 17th and Snettisham 62 Jan 24th and 55 Nov 9th. Unusual was one at sea Horsey Feb 17th.

Great Crested Grebe: Large gatherings: 53 Breydon June 24th, 76 July 31st and 70 Aug 4th; 40 Titchwell Oet 8th, 55 Holme Oct 18th and 65 Snettisham Sept 29th.

Red-necked Grebe: Other than 2 Blakeney Point Jan 6th and 6 Hunstanton on 30th coastal singles Cley Jan 1st, Holme Jan 12th, Titehwell March 16th and Sheringham May 6th and June 27th/28th.

Autumn coastal records from Aug 26th with 61 coastal reports (Aug 5, Sept 3, Oct 29, Nov 17 and Dec 7). Mainly singles but twos and threes frequent with 5 Hunstanton.

Inland: Blickling Jan 1st-13th, Gunton Jan 4th, Barton Feb 2nd, Breydon/Burgh Castle Feb 2nd-17th, Ormesby juvenile Sept 20th-22nd, Colney GP Nov 16th-Dec 12th and

Rollesby Dec 30th/31st.

Slavonian Grebe: During opening months up to 10 Jan and 20 Feb between Hunstanton and Titchwell, together with 23 additional North coast records until May 3rd. Mainly 1/2 birds but 3 Blakeney Point Jan 13th. Another made a prolonged stay at Snettisham Feb 16th to April 6th. Only East Coast report: Yarmouth Jan 7th picked-up on beach and later released on Ormesby Broad.

In Autumn from Sept 13th with numerous reports Oct onwards. Maxima 8 Cley Nov 11th; up to 6 Holkham Bay Oct 13th to Nov 23rd; 7 Titchwell Dec 11th; 8 Holme Nov and 14 Dec; 6 Hunstanton Oct 15th, 5 Nov 16th and 6 Dec 6th. Only report east of Sheringham: Paston Nov 5th.

Inland: Barton Jan 12th/13th and Feb 23rd; Breydon Jan 9th, another Jan 16th-Feb 14th and Feb 17th; Horsey Mere Jan 19th; Gunton Jan 3rd-9th; Hickling Jan 27th; Martham Jan 2nd, March 2nd, March 6th-31st, April 3rd-6th, Nov 9th and Nov 30th; Norwich (Foundry Bridge in city centre) Feb 26th-28th and UEA Broad March 6th-16th and Ranworth Jan 19th.

Black-necked Grebe: Hunstanton: Singles almost daily Jan 30th-Feb 12th; Holme Jan 31st and Oct 11th-13th; Lynn Point Feb 9th; Snettisham April 10th-24th (summer plumage); Weybourne April 12th (summer plumage); Rockland June 4th-6th (summer plumage); Thornham Point Oct 12th; Holkham Oct 20th; 23rd; Cley Nov 5th and 11th and Dec 4th; Horsey Mere Dec 7th/8th and Breydon Dec 22nd-31st.

Fulmar: Limited breeding season information: Sheringham/Weybourne: Only 19 fledged due to predation probably by Foxes; Hunstanton 50 young on ledges Aug 8th.

Largest passage movements: 400 Sheringham Feb 8th, 550 Cley April 30th, 100 per hour Blakeney Point Sept 29th and 1200 Paston Nov 19th.

Blue-phase individuals: Cromer Nov 19th; Sheringham Feb 8th, March 31st/April 1st, and July 20th/21st and Cley April 30th.

Inland: Welney dead April 27th where another May 23rd, Filby Broad July 13th and Holkham fresh-marshes Aug 20th-23rd regularly patrolling overhead.

Sooty Shearwater: Winterton north April 20th (ADB) – only a single previous spring record: Holme May 22nd 1984. Autumn: Sept 5th to Nov 19th on 6 dates in Sept, 5 in Oct and 2 in Nov. No large passage, maxima 3 Waxham Sept 6th, 4 Sheringham Sept 29th and 5 there Nov 19th.

Manx Shearwater: Winterton April 22nd, 2 Sheringham/Cley/Blakeney Point April 30th and 2 Blakeney Point May 1st.

Light summer/autumn movements June 15th to Oct 19th. Only double-figure counts (apart from 30 Ousemouth Oct 19th) occurred Sept 29th (when NE winds and heavy rain) when 10 Winterton, 15 Paston, 22 West Runton, 30 Sheringham, 85 Cley and 17 Holme.

Mediterranean Shearwater: Holme Oct 18th (*per* GH).

Storm Petrel: Cley west July 26th (MAG); Sheringham Oct 19th 1/2 east (GMC PJH BWJ); Cley Oct 20th (AJP) and Downham Market one picked-up and taken to Docking RSPCA Nov 30th.

Leach's Petrel: Highly unusual mid-April movement during strong NNE winds: Sheringham 5 east and 2 west on 17th, Wells one freshly dead in field on 17th, Lynn Point 2 on 17th with another on 19th.

More in Autumn than usual: Winterton Oct 18th/19th, Waxham Sept 6th, Walcott Sept 28th, Sheringham 2 October 18th, Cley Sept 1st, 3rd, 11th, 29th, Oct 6th and Nov 5th, Blakeney Point 10 east Sept 29th, Holkham Bay Sept 11th, Burnham Overy Sept 11th,

Titchwell 3 Sept 11th, Holme Aug 17th, Sept 3rd, 20th with 2 on 18th, 19th, 29th and Oct 18th-21st and Lynn Point Oct 19th.

Gannet: Largest movements as usual during Sept/Oct. Peak numbers achieved Sept 29th (350 per hour Blakeney Point and total of 1,385 Paston). Inland: Flitcham immature Sept 20th; Elsing adult Sept 29th and Breydon adult Oct 26th.

Cormorant: None bred at Narford: 'birds discouraged'. Up to 14 pairs have bred here since 1988 at Norfolk's only breeding colony. Summer records include Breydon where 28 May, 41 June and 105 July. Roost details: Up to 100 now regular at Fritton Lake in winter; Ranworth 329 Jan, 225 Feb, 232 March, 76 Sept, 327 Oct, 234 Nov and 170 Dec; Titchwell up to 102 Aug/Sept apparently roosting on fresh-marshes; Snettisham 28 Aug, 31 Sept, 33 Oct and 37 Dec and Welney 165 Jan, 163 Feb, 129 Nov and 130 Dec.

Shag: Up to 3 at Yarmouth, Overstrand, Cley, Holme, Hunstanton and Snettisham during Jan, with more recorded in Feb including 6 at Overstrand and 7 at Sheringham. Four at 3 sites in March, but no April or Sept sightings. In summer singles at Paston, Horsey and Sheringham. Present at 8 localities Oct onwards (maxima 6 Horsey Gap Oct 22nd, up to 6 in Brancaster harbour Dec and up to 10 roosting on Hunstanton cliffs from Oct 23rd).

Inland: At least 4 Norwich Feb 16th to March 4th, one being found dead March 1st; Wereham stranded Feb 15th; Ten-mile Bank Oct 1st; Cockley Cley Oct 23rd and Welney Oct 27th.

Bittern: County total remains at a low level with only 8 boomers (as in 1990): 5 on North coast and only 3 in Broads. Winter records from Berney, Breydon, Buckenham Tofts, Haddiscoe, Hickling, Holme, How Hill, Reedham, Rollesby, Snettisham, Stanford, Welney (6 dates) and Woodbastwick. See page 268

Night Heron: Sparham: An immature Oct 2nd (CS) was undoubtedly aWitchingham Wildlife Park escape. At least one pair bred there in 1991 on the aviary roof; the young were not ringed.

Little Egret: Cley flying west at 0840 hours May 13th (JGT); Hickling July 18th (GH) and 20th (DFK) and Strumpshaw Sept 7th-9th (PBK RSPB) moving to Breydon on 10th and remaining there until Oct 13th (PRA TEB) – the latest county sighting.

Grey Herons (*Antony Disley – Richard Richardson Award Winner*)

Grey Heron: Numbers of occupied nests at heronries as follows: Barton 8, Cockshoot 3,

Didlington 13, Fleggburgh Common 2, Gt. Witchingham 31, Hilgay 46, Holkham Park 4, Hunstanton Park 8, Islington 58, Narford 3, North Elmham 13, Quidenham 10, Ranworth 4, Snettisham 9, Sturston Carr 16, Wolterton Park 8. None nested at Kerdiston, Shadwell, Whitwell or Upton.

Three migrants in off sea Blakeney Point Sept 29th and 6 arrived Holme Oct 23rd.

Following information from Wolterton Park where 4 nests in 1990 the county total for that year increases to 303 pairs.

Purple Heron: Cley/Blakeney Point June 16th (MAG AMS).

Black Stork: Stiffkey June 16th/17th (RM *et al*); on the latter date alighted in the same oak as a Red Kite. Presumably the same bird was responsible for sightings at Santon Downham July 3rd, Thursford on 4th, Swanton Novers area 5th to 7th and again on 16th and near Thursford on 18th.

Sixteen previous county records.

Glossy Ibis: Welney Jan 3rd (Millet's Wash) and 12th (Mott's Leg Wash) (RSPB).

This bird, first identified 30th Nov 1990 at Welche's Dam, Cambs, appeared on the Norfolk section of the Ouse Washes at Welney (Radcliff's Wash) 19th Dec (JAR AD).

Spoonbill: March sightings at Titchwell and Holme 23rd and at Holkham next day, assumed the same bird. Singles in April at Breydon on 21st, Cley on 23rd and Holkham 18th and 29th/30th. May/June the favoured months with ones, twos and threes frequently moving between Horsey, Hickling, Salthouse, Cley, Blakeney, Holkham, Burnham Norton, Burnham Deepdale and Titchwell.

During July 1-2 at Breydon/Berney on 7th, 19th/20th and 28th; Hickling on 10th, 23rd/24th and 27th, Cley until 6th, Titchwell on 30th/31st and Snettisham on 29th. Only Aug sighting at Titchwell 1st-5th and in Sept at Breydon 14th/15th, Hickling 15th-25th with 2 at Cley/Salthouse 23rd-27th where latest bird noted Oct 1st.

One ringed as a nestling at Terschelling, Holland, 20th May 1989 was detected during the summer in Kent and at Breydon, Hickling, Horsey, Titchwell, Holme and Benacre (Suffolk).

Bewick's Swan: Welney: Totals include 2,450 Jan 14th, 2,659 Feb 18th, 1,080 March 4th and 60 March 27th. Autumn return from Oct 14th (2) with 1,438 Oct 31st, 2,043 Nov 11th and 4,163 Dec 31st (Reserve record) when further 1,300 on Cambs section of Washes. 11% juveniles Nov/Dec. 44 birds became casualties striking overhead wires (37 killed, remainder injured and unable to fly again).

Breydon/Berney: 167 Jan, 150 Feb and 56 Nov/Dec. Horsey/Waxham: 53 Jan, 90 Feb/March and 50 Dec. Ludham/St. Benet's: 188 Jan, 182 Feb, 140 March and 40 Dec.

Whooper Swan: At Welney peak of 561 Jan 11th. First 2 of autumn Sept 28th with 606 Dec 31st – a Reserve record (with a further 40 on remainder of Washes); 25% juveniles Nov/Dec. 4 killed at Welney during 1991/2 winter striking overhead wires.

Horsey/Waxham (roosting Hickling and Horsey): Up to 85 Jan, 37 Feb, 40 March and 42 Nov/Dec. Ludham (roosting Ranworth): Up to 20 Jan, 18 Feb and 16 March.

Bean Goose: Yare Valley: Jan started with 441, peaking at 485 on 13th, but fell back to 396 by 31st. The Feb peak was 410 on 9th with 400 still on 21st but thereafter there was a rapid exodus with only 250 on 25th and 145 on 27th: the last 122 left on March 1st. The 14 neck-banded birds were located on their staging area in Jutland, Denmark.

The first 5 returned on Nov 14th, followed by the main arrival (of 198) on 19th. This influx included 11 neck-banded birds, all of which had wintered in the Yare Valley in 1990-91 though at least one other of the 14 from that winter remained in Jutland. Small arrivals of 15 (Nov 20th), 17 (Nov 21st), 33 (Nov 23rd), 28 (Nov 25th), 57-60 (Dec 5th

or 6th), 17 (Dec 7th), 21 (Dec 9th or 10th) and 12 (Dec 14th or 15th) then took place to reach a maximum of 296 in Nov and a peak of 405 by Dec 20th; numbers remained fairly stable to the year-end.

Elsewhere, only records were 7 west at Blakeney Point Feb 17th and 9 at Welney Dec 23rd and 24th.

Pink-footed goose: Peak totals noted in co-ordinated counts for the three roosts, at Snettisham, Scolt Head and Warham sands, were 42, 950 Jan, 23,850 Feb and 4,560 March. During the second-winter period: 6,620 Oct, 19,960 Nov and 35,060 Dec.

Latest dates for departing birds: Holkham fresh-marshes May 10th and Lynn Point May 18th. Early returning birds in late Sept: Holme 11th, Titchwell 17th, Cley and Snettisham 22nd and Holkham 24th.

Records away from the main roosts and feeding areas: 48 Breydon Water Jan 4th and up to 374 Heigham Holmes Jan 1st to Feb 17th with 120 there Nov 28th and 25 Dec 8th.

White-fronted goose: Monthly maxima of the four main flocks were: Yare Valley – 296 Jan, 240 Feb, 140 March, 100 Nov and 183 Dec. Holkham – 185 Jan, 220 Feb, 220 March, 8 Oct, 78 Nov and 262 Dec. Heigham Holmes – 54 Jan, 30 Feb and 17 Nov. Berney Marshes – 75 Jan, 20 Feb, 50 March and 20 Nov.

First arrivals took place at Holkham Oct 29th and Nov 18th in the Yare Valley. Latest spring dates all in March: Yare Valley (1st), Berney Marshes (2nd) and Holkham (11th). At least two feral pairs bred at Cley.

A bird of the Greenland race Snettisham Jan 27th.

Lesser White-fronted goose: An adult, presumed to be of wild origin, with Pink-footed Geese Nov 9th-23rd in the Holkham/Overy Marshes/Docking/Stanhoe area. Five feral adults located in Norfolk during July goose census.

Greylag goose: The July goose census revealed a total of 5,083 (1,421 juveniles).

Canada goose: The July goose census revealed a total of 2,636 (439 juveniles).

Barnacle goose: Despite 18 being located in July goose census and feral birds noted in many sites, there were some groups of probable wild birds. Early in the year the three groups were: 25-28 birds which started in the Haddiscoe area Jan 29th-Feb 3rd and then moved to Cley/Blakeney Fresh marsh Feb 5th-23rd; up to 29 at Holkham Feb 10th-21st and up to 8 on Heigham Holmes Jan 1st-Feb 16th.

In autumn small arrival of wild birds on Oct 2nd, with 4 at Breydon Water and 18 at Cley. On 3rd 5 at Titchwell, then Holme remaining to 12th, while 3 more joined the Cley flock. The 21 at Cley contained 3 colour-banded in Spitzbergen and they were back at Caerlaverock later in the autumn; they remained here to 6th. On 5th 6 flew NW past Waxham followed by 7 at Holme Nov 3rd. A large flock of 59 were at Lound and Haddiscoe Dec 26th and 27th.

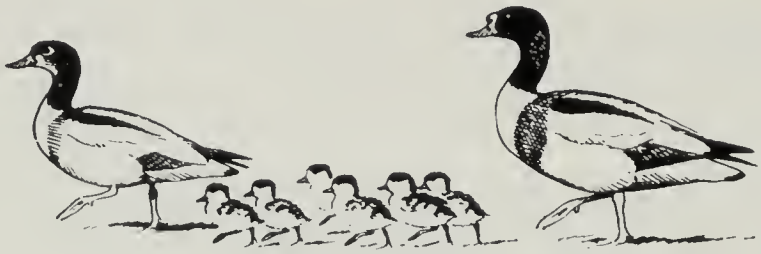
Brent goose: The co-ordinated counts for the Wash and North Norfolk coast are presented in tables on pages 278-279 Elsewhere there were up to 30 Breydon Water in the first-winter period and 20 late in the year. Breeding success was good with up to 39.4% young in early winter flocks at Holkham. A leucistic male at Brancaster returned with 2 juveniles, its first success since it appeared in 1982!

Inland, 36 Welney Jan 28th, one Strumpshaw Feb 14th, 11 over West Acre Oct 8th and 7 Nov 3rd, 6 Welney Nov 15th and one Lynford GP Nov 16th.

Small numbers of the pale-bellied race, *hrota* were noted: adult & 3 juveniles Salthouse Feb 17th, up to 3 Wells Feb 26th-March 10th, up to 15 Lynn Point March 3rd-12th, and Blakeney May 19th. An unusual set of sightings at Sheringham were 11 feeding Feb 16th and 17th, with additionally 4 west Feb 15th, 9 west 16th and 2 east 17th.

Black brant: 1985: Additional record Thornham/Holme Dec 12th/13th (VE). 1991: Lynn Point March 3rd, 28th, Apr 6th and May 5th (CD).

Egyptian Goose: The July goose census located a total of 846 birds (610 adults, 186 juveniles, 50 un-aged), a record total. Main numbers: 121 Holkham Park and 48 Holkham fresh marsh, 91 River Bure in the Broads, 90 Cranwich GP, 63 Lyng Easthaugh GP, and 41-48 at Blickling, Coston Lake, Hillington GP, Narford Lake and Sennowe Park. The amazingly long breeding season was illustrated with downy young Taverham Feb 26th and Lenwade GP Nov 25th.



Shelduck: At Ousemouth maximum monthly counts of 2,850 Feb 3rd, 1,375 March 3rd, 970 April 14th, 470 (90% adults) Aug 11th and 1,400 Oct 27th.

At Snettisham 588 Jan 19th, 1,188 Feb 3rd, 410 March 17th, 197 April 18th, 115 May 17th, 270 July 15th, 50 Aug 28th, 137 Sept 10th, 1,264 Oct 27th and 760 Nov 25th.

Reduction in numbers of successfully breeding pairs noted at Breydon, Blakeney Point and Snettisham.

Mandarin: Still remains relatively scarce in the county: pair Boughton Jan 13th-19th, pair Flitcham mid-March, Hillington Park and Sandringham May 11th, Stradsett Park July 19th, Thetford July 22nd, Didlington Aug 4th, Hardley Flood Aug 25th, 6 (4 drakes) Sandringham Sept 2nd, Surlingham Dec and Welney Dec 5th onwards.

Wigeon: Welney 10,683 Jan 14th, 6,121 Feb 18th, 5,612 March 18th, 4,630 Oct 17th, 5,713 Nov 11th and 9,190 Dec 31st. Holkham fresh-marshes monthly maxima of 5,810 Jan, 4,851 Feb, 3,180 March, 226 Sept, 2,300 Oct, 5,438 Nov and 7,700 Dec.

Elsewhere peak of 3,500 Breydon late Nov; at Buckenham/Cantley peak of 6,700 Jan 13th and 5,900 Dec 17th and maximum of 6,250 Cley Nov 3rd. At least 30 summered at Cley with 2-3 pairs at Holkham, but no evidence of breeding.

Gadwall: Peak counts of 128 Hardley Flood Sept 15th, 450 Gunton Park Sept 15th, 110 Cley July 8th, 200 Stanford Oct 27th and 137 Welney March.

Teal: Present in summer at Cley (20+) and Holme, but successful breeding only noted at Winterton. Maximum counts: 2,000 Cley Oct 29th, 1,506 Holkham fresh-marshes Nov and 1,287 Welney Dec.

Green-winged Teal: Holkham NNR drake April 20th to May 3rd (MESR VE *et al*).

Mallard: Welney maximum count 2,022 Jan 14th.

Pintail: Peak counts at Welney: 472 Jan, 130 Feb, 98 March, 500 Sept, 1,969 Oct, 900 Nov and 185 Dec. Elsewhere 170 Breydon Feb 18th, 400 west Blakeney Point Oct 10th, 700-800 Cley Nov/Dec and Tottenhill GP 530 Jan 2nd, 500 Oct 29th, 380 Nov 9th and 200 Dec.

Garganey: An early drake at Welney Feb 27th. Subsequently from March 13th at Breydon, Burgh Castle, Burnham Norton, Cantley BF, Cley, Hardley Flood, Hickling, Holkham NNR, Holkham Lake, Holme, King's Lynn BF, Pentney, Strumpshaw, Surlingham, Swanton Morley, Titchwell, Welney and Wissington BF. All records refer

to 1-2 birds apart from up to 4 at Welney. No evidence of successful breeding. Latest Cley Oct 19th.

Shoveler: Largest count 300 Hickling Oct 13th. At Welney 175 Jan, 260 Feb, 144 March, 209 Oct, 167 Nov and 126 Dec. Elsewhere 136 Berney March 4th. At Holkham NNR total of 17 broods.

Red-crested Pochard: Recorded at Blakeney, Cley, Colney GP, Hickling (2), Lyng GP, Norwich, Pentney GP, Potter Heigham, Ranworth and Tottenhill GP.

Detailed enquiries strongly suggest that individuals and small parties seen in Britain are not truly wild. 'There are currently about 10 times as many pairs in captivity in Britain as there are wild pairs in Holland and Denmark; and the captive and feral British population probably exceeds the wild population in Holland, Denmark and northern Germany combined' (*Birding World*).

Pochard: At Welney maximum monthly counts 1,210 Jan, 1,240 Feb, 278 March, 285 Nov and 540 Dec. In addition 100 Barton Broad Jan 12th, 156 Strumpshaw Feb 1st, 100 west Sheringham Feb 7th, 180 Magdalen Relief Channel Feb 19th, 310 Stowbridge March 1st, 110 Colney GP Feb 18th and 173 Wroxham Broad March 3rd. Breeding records include 11 broods Holkham fresh-marshes.

Single drake Pochard/Tufted type hybrids Tottenhill GP March 16th and Cley April 1st-9th.

Ring-necked Duck: Acle Bridge drake Feb 10th, at Ranworth Feb 16th, Wroxham 17th-25th and Belaugh 26th. Presumably the same bird Ranworth Dec 17th and Wroxham Dec 24th into 1992 (NB BWJ *et al*).

Ferruginous Duck: UEA Broad Norwich duck Dec 17th (RSL *et al*).

Tufted Duck: Largest winter counts: 150 Strumpshaw Jan 1st and Feb 9th, 300 Colney GP Feb 17th, 242 Sparham GP Feb, 135 Welney March, 264 Swanton Morley GP Dec 1st and 159 Wroxham Broad on 21st.

Scaup: Major coldweather movements noted in Feb particularly at Sheringham where 80 west and 80 east on 7th and 410 west and 23 east on 11th. Elsewhere on coast at this time 43 west Holme on 5th (when 14 also on sea), 70 Hunstanton 10th-13th, 83 north-west Sea Palling in 2½ hours on 11th and 80 Titchwell on 12th.

During this period inland sightings from a variety of localities including 19 Magdalen Relief Channel. In summer at Breydon July 21st with 2 there Aug 10th.

During second-winter period counts from many coastal sites Sept 28th onwards; maxi-

ma 28 west Paston Sept 29th and 17 Holkham Bay and Snettisham Oct/Nov.

Eider: Hunstanton: Present all year with 130 Dec 13th. At Holme peak of 150 late Feb. A notable count of 85 Brancaster July 3rd, largest movement Nov 20th when 500 west off Sheringham.

Long-tailed Duck: Extreme dates April 29th and Sept 27th apart from a remarkable record of 2 off Sheringham June 28th. Usual concentration Hunstanton to Brancaster with peaks of 50+ Feb 19th and 74 Dec 9th. Smaller regular numbers in Holkham Bay where maximum 11 in Dec and Snettisham Pits where up to 3/4 in Jan/Feb and Oct-Dec.

Inland: Barton Broad on several dates Jan-March, 2 Ranworth Broad Jan 18th, Wroxham Broad April 29th, Horsey Mere Nov 7th, Felbrigg Lake Nov 12th and in Fens at Welney Jan 31st and Pentney GP Feb 3rd-10th.

Common Scoter: In first-winter period low numbers at all sites. For example only 40 Holkham Bay Jan/Feb; later 350 Hunstanton May 25th, 580 Sheringham June 28th and 150 Cley July 26th.

A remarkable influx during Oct: 900 already off Holme by Oct 1st, but very large numbers almost all immatures passed west along the North coast between 20th and 22nd. Peaks as follows: 2,645 Holme and 2,000 Blakeney Point on 20th, 1,500 Cley and 1,100 Holme on 21st and 1,500 Sheringham and Cley on 22nd. 4,000 passed Holkham Bay over this three-day period. A remarkable build-up then occurred at this last-named site where 1,300 Oct 23rd increasing to 2,500 Oct 27th, 3,100 Nov 10th and 4,000 Dec 4th to the year-end.

Elsewhere high numbers off Hunstanton where 700 Oct 28th and 800 Nov 10th and Waxham/Horsey where 1,500 Nov 11th and up to 400 till the year-end.

Inland: Breydon April 21st and 4 May 23rd and Filby Broad Aug 1st.

Surf Scoter: A drake passed Cromer, Weybourne and Cley Oct 20th (MPL MJS DES).

Velvet Scoter: Minute numbers in first-winter period: Hunstanton Jan/Feb, 3 Overstrand Jan 11th and up to 3 Holkham Bay Feb. Later Holme Aug 12th and 31st and Sept 7th. In Autumn earliest 2 Cley Sept 14th followed by widespread reports of small numbers off N/E coasts from end of Sept. In Holkham Bay 7 Oct 20th rising to 82 by end Nov with peak of 157 Dec 11th. About the same time 61 Hunstanton Dec 3rd.

Inland: Sparham duck Jan 1st.

Goldeneye: During first winter period largest numbers: 27 Breydon Feb 17th, 28 Holkham Bay Jan with 48 there in Feb, 35 Holkham Lake March 27th, 35 Brancaster Feb 13th and 52 Snettisham Feb 20th; 2 late birds Holme May 18th.

Largest numbers in the late Oct coastal wildfowl passage when 33 Weybourne, 34 Holkham Bay and 170 Holme – all Oct 20th. At year-end 51 Snettisham Dec 22nd. Inland: 6 Colney Feb 10th with 11 there on 17th and an unseasonal one at Acle Bridge June 1st.

Smew: Only Jan record: Pair at Hickling Jan 25th/26th. Cold weather resulted in a Feb influx from 2nd and particularly from 8th when the Broads favoured with 2/3 at many sites. Influx also reached other parts of the county.

Records at this time from Breydon/Burgh Castle, Cantley, Colney, Denver Sluice, Eau Brink, Filby, Glandford, Hickling, Holkham, Holme, Horsey, How Hill, Hunstanton, King's Lynn, Lynn Point, Magdalen Relief Channel, Martham, Norwich (Carrow), Pentney, Ranworth, Rockland, Rollesby, St. Germans, Snettisham, Sparham, Stowbridge, Strumpshaw, Tottenhill, Wells, Welney, Wiggenhall St. Mary and Wissington BF.

Several observations of 6 together with maxima of 8 Breydon Feb 11th when 10 (all drakes) Eau Brink in Fens. Last: 2 Holkham March 7th.

In second-winter period Brancaster Dec 1st and 2 Martham Broad Dec 13th.

Red-breasted Merganser: Highest numbers in West at both ends of year, particularly during Feb between Denver Sluice and Ten-Mile Bank when a large assembly peaked at 54 (including 30 drakes) on 13th; also 40+ Lynn Point Feb 10th.

In second-winter period 50 Hunstanton Nov 16th and 57 Snettisham Nov 19th.

Goosander: Small numbers throughout the county at both ends of year. Maxima 11 Stowbridge Jan 13th, 10 Paston Feb 3rd, 10 St. Germans Feb 11th and 13 Denver Sluice Feb 14th; 10 Walcott, 10 Blakeney Point and 12 Holkham Bay all Dec 29th.

Ruddy Duck: Ones and twos at Barton, Bittering, Blickling, Breydon, Colney, Gunton, Hardley, Hickling, Hillington, Hoveton Great Broad, Lynn Point, Ormesby, Thompson Water, Titchwell, Welney and Wroxham. Maximum 3 south-west off Hunstanton Oct 17th.

Honey Buzzard: A pair summered at one site, extreme dates being May 28th to Sept 17th. A third individual present Aug 4th-28th. A single at another potential breeding site in July.

Migrants at Wells May 19th, Hilgay May 26th, Holkham June 5th, Roydon Common June 8th, Burnham Norton July 11th and Cromer July 30th.

Red Kite: A large number of sightings, but many obviously relate to same wandering birds: Jan: Holkham Bay 4th, Fowlmere 13th and Burnham Overy/Thorpe 13th/14th. March: Holkham Bay and Stiffkey 3rd, Shereford 4th, Wroxham and Skeyton 29th. April: Horsey, Overstrand, Glandford, Cley and Binham 2nd, Hunstanton 3rd, Sheringham 4th, Halvergate 5th, Winterton, Caister and Halvergate 7th and Strumpshaw and Brundall 10th/11th. May: Wolferton/Snettisham/Wootton 18th-28th. June: Stiffkey 15th-20th. July: Horsey and Hardley Flood 9th. Aug: Mautby 2nd-6th and Swanton Novers 5th the latter bird being the only individual mentioned as being wing-tagged.

Marsh Harrier: 85 adults raised 75 young to free-flying stage. 18 nests in cereals. One brood of young almost certainly removed from nest by gamekeeper.

Broadland winter roosts held a combined peak of 12 birds Jan-March and 11 Oct-Dec. Wintering birds also at Strumpshaw Jan/Feb (2) and Nov/Dec, Berney Jan (3), Feb and Dec. Widely reported on both spring and autumn passage.

Hen Harrier: Recorded up to April 27th (Hickling) and from Sept 20th (Titchwell) with single unseasonal immature males at Holme May 18th and at Martham June 27th (JRW).

The main Broadland winter roost held up to 10 Jan-March and 6 Oct-Dec with up to 5 at Strumpshaw in Feb. Two North coast roosts held a maximum of 7 and 3 birds both in Nov while a roost in the West held 4 birds in Dec.

Montagu's Harrier: Recorded April 25th (Holkham) to Sept 5th (Welney). Breeding numbers down on 1990 with 2 nests in cereals producing 7 flying young. Farmers again co-operative with nest protection. Otherwise singles briefly at 9 sites.

Goshawk: Up to 3 pairs in the county, together with a migrant at Cley Oct 6th.

Sparrowhawk: Appears to be still increasing with observers reporting 'sightings on 95% of birding trips' and 'almost seen daily in some areas'. A wide selection of prey species reported including Wood Sandpiper, Redshank, Snipe, Dunlin, Collared Dove, Crossbill, Greenfinch, House Sparrow, Blackbird, Robin, Pied Wagtail, Blue Tit, Skylark and Starling. Can no longer be regarded as a woodland species with examples regularly hunting over open fen farmland, marshes, saltings and dunes.

Buzzard: One or 2 at Massingham Heath for much of year, increasing to 7 in the air together during Sept and 3-5 in Oct/Nov. Possibly 2 birds of captive origin, but later counts suggest successful breeding or an influx of migrants. Otherwise scattered reports from 31 areas, mostly in spring (March-May) and autumn (Sept-Oct). Status in the county may be distorted as reports speak of a substantial number of releases in the past year.

Rough-legged Buzzard: Recorded in first part of year at Sustead Jan 3rd, Horsey/Waxham Feb 11th/12th, Horsey March 28th, Horsey/Winterton/East Somerton April 2nd-9th and 20th-27th and Winterton May 10th. Also at Massingham Heath/West Acre March 20th and most of April.

Long-staying autumn arrivals at Holkham/Stiffkey Oct 27th-Nov 12th; same or another at Warham/Stiffkey Dec 22nd-31st. Also briefly in Oct at Holme 3rd, Syderstone 11th, Burnham Market 12th and Weybourne 28th with further record at Waxham Dec 4th.

Osprey: Extreme dates April 26th (Winterton) and Oct 12th (Ketteringham). Noted at 30

sites with a distinct April/May peak. Long staying birds at Strumpshaw Sept 12th/13th and Sept 22nd to Oct 6th and at Ketteringham Lake Sept 16th to Oct 12th. Some duplication of sightings particularly at north coast sites. A bird in May was trapped in netting over trout lakes at West Acre. It was taken into care by RSPCA for a few days before being released.

Red-footed Falcon: A female both at Titchwell (WP AJS PS) and Sandringham Warren (AH) May 26th.

Merlin: Widely reported from over 30 locations with an exceptionally late bird June 5th (Cley) followed by early returning migrants July 30th (Welney), Aug 11th (Terrington) and Aug 25th (Wells East Hills).

Main Broadland roost held 5-6 Jan to March and 4-5 Nov to Dec. A North coast roost contained 4-5 birds Jan-Feb and 3 Oct-Dec. Two other roosts held 2 birds each.

Hobby: Reported from 78 localities between April 11th (Wootton – particularly early) and Oct 5th (Winterton).

Breeding noted at 4 sites with probable pairs present at 4 other locations.

Peregrine: Recorded most frequently from Holkham NNR where an immature male Jan 1st to April 8th, adult female Jan 1st to March 23rd, adult male Warham saltmarsh Feb 16th and immature female Burnham Norton May 2nd.

Autumn records from Burnham Norton juvenile Aug 22nd, Wells Aug 28th and Sept 28th/30th, adult female Holkham Oct 8th-26th together with adults Nov 18th, Dec 12th and 20th. Cley/Blakeney Point reported on 10 dates Jan 8th-May 10th and 5 dates Sept-Oct with 2 unseasonal sightings June 5th and 8th. At Welney up to 2 adults on 14 dates Jan-March 3rd; also one other adult with jesses Feb 1st and 5th.

Reported from 10 other sites mostly March-May and Sept-Nov.

Quail: Extreme dates May 26th and Aug 8th. Noted at Egmere, Holme, Horsey, Kelling Quags, Ludham, Ringstead, Salthouse Heath, Titchwell, Wells, W. Runton, Weybourne and Winterton. Mostly calling individuals.

Golden Pheasant: Under recorded. Reported from only 9 sites (6 in Breckland). Maximum group 14 at Wayland Wood Dec.

Water Rail: Only indication of breeding was at King's Lynn BF where a juvenile Aug 25th and Sept 1st. During cold weather in Feb reported feeding on remains of Dunlin at Snettisham and on Mute Swan corpse at Welney.

Corncrake: Cley April 27th (NL) – first county record since 1987.

Crane: The Broadland group of 6 was joined by an immature from at least March 23rd-April 6th. Six again present Nov-Dec decreasing to 5 by late Dec.

Isolated sightings of 1-3 from Cley April 6th, Drayton April 9th, Buckenham April 14th, Cley and Burnham Overy May 8th and North Walsham June 8th.

Oystercatcher: Snettisham counts were lower, reflecting the poor mussel and cockle crop in The Wash; the white bird returned July 25th. Maximum counts there: 6,000 Jan, 5,000 Feb, 8,620 March, 1,220 April, 2,200 May, 2,100 June, 2,440 July, 8,700 Aug, 10,000 Sept, 6,580 Oct, 7,700 Nov and 7,000 Dec. Also 404 Breydon March 12th.

Coastal breeding pairs included 187 Blakeney Point, 71 Scolt – no young reared and 72 Holkham NNR.

Avocet: A total of 126 pairs reared 110 young. Some Fox predation at one site.

Winter records from Breydon of 2-3 Jan-Feb, Martham Feb 17th, Cley Feb 9th to Dec 19th, Burnham Overy 2 Feb 4th, Holme Feb 8th/9th, Snettisham Jan-Feb and Nov 29th.

A few inland records: Welney 2 March 30th-April 1st, Wissington BF May 8th and

Pentney GP Sept 3rd. Largest concentrations: 104 Cley April 16th and 147 July 8th, 83 Titchwell in May and 46 Ousemouth March 9th where 90 in Aug.

Stone Curlew: Reported March 13th (Brecks) to Oct 4th (Snettisham). 39 pairs fledged young in Norfolk Brecks where two early autumn assemblies contained 14 and 11 birds Aug 28th.

Little Ringed Plover: Reported March 10th Holme to Sept 22nd (Cantley BF). 29 territorial pairs, but 9 of these reported as 'not breeding' or 'failing'.

Largest autumn concentrations: Cantley BF 20 July 13th-30th and 15 Aug 1st and at Cley where 15 July 6th.

Ringed Plover: Coastal breeding pairs: 20 Cley, 83 Blakeney Point 'low success', 57 Holkham NNR, 38 Scolt – no young reared, 20 Brancaster, 12 Titchwell and 20 Holme – 'poor success'. Only 5 inland breeding pairs reported.

Concentrations of migrant spring *tundrae* peaked at 267 Breydon May 25th. Returning autumn flocks in Aug included 346 Breydon 28th, 140 Cley 17th, 215 Wells 26th, 220 Burnham Overy 18th, 450 Brancaster-Scolt Head 22nd and 280 Snettisham 12th.

Kentish Plover: A typical set of sightings from Breydon: male May 10th-12th with 2 males on 11th, female May 25th/26th and male June 1st and 6th/7th.

Cley female April 10th/11th and male May 7th. Titchwell female May 26th/27th.

Dotterel: Three extremely early birds at Waxham/Horsey March 26th. More typically 1-2 Hemsby/Winterton May 13th-18th and 2 May 28th, 5 Weybourne May 14th-17th, Cley May 21st, Snettisham May 16th and 7 Ten-mile Bank May 6th.

Autumn migrants at Winterton Aug 21st-25th, Cley 2 Sept 2nd and Burnham Overy Aug 19th.

Pacific Golden Plover: Cley/Blakeney fresh-marshes Dec 3rd-6th (MAW SJMG)."The third county example"

Golden Plover: Largest winter flocks: Breydon 1,600 Jan, 1,500 Feb and 2,000 Nov/Dec; Ludham 1,400 Jan and 1,500 Nov; Holkham 1,250 Dec; Titchwell 1,400 Nov; Holme 1,150 Nov; Snettisham 1,050 Dec; Shipdham 5,000 Jan and Wereham 1,800 Jan.

Grey Plover: The Wash at Snettisham held 720 Feb, 250 March, 620 April, 2,450 May, 110 July, 320 Aug, 370 Sept, 155 Oct and 650 Nov. Other localities producing large counts were Breydon 108 Nov, Blakeney Point 383 Sept, Brancaster 200 May and Sept, Titchwell 400 Aug, Holme 616 March and 520 Sept and Lynn Point 470 May.

Inland: Cantley BF Aug 27th and Sept 18th-22nd, Saddlebow 5 Sept 1st, Pentney GP Nov 11th-22nd and Dec 6th-29th, Wereham March 21st, Wissington BF May 12th, 9 May 24th, May 26th and Welney May 13th and Oct 19th.

Lapwing: Two areas produced huge concentrations: At Ludham 9,000 Jan and 7,000 Nov while Breydon area held 11,000 Jan-Feb and a massive 16,000 Nov 29th/30th

increasing to 22,000 Dec 3rd prior to onset of severe weather. Other smaller flocks of 1,250 Titchwell Nov, 3,500 Thornham Dec, 4,400 west at Holme Oct 26th, 1,000 Castle Acre Oct, 1,500 Welney Dec and 5,000 Shipdham Jan.

At Holkham NNR 178 breeding pairs on fresh-marshes. Also 24 pairs at Holme fledged 14 young.

Knot: Wash concentrations at Snettisham: 55,000 Jan, 38,000 Feb, 15,000 March, 14,700 April, 10,500 May, 2,300 June, 5,900 July 15th increasing to 15,000 July 28th, 35,000 Aug, 16,000 Sept, 29,600 Oct, 78,000 Nov and 44,000 Dec.

Large high tide flocks also at Titchwell 18,000 Aug and 19,000 Sept and at Holme 17,000 Oct 26th.

Cold weather coastal movement in early Feb when 1,500 per hour off Paston on 3rd; 2,500 west at Overstrand on 3rd in half-hour and 2,500 passing Sheringham same day with further 1,800 there on 10th. Also 750 at Breydon at this time.

Inland sightings: Hickling May 12th and 27th and July 28th; Welney 2 May 29th-June 1st.

Sanderling: At Snettisham largest counts: 170 Jan, 100 May, 300 June, 500 July, 810 Aug, 130 Sept and 136 Nov. Also 527 Gore Point May, 119 Titchwell Aug and 223 Holkham Bay Oct.

A number of inland passage birds: Surlingham June 1st, Hickling 2 May 31st, June 4th, Sept 5th and 15th, Pentney GP April 28th and June 1st-3rd, Wissington BF May 14th, 3 on 13th, 4 on 24th, one 28th and June 1st and Welney May 6th, 11th and July 26th.

Little Stint: Spring passage May 12th to June 9th with records from Surlingham, Hardley Flood, Berney/Breydon (maximum 8), Hickling (maximum 9), Cley, Holkham (maximum 6), Titchwell, Holme, Lynn Point, Pentney GP and Welney (2).

An average autumn passage between July 21st and Nov 11th peaking in first half of Sept. Recorded at the following (maximum figure in brackets): Berney/Breydon (4), Cantley BF (6), Hickling (12), Salthouse (18), Cley (29), Holkham (6), Titchwell (16), Snettisham (6), Wissington BF (5), King's Lynn BF (2) and Welney (11).

Two isolated extreme dates of singles at Cantley BF Jan 1st and Blakeney Dec 7th.

Temminck's Stint: As usual most spring records from Cley and Hickling. Former site held a single on many dates May 14th-June 3rd with 2 May 18th-22nd and single June 26th-28th. At Hickling up to 5 birds May 21st-June 4th and 6 June 3rd. Other spring birds: Berney May 23rd, Hardley Flood 2 May 19th, Salthouse May 16th and 26th, Holkham NNR May 21st and 28th, Titchwell May 26th/27th, Pentney GP May 29th and Lyng Easthaugh May 24th/25th.

Autumn passage: Breydon July 31st, Cley July 10th/11th and 13th-16th and Titchwell Aug 15th and Sept 7th.

White-rumped Sandpiper: Cley an adult Aug 3rd to 7th (MF MAG *et al*) was found by an unknown German couple.

Pectoral Sandpiper: The poorest showing since 1980. An adult male at Welney Aug 26th to Sept 4th (JBK *et al*) followed by one at Cley Sept 15th (IGJ *et al*).

Curlew Sandpiper: Small numbers in spring at Breydon May 28th and June 6th/7th, Hickling 3 June 3rd/4th, Cley May 7th/8th, Holkham May 13th, 26th/27th and 30th/31st, Wissington BF May 24th and Welney April 22nd to May 9th.

A stronger autumn passage commenced with adults in late June/early July and juveniles from Aug 7th (Breydon) with stragglers remaining at Breydon and Snettisham Oct 27th and Cley Oct 29th. Largest groups at Breydon 24 Aug 3rd, 41 Aug 26th and 61 Sept 6th; Cantley BF 29 Sept 18th; Hickling 26 Aug 28th/29th; Kelling Quags 19 Aug 26th;

Cley 60/70 late Aug/carly Sept; Holkham NNR 23 Aug 25th; Brancaster 15 Aug 28th; Titchwell 31 Aug 29th/30th; Holme 16 Aug 31st; Snettisham 19 Sept 10th; King's Lynn BF 11 Sept 16th/17th and Welney 14 Aug 28th.

Small numbers (1-9) also at Pentney GP, West Acre and Wissington BF.

Purple Sandpiper: Reported up to April 8th (Hcacham) and from Sept 5th (Blakeney Point.) Wintering numbers still at a rather low level compared with five or more years ago particularly on The Wash. Most consistent sites: Walcott 6 Jan, 7 Feb, 5 March, 7 April, 7 Nov and 8 Dec; Overstrand 3 Jan, 2 Feb, 3 Nov/Dec; Titchwell 4 Jan, 6 March, 4 April, 2 Sep/Oct and 4 Nov; Hunstanton/Heacham 13 Jan, 6 March, 5 Nov/Dec.

Very small numbers at Yarmouth, Bacton, Sheringham, Cley and Snettisham where 12 Feb 3rd.

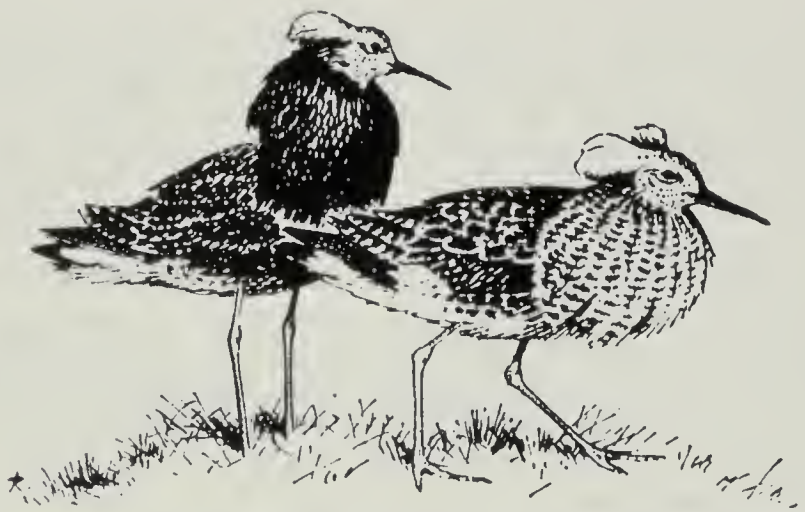
Dunlin: Snettisham counts: 4,050 Jan, 3,500 Feb, 5,050 March, 5,610 April, 2,100 May, 500 June, 6,400 July, 6,000 Aug, 1,380 Sept, 2,990 Oct and 2,720 Nov.

A westerly cold-weather movement of 900 Feb 3rd off Sheringham. Also a count of 3,000 Breydon Oct 10th.

Broad-billed Sandpiper: Breydon May 21st/22nd (PRA *et al*) was the 20th occurrence for the estuary.

Buff-breasted Sandpiper: A rare spring occurrence on Brancaster GC May 12th (SJMG RM et al) followed by one at Snettisham Aug 12th (AL *et al*)

Additional 1979: Hickling Sept 12th-Oct 1st (SEL *et al*).



Ruff: Noted in the winter at Breydon (7) Feb, Hardley Flood (15) Dec 8th, Horsey (5) Feb, Walcott Dec 26th, Holkham (4) Jan 20th, Brancaster (10) Feb 26th where also observed feeding on road during cold spell when saltings iced-up, Titchwell (22) Jan and (38) Dec, Thornham (6) Dec 8th and Welney (100) Jan, (70) Feb and (30) Dec.

Rather light spring passage. Peak numbers: Breydon 20 April 21st, Hardley Flood 23 April 26th, Hickling 27 April 29th, Cley 50 April 28th, Holkham 46 April 24th and 39 May 30th, Welney 25 March and 40 April/May and Wissington BF 10 April 10th.

Autumn passage also relativcly light; highest counts; Cantley BF 35 Aug 27th, 60 Clcy Aug 2nd, 18 Holkham Sept 8th/9th, 55 Titchwell Oct/Nov and Welney 49 July, 66 Aug, 81 Sept, 76 Oct and 88 Nov.

No evidence of breeding.

Jack Snipe: Reported up to May 13th (Burnham Overy) and from Sept 22nd (Cantley BF) at 31 sites. Mostly singles, but 10+ Holme Oct 5th (and 4 Wells Oct 25th)

Common Snipe: County total of 111 drumming birds reported, but not all figures available. Largest concentrations; Holkham NNR where 120 Jan and Cantley BF 120 in Sept.

Great Snipe: Welney a juvenile Sept 6th (JBK *et al*).

Woodcock: Roding birds reported from only 16 sites. At least 10 breeding females in Holkham Park area. Largest numbers: 8 Jan 7th and 9 Dec 13th at Hickling and influx of 19 Holme Feb 10th.

Black-tailed Godwit: A few, mostly 1-3, during the winter at Breydon (Feb and Dec), Cley (Jan), Burnham Norton (Jan/Feb), Titchwell (19 in Dec) and Snettisham (Dec).

Main spring passage flocks at Cley 87 April 25th, Holkham 46 April 17th, Burnham Norton 25 May 17th and Welney 155 March 1st and 243 April 11th.

Return passage at Breydon where 19 July 13th, Cley 71 July 5th, 29 Aug 27th and 22 Nov 2nd, Holkham NNR 64 July 13th, Titchwell 40 July, 30 Aug, 20 Sept, 60 Oct and 23 Nov, Snettisham 180 Sept 11th and 40 Oct 27th, Terrington 40 Nov 9th, King's Lynn BF 24 Aug 26th and Welney 108 July 1st.

A failed breeding attempt occurred at one site with 2 territorial pairs at another and displaying birds at two further sites.

Bar-tailed Godwit: Largest counts on The Wash at Snettisham: 3,000 Jan, 5,040 Feb, 2,310 March, 250 April, 800 May, 160 June, 1,200 July, 2160 Aug, 2,000 Sept, 3,000 Oct, 2,500 Nov and 2,300 Dec.

Large numbers, coinciding with highest tides, also periodically at Titchwell including 2,500 Sept, Full summer-plumaged birds at Wells Jan 27th and Snettisham Nov 30th. Also a white-headed one at Snettisham Feb 23rd.

Inland: Wissington BF 4 May 24th, 2 May 25th; Pentney GP April 27th and Welney April 29th and 4 May 19th-23rd.

Whimbrel: Extreme dates March 28th (Weybourne) and Oct 19th (Cley). Heavy spring passage when a total of 499 flew NE at Breydon May 7th-9th; 50 Waxham May 10th; 30 Eccles April 26th; 117 Cley April 25th and 100 April 27th/28th; 85 Salthouse April 27th; 25 Blakeney Point May 10th and 81 Holkham May 1st. Smaller numbers elsewhere.

Autumn movements also quite pronounced: 200 Breydon Aug 2nd flying west followed by 150 Aug 7th; 250 Cley July 20th followed by 110 July 25th and 150 Aug 2nd; 90 Blakeney Point/Harbour July 28th-Aug 2nd; 40 Holkham Aug 13th; 45 Brancaster

July 29th; 40 Titchwell Aug 18th and 65 Holme July 21st and 104 Aug 4th.

Inland spring passage birds at Stowbridge April 21st, 7 May 7th, 2 May 11th and single May 12th; Wereham 2 May 17th and Welney 17 May 6th and 22 May 8th.

Curlew: Maximum counts at Snettisham: 1,180 Jan, 747 Feb, 500 March, 250 July, 200 Aug, 400 Sept, 600 Nov and 1,310 Dec. Impressive numbers at Breydon where 705 Jan, 560 Aug and 601 Dec. Westerly movement of 330 off Sheringham June 28th. Also 300 Wells at high tide roost Aug 29th.

Summered at 12 localities in Stanford Battle Area.

Spotted Redshank: One or 2 wintering birds at Breydon (Jan, Feb and Dec), Hickling (Jan and Dec) and Titchwell (Jan and Dec).

Light spring movement with largest numbers at Cley 10 May 8th. Otherwise only in small numbers at Holkham, Lynn Point, Lyng Easthaugh and Welney.

Returning birds obvious from mid-June when appeared at 9 sites. First juveniles from Aug 3rd. Most favoured areas: Hickling 13 Sept 9th/13th, Cley 24 June 29th and 10 Aug 3rd, Holkham 6 Sept 12th and especially Snettisham where 85 Aug 10th, 115 Aug 27th, 86 Sept 9th and 37 Oct 11th.

Redshank: Largest Wash counts from Snettisham; 400 Feb 3rd, only 55 March 2nd following severe weather which killed at least 1,600 in The Wash. Autumn/winter counts there 1,500 Aug, 965 Sept, 505 Oct and 120 Nov.

Some counts of breeding pairs: Holkham NNR 51, Holme 9 – only 2 broods and Welney 39.

Greenshank: A wintering bird at Snettisham Jan 13th until March 2nd. Spring passage from April 11th (Welney) with largest parties as follows: 9 Hardley Flood May 8th, 4 Surlingham May 26th, 8 Hickling May 29th, 11 Holkham May 29th, 6 Welney May 28th and 5 Wissington BF May 24th.

Widespread on return passage from July into Nov. Largest counts from Breydon 24 July 20th, 14 Oct 8th; Cantley BF 8 Aug 16th/23rd; Cley 39 Aug 12th and 16 Nov 3rd; Blakeney Point 8 Sept 8th; Holkham 31 Aug 13th; Titchwell 45 Aug, 43 Sept, 21 Oct and last Nov 15th/16th; Holme 20 Aug 8th-31st and last Nov 15th; Snettisham 14 Aug 8th/26th and Wissington BF 8 Aug 29th.

Green Sandpiper: One to 3 reported in winter at 27 sites. Only very small numbers widely reported in spring. Autumn movements typically more obvious with peak passage in July/Aug. Largest parties: 50 Cantley BF July 31st-Aug 5th and 40 Aug 9th-23rd; 9 Hickling July 9th; 34 Cley July 31st; 22 Holkham July 10th and 26 Aug 4th; 26 Holme Aug 26th; 12 King's Lynn BF Aug 2nd; 16 Wissington BF July 10th and 20 Aug 3rd; 9 Welney July 28th and 10 Aug 10th with 11 West Acre in July.

Wood Sandpiper: Recorded April 29th (Welney) to Sept 18th (Cantley BF). Spring passage continued into early June with small numbers at 18 sites. Usually 1-2, but 6-7 Surlingham May 28th-June 1st; 8 Cley May 28th; 4 Holkham May 29th and 3 Welney June 2nd/4th.

Light autumn passage, probably involving several waves of migrants from late June, at 14 sites. Largest numbers: 6 Cantley BF July 9th; 1-4 Surlingham Aug/Sept; 12 Hickling Aug 2nd; 6 Kelling Quags Aug 6th; 6 Cley Aug 7th; 5 Holkham Aug 2nd and 1-4 Welney June 26th-Sept 5th.

Terek Sandpiper: Wissington BF: A breeding plumaged adult June 1st-4th (CD *et al*) was the eighth county record (and one of the first at an inland site in the British Isles).

Common Sandpiper: Little information although recorded April 12th to Oct 13th (both Breydon). Spring passage included 9 Cley May 19th and 7 Holkham May 30th. Autumn

movements included 17 Breydon in Aug; 10 Cantley BF July 20th; 10 Strumpshaw Sept 6th; 10 Holkham Aug 1st; 18 Holme Aug 7th; 16 Lynn Point July 14th; 15 King's Lynn BF Aug 2nd and 14 Wissington BF Aug 12th.

Turnstone: Wash counts at Snettisham: 72 Jan, 25 Feb, 50 March, 340 April, 250 May, 220 July, 540 Aug, 300 Sept, 290 Oct, 223 Nov and 62 Dec. Brancaster harbour held a wintering population of 230/240.

A number of migrants observed inland: Hickling 12 May 26th, 4 May 31st, and single June 2nd; Cantley BF Aug 5th and Sept 1st; Swanton Morley GP 2 May 27th; Lyng Easthaugh May 25th; Pentney GP 2 April 28th and 2 May 24th-27th and single May 29th; Wissington BF May 16th/17th, 3 May 22nd/24th and 2 July 24th and Welney April 11th, May 26th/27th, 2 May 28th/29th, July 30th and Aug 27th.

Snipe/Red-necked Phalarope (*Peter Leonard – Richard Richardson Award Winner*)

Red-necked Phalarope: Four individuals: Female at Hickling May 22nd-June 2nd (KRD PPF *et al*), females at Cley June 19th and July 10th-15th and a juvenile there Sept 13th/14th (MAG PBK RP *et al*).

Grey Phalarope: Only 3 records: Titchwell Oct 1st/2nd (MJE *et al*) Yarmouth Oct 20th (PRA) and Snettisham feeding a yard offshore Dec 29th (JW).

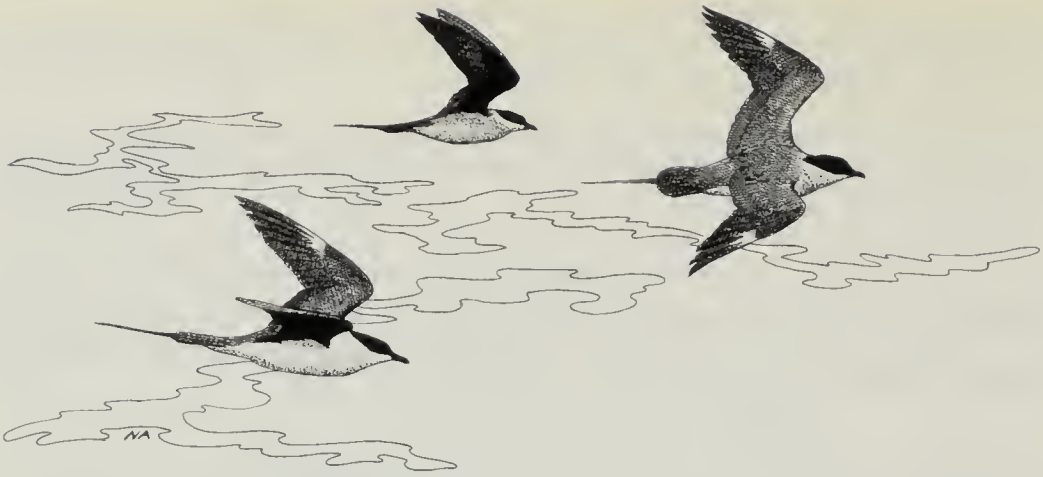
Pomarine Skua: During winter at Holme Jan 12th and Feb 9th, Titchwell Feb 2nd, Holkham Dec 20th and Sheringham Dec 24th.

Following 2 Holme Aug 13th main autumn passage Sept 2nd to Nov 20th and the most impressive since 1985. Large numbers include 30 east Blakeney Point in half-an-hour Sept 29th; 91 west Holme Oct 18th and 119 (109 east and 10 west) Sheringham Oct 19th during 9½ hour watch. At Ouse Mouth 13 inland Oct 18th.

Arctic Skua: In first half of year Titchwell Feb 2nd, Paston April 14th, Sheringham April 14th and 17th, Holme April 16th, Snettisham May 5th and 2 June 3rd-6th and Blakeney Point June 1st.

Autumn passage June 30th to Nov 19th. Largest counts: 100 Cley Sept 6th, 150 Sheringham Sept 29th and 109 Oct 19th and 170 Hunstanton Oct 18th. At Berney one inland Oct 10th. At Ouse Mouth 65 inland Oct 18th during 3½ hour watch. A late bird Sheringham Dec 24th.

Long-tailed Skua: Recorded on total of 19 days Aug 28th to Oct 19th. Largest movements: Sept 6th (7 Cley, 5 Blakeney Point and 5 Titchwell); Sept 28th (6 Winterton); Sept 29th (9 West Runton, 5 Cley and 3 Hunstanton); Sept 30th (when a unique total of 25+ Cley) and Oct 19th (4 Sheringham and 4 Holkham), At Holme 2 high inland Oct 18th.



Great Skua: In early months of year Paston Jan 15th, Titchwell/Hunstanton Jan 19th, Holme Feb 9th, 16th and 23rd and May 5th, Holkham Feb 14th and Sheringham 2 April 17th.

Largest autumn movements Sept 29th with many moving east including 30 Holme, 76 Blakeney Point, 140 Cley, 54 Sheringham, 50 West Runton and 51 Paston; Oct 18th when 75 south-west Hunstanton; and Oct 19th when 40 Holkham and 102 Sheringham.

Dec wanderers at Hunstanton, Holme (2) and Holkham 20th and Sheringham 24th (2) and 27th.

Mediterranean Gull: Long-staying wintering birds at Yarmouth (including maximum of 3 Feb 20th and where observed till March 31st) and Overstrand (till March 10th). Also an ever increasing number of observations from other coastal localities particularly Breydon, Bacton, Sheringham (where a notable spring passage of at least 7), Cley, Blakeney Point, Hunstanton and Snettisham. Recorded in each month of year.

Inland:Berney May 23rd and Oct 12th; Claxton following plough March 28th; Filby Broad July 14th; Hickling March 23rd; Martham Broad Dec 7th; Wroxham Broad where roosting Dec 24th into 1992; Little Snoring May 14th-16th; Pentney GP Feb 17th, Aug 28th, Oct 24th/25th and Nov 9th and 11th and Sparham Feb 13th and 17th.

Laughing Gull: Walcott: A first-winter bird Dec 25th into 1992 (MF *et al*). The first county record. See page 260

Franklin's Gull: Breydon: An adult in summer plumage June 30th (KRD *et al*). The first county record. See page 259

Little Gull: Few only during opening months apart from 30 Holme Jan 12th. Light spring passage through coastal sites April to June peaking at 42 Lynn Point April 19th.

Inland 5+ passed through Wroxham Broad with singles at Lyng, Rockland, Stowbridge and Strumpshaw – all in April/early May. During June up to 12 Cley and 6 Burnham Norton.

As usual largest numbers offshore Oct/Nov peaking as follows: 67 Sheringham Oct 19th; 36 Holme Nov 4th; 58 Paston, 30 Sheringham, 35 Cley and 32 Holkham all Nov 5th; 60 Hunstanton Nov 9th and 33 there on 12th.

Sabine's Gull: Minimum of 8 birds; Juvenile Wells East Hills and Blakeney Point Sept 6th; juvenile Sheringham Sept 11th; juvenile Blakeney Point Sept 27th; adult Blakeney Point Sept 29th and 2 juveniles Sheringham same day one of which on golf course and single adults Cley Sept 30th and Oct 7th.

Black-headed Gull: Counts of *pairs* at breeding sites: 13 Strumpshaw (a new site), 3,000 Blakeney Point, 100 Stiffkey Binks, 3,000 Wells, 60 Scolt Head, 600 Titchwell, 990 Snettisham, 40+ Wash Outer Trial Bank and 500+ Wissington BF.

Ring-billed Gull: This North American gull was finally added to the county list at Pentney Feb 5th – a first-winter bird (NB). A second-winter took up residence in the UEA and Earlham area also visiting Colney GP and Norwich Waterworks from Oct 15th onwards (MIE). See page 258

Common Gull: Two pairs bred Blakeney Point raising 3 young and a pair at Stiffkey Binks raised 2 young. Another pair attempted, but failed, at Snettisham.

Lesser Black-backed Gull: Wash: Outer Trial Bank: 100 pairs bred. In addition 11 pairs bred Wells and a single pair, unsuccessfully, Blakeney Point.

Wintering birds at Colney GP, Breydon/Yarmouth and Holkham Park. Largest gatherings: 140 Sheringham May 23rd; 464 Hickling Rush Hills June 29th, 154 Pentney GP July 27th and 279 over Norwich heading NE to roost Sept 19th.

Herring Gull: Wash Outer Trial Bank: 200 pairs bred. The 25-30 breeding pairs at Wells in 1990 increased to 70 pairs (most flooded out) and 30 pairs bred Blakeney Point.

Northern race *argentatus:* 3 Cley July 12th, Blakeney Point Sept 14th and abundant along coast from late Oct with maxima of 300 Sheringham Dec 24th and 350 there Dec 28th.

Omissus type (Yellow-legged north-west European race) individuals at Cley Nov 5th with 3 next day.

Mediterranean yellow-legged race *michahellis*: Up to 4 Yarmouth July 13th to Aug

2nd, up to 4 Breydon June 30th to Aug 9th with singles there Aug 15th and 28th and Sept 6th and 3 at Hickling Rush Hills July 12th and 29th. Elsewhere singles at Filby Broad, Tunstead, Winterton, Paston, Overstrand, Sheringham, Cley, Blakeney Point, Gore Point, Hunstanton and Lynn Point. Majority July to early Sept, but Spring birds at Cley April 5th and May 25th and at Blakeney Point May 29th. Unusually, winter birds Overstrand Feb 25th, Hunstanton Feb 17th and Blackborough End Feb 19th.

Iceland Gull: Single adults Cley Feb 9th (TCD) and Burnham Overy Feb 13th (RQS); first-year Sheringham April 1st and a first/second winter there Dec 23rd (KBS SCV).

Glaucous Gull: In first-winter period: Breydon Jan 15th, Sheringham March 28th, Titchwell Jan 1st and Feb 16th, Hunstanton Feb 2nd-17th, Lynn Point Feb 11th and inland at Colney GP Feb 17th.

Spring records included Flitcham April 14th when another at Titchwell and Welney May 6th.

During second-winter period total of 24 coastal records including a notable influx Oct 19th-21st when noted at Yarmouth (3), Scratby, Winterton (2), Walcott, Paston, Weybourne, Cromer, Sheringham (2), Salthouse, Cley (3), Holkham and Holme.

Kittiwake: Inland: Welney Jan 10th with 4 there March 24th.

Autumn movements: 1,000+ east off Cley in 1¾ hours Sept 29th; 1,050 Hunstanton Oct 19th and heavy easterly passage Nov 19th when 3,500 per hour off Paston, 3,000 in 1¾ hours off Cromer and 10,000 off Sheringham.

Caspian Tern: Numerous sightings from Breydon and Hickling July 6th to Aug 1st with a second bird from at least July 12th to 15th. Also at Filby Broad July 11th to 13th and Cantley BF July 13th and 26th (PRA BDH *et al*).

Another east at Bacton/Paston Sept 1st (MF).

Sandwich Tern: Recorded March 19th (Cley) to Nov 5th (Holme). A few inland records: Hickling 7 April 16th and single April 18th; Taverham April 7th and Stowbridge 4 May 11th.

Bred at Blakeney Point (3,000+ pairs), but hundreds of chicks found dead and breeding season a disaster. At Scolt Head 320 nests June 10th, but 4 days of blowing sand buried nests causing birds to abandon site. By June 20th 218 nests and 600 pairs present. However fox visits caused complete desertion by July 4th. No young reared.

Common Terns (*Andrew Stock – Richard Richardson Award Winner*)

Common Tern: Recorded from April 10th (Welney); no late birds reported. County breeding total of 944 pairs was an increase on the 1990 figure. Breydon with 140 pairs and 163 young fledged had the best results while at Hoveton 21 pairs fledged 58 young.

Reports elsewhere make sombre reading. Blakeney Point 260 pairs reared only 50+ young; Scolt Head 75 pairs – no young reared; Holkham NNR 154 pairs but almost total failure and Snettisham 101 pairs – no young reared.

Arctic Tern: Reported April 13th (Lynn Point) to Oct 17th (Sheringham). Well marked spring passage recorded at 12 sites including 46 north at Lynn Point April 13th-May 1st; 104 north at Welney April 22nd-May 7th (all during fresh N to NW winds) and 24 Wissington BF May 6th.

Only small numbers (1-8) on autumn passage from 11 coastal sites; largest movement 12 Paston Sept 6th. At Blakeney Point 15 pairs reared few young. Single breeding pair at Scolt Head failed.

Little Tern: Recorded April 25th (Cley, Scolt Head and Holkham) to Oct 9th (Holme). Inland sightings of 2 UEA Broad May 30th and 9 Cantley BF Aug 3rd. Ousemouth again attracted a sizeable concentration of 110 July 25th.

County total of 540 breeding pairs including 277 pairs at Yarmouth had another disastrous season with only some 78 young fledging. Reasons for failure included high tides, blown sand, predation by Oystercatchers, Stoat, Foxes and particularly Kestrels at the large Yarmouth colony. Little Terns typically nest in small scattered groups which may provide them with some protection from predators. It appears that large obvious breeding numbers of this vulnerable species are particularly susceptible to exploitation by predators, notably Kestrels.

Black Tern: Recorded April 25th (9 sites) to Oct 6th (Sheringham, Cley) from 24 localities. Heaviest passage involving over 140 during last week of April when largest parties were 22 Breydon 26th, 10 Salthouse 30th, 10 Cley 25th and 30th, 11 Thetford 30th, 27 Wroxham 25th and 15 Blickling 25th.

A smaller movement involving over 50 during last days of May and beginning of June when largest group was 11 Pentney GP June 1st.

Poor autumn showing from 10 sites involving probably less than 60 birds; largest party 9 Yarmouth Aug 10th.

Black Guillemot: Hunstanton first-winter Nov 5th to 12th.

Little Auk: Between Jan 2nd and 12th total of 135 recorded offshore including 44 west Overstrand and 16 Winterton Jan 6th and 40 west Cley Jan 9th.

During Autumn noted Oct 18th to Nov 23rd with most impressive numbers during a spell of strong NW winds peaking Oct 20th when 79 Yarmouth, 59 Winterton, 60 Walcott, 195 Cromer, 200 Sheringham, 63 Weybourne, 204 Cley, 171 Blakeney Point, 43 Holkham Bay and 194 Holme. Subsequently one sheltering Wroxham Broad, another recovered Strumpshaw, one under a car at Cley, another hiding in sueda Blakeney Point and a road casualty at Hunstanton.

During Nov 2 over Breydon on 6th (where a casualty 23rd) with a single Heigham Sounds on 10th.

Puffin: 38 records, the majority Sept to Nov. Largest groups 6+ Sheringham and 6 off Blakeney Point Oct 19th

Stock Dove: Highest counts: Welney 270 Feb 3rd and Wissington 140 April 2nd.

Collared Dove: Maximum counts: Wereham 100 Jan and West Lynn 250 Oct 24th.

Turtle Dove: Recorded April 24th to Oct 3rd.

Ring-necked Parakeet: Snettisham 2 Aug 2nd. Otherwise singles at Berney Marshes, Heigham Holmes, Ludham, Norwich, Scolt Head (heading north to sea Nov 13th) and Waxham.

Cuckoo: First April 12th and last Sept 16th. Hepatic females Gooderstone May 8th and Sparham June 20th.

Barn Owl: Records from fifty-two 10 km squares – compared with 40 in 1990.

Acle New Road near Stracey Arms, example of dark-breasted race dead Nov 16th.

Snowy Owl: The second-winter male remaining at Wainfleet (Lincs) until March 18th was relocated Blakeney Point on 23rd (MIE AMS *et al*) moving to Stiffkey that afternoon. Next day at Burnham Overy Marshes and Norton Creek near Scolt Head on 25th. Reappeared at Easington (Humberside) March 30th.

Little Owl: Records from thirty-two 10 km squares; the same total as in 1990.

Long-eared Owl: Breeding records from only 6 sites, 2 fewer than in 1990. In the fens up to 14 at one roost in Jan, but no more than 4 at other sites and very few at year-end. Maximum 5 Halvergate Dec despite another good autumn for migrants.

During autumn, apart from Winterton Aug 9th, first recorded on coast Oct 20th a week later than last year. An influx Oct 27th: 2 Yarmouth, Winterton, Weybourne, 6 Cley, 8 Blakeney Point, Wells and 5 Holme. Very few thereafter.

Short-eared Owl: Scarcity in Breydon area continued into New Year with none in Jan/Feb. Counts elsewhere during early part of year included 4 Lynn Point March 3rd and 7 Welney on 18th. No reports of breeding.

Autumn passage less spectacular than Long-eared Owl. Oct 27th was the best day: Paston, 3 Blakeney Point and 7 Holme. Return to form in Breydon area in Dec when up to 10.

Nightjar: Very late spring arrival. First, Roydon Common, May 24th. A detailed national survey (the first for 10 years) is being undertaken by BTO/RSPB.

Swift: First Norwich April 24th; last Cley Oct 19th. Young left the nest as late as Sept 5th Edgefield Green. Heaviest passage reported: 5,000 east Sheringham July 6th.

Kingfisher: Following a press article by MJS, recorded in 40 10 km squares compared with only 17 in 1990. Breeding reports however from only 3 squares.

Roller: Holkham Meals July 29th (RAS *et al*).

Hoopoe: Thurne April 19th, Cantley May 12th and Brockdish Sept 23rd and 24th.

Wryneck: *Spring*: A very early bird Cley April 1st/2nd, Blakeney 30th, Winterton May 4th/5th, Muckleborough Hill 6th, Holkham 11th and Holme/Hunstanton May 27th.
Autumn: Total of 15: Winterton and Ludham Aug 28th, Holme Sept 2nd/4th with second bird 3rd/4th when also at Flitcham and Tharston, Winterton 4th, Holkham and Burnham Overy Dunes 5th, Winterton 7th, Bridgham 19th (entered greenhouse), Winterton 28th, 2 Blakeney Point 28th/29th and Hunstanton Oct 11th.

Short-toed Lark: Cley Oct 13th to 19th (RF *et al*).

Additional 1990: Weybourne Sept 15th-25th (KBS *et al*).

Woodlark: Further increase in Norfolk Brecks to 53 singing males including 4 on heathland. Elsewhere: Remarkable arrival of 7 with 200 Bramblings Holme Feb 10th; Roydon Common Feb 28th; one in off sea Holkham March 3rd; Winterton March 10th/11th with an additional bird on latter date; Salthouse Heath April 3rd; Wells Oct 4th; Burnham Overy Dunes south Oct 9th and Holkham Oct 25th.

Shore Lark: Thornham Point/Titchwell up to 4 Jan, 3 remaining to April 28th and one until May 9th. Unusual inland record Litcham (Hulver Hill) April 2nd. Elsewhere in spring: Blakeney Point April 11th and Holme April 13th.

Autumn: Waxham 3 Sept 29th/30th and presumably same at Cley Oct 2nd and 3

Holme 6th; Cromer Sept 30th, Thornham Point/Titchwell from Oct 6th with 2 Nov; Blakeney Point Oct 12th/13th; Burnham Overy Staithe 12th; Gorleston 13th; Salthouse 3 Oct 23rd increasing to 4 by 27th, 5 on 31st to Nov 13th then decreasing to 4 by 14th; Snettisham 2 Oct 27th; Cley 31st; Holkham Bay 5 Nov 16th (presumably the Salthouse birds) increasing to 7 by 22nd, 8 by 29th and up to 10 Dec 3rd onwards.

Sand Martin: First Stiffkey and Holkham March 16th; last Berney Oct 20th. King's Lynn BF and Saddlebow 1,000 roosting in Aug.

Swallow: First Holme March 12th; last Snettisham Nov 23rd and Winterton 24th. Passage of 12,000+ Cley May 21st. 2,500-3,000 roosting Saddlebow last Aug and Sept.

Hybrid Swallow x House Martin Blakeney Point Sept 10th (SCV).

Red-rumped Swallow: Additional 1990: Winterton May 5th (PC).

House Martin: First Waxham April 4th; last Cley Dec 1st/2nd. At least 1,500 passed Cley May 21st.

Richard's Pipit: A typical autumn selection: Horsey Nov 15th/16th (DP *et al*); Weybourne Oct 12th-Nov 3rd (MY-P *et al*); Kelling Quags Oct 5th (MPT); Burnham Norton 2 Oct 28th-Nov 11th (MESR *et al*); Scolt Head Oct 26th (RG); Snettisham Oct 13th/14th (RSPB) and Welney Oct 18th and Nov 3rd (JKB).

Tawny Pipit: Cley June 7th-9th (MAG *et al*) and Snettisham Oct 12th/13th (PF *et al*).

Tree Pipit: Cromer a late migrant Oct 29th-Nov 3rd.

Red-throated Pipit: Burnham Norton May 17th (VE *et al*); Salthouse May 24th (DRB NWH) and Blakeney Point Sept 29th/30th (TAA TD GFJ *et al*).

Additional 1990: Burnham Norton May 11th/12th (VE).

Rock Pipit: Birds showing characters of Scandinavian race *littoralis* at Berney Marshes March 11th, Welney March 18th and Cley where 10 March 17th and also singles March 18th and April 1st/2nd.

Water Pipit: A major increase in records for the third year in succession. Regularly recorded in both winter periods at Cley (maxima of 20 March 3rd and 17 Nov 3rd) and Cantley BF (maximum of 25 Feb 3rd). Also regularly in lesser numbers at Burnham Norton (3 March 14th), Strumpshaw (up to 9 March/April) and Wissington BF (9 April 8th).

Elsewhere Heigham Holmes Jan 7th, Hickling April 4th, Holkham March 23rd, Lynn Point March 17th and April 14th, Surlingham 2 during Oct, Titchwell Jan 1st-11th and 20th and Nov 18th, Welney March 29th and Nov 8th, West Runton 2 March 16th, Winterton March 17th and 2 Nov 3rd and Wiveton 2 Jan 1st.

Yellow Wagtail: First Cley March 31st. A Citrine impersonator singing male at Horsey May 18th onwards initially caused considerable confusion, but it lacked a black collar and never called like a Citrine.

Late migrants at Titchwell Oct 31st and Cley Nov 3rd, the latter a grey Eastern race bird.

Syke's Wagtail: Males showing the characteristics of this race at Burnham Overy 2 April 27th, Welney May 5th-June 1st (JBK) and Beeston Regis 2 May 9th (PEB).

The male at Burnham Norton in 1990 returned May 17th-25th (AIB DF AJ).

Blue-headed Wagtail: Spring passage total of 28 between April 27th and May 25th including 5 Beeston Regis May 9th. A male carrying food at Burnham Norton July 1st was probably paired with a female Yellow Wagtail.

Ashy-headed Wagtail: Holme: A male showing the characteristics of this race May 21st (RQS).

Grey-headed Wagtail: Males identified as of this race at Cley April 4th (very early date), May 11th, 19th and 25th; Salthouse May 12th, 19th and 26th; Burnham Norton May 22nd; Waxham May 23rd and Hickling May 31st.

Grey Wagtail: Successful breeding at Corpusty, Hellesdon, Lynford, Narborough, Norwich (near Duke Street), Thetford (2 pairs) and West Acre (2 sites). Also present during summer months at Ebridge, Keswick, Marlingford, Newton Flotman and Santon Downham.

Pied Wagtail: Whitlingham Marsh roost: 260 Aug 31st and Sept 10th. Strumpshaw roost: 100 April 14th and 170 Oct 20th.

White Wagtail: Small-scale spring passage March 10th-May 18th; no party exceeded 3 birds.

Waxwing: Following years of scarcity between 1975 and 1987, good numbers have appeared during three of the last four winters although none as spectacular as the 1965 invasion. The influx during Nov/Dec 1990 ensured over 70 remained into the New Year with the well-watched Hickling flock still numbering 11 and 45 at Bodham supplemented by up to 6 at Briston, Burnham Norton, Repps-with-Bastwick and South Creake. At Bodham 37 remained Jan 2nd with 14 at Alby next day. The 7th saw the arrival of 19 at Hellesdon Hall Road Norwich and this group, commuting between ASDA and Sweet Briar industrial estate provided observers with ample opportunities during succeeding months. Jan 10th saw 24 arriving in the Sheringham/Beeston Regis area gradually declining by the month-end. A flock of 25 visited Gorleston gardens in mid-Feb with up to 16 in Taverham March 12th-30th.

In addition up to 10 were recorded at the following sites between Jan and March: Beechamwell, Brundall, Erpingham, Hunstanton, Lingwood, Narborough, Paston, Sandringham, Sheringham, Swaffham, Thorpe Marriott and Thorpe St. Andrew. The well-watched Hellesdon birds (up to 19 in number) remained until March 6th increasing to 22 April 7th but declining to just 2 by April 19th. Dispersal of these birds may have been responsible for 12 at Taverham April 12th and 4 nearby in Cromer Road May 2nd-6th (latest record since 1967)

During the second-winter period 14 south over Upton Broad Oct 20th preceded others by 2 weeks with 3 passing Weybourne Nov 2nd. Nov 10th saw a small arrival in NW Norfolk with up to 5 at Barrow Common, Burnham Deepdale, Dersingham, Holme, Snettisham and Wolferton. Arrival was more widespread from Nov 17th when 20 Holme with 12/15 Cley/Wiveton on 20th, 15 Scottow, 28 Alderford and 25 Snettisham all on 21st and 14 Frettenham on 22nd. After this peak arrival (some moved well inland) up to 8 at Barton Bendish, Belaugh, Brundall, Docking, East Tuddenham, Eaton, Edgefield, Elsing, Glandford, Hempton, Holkham, Norwich, Overstand, Sheringham, Thorpe End and Wells. At this time 2 (one a window casualty) were picked-up in Wells Town.

Up to 15 remained in the Snettisham area to the year-end. There was a further wide-spread but relatively small arrival in the N and NE of the county from Dec 1st including 12 at Cley Dec 3rd/4th and 19 at Holme Dec 11th. In addition up to 9 at Beeston Regis, Blakeney, Briston, Corpusty, Eaton, Glandford, Gorleston, Gt. Yarmouth, Haddiscoe, Hickling, Holkham, Little Banningham, North Elmham, Poringland, Quarles, Ranworth, Rudham, Salthouse, Sheringham, Smallburgh, Sandringham, Sutton, Thornham, Titchwell, Trimingham, Waxham, Wells, Winterton and Woodbastwick. Finally, 4 appeared in Breckland – at Thetford – Dec 27th-31st.

Numbers in the second winter period difficult to assess as few large flocks became established and much movement. However the total probably approached 300. (*Summary by J.R. Williamson*)

Dipper: The Central European Dipper first recorded Oct 1990 remained at Burnham Town Friary Mill until March 24th. It was ringed in Feb and identified as a first-winter female. It reappeared at Belstead Brook, Ipswich, Nov 13th.

Nightingale: First Pentney GP April 18th, Single coastal migrants at Waxham April 28th and Sea Palling Sept 6th.

Bluethroat: Only 2 spring males: Yarmouth May 12th (*per* PRA) caught by cat and released at Dunwich, Suffolk; and Blakeney Point May 20th (BJR).

Black Redstart: Two in winter: Cantley BF Feb 3rd and Holme Feb 27th. Spring passage March 16th-end of May; generally 1-3 birds, but 7 Paston April 7th. In summer 4-5 singing males at Yarmouth and 2 pairs bred. Also a female at Cley on 4 dates June 14th-July 7th.

Autumn passage mainly during Oct with several groups of 4-5 birds. At Blakeney Point Oct 26th two separate individuals flying in off sea in early afternoon; on same date one sheltering in boats in Morston Creek.

Additional 1990: Pair successfully bred in Norwich near Railway Station.

Redstart: Recorded at 14 localities in summer in Stanford Battle Area; elsewhere at Sandringham and Sheringham Park. 50 Blakeney Point and 40 Holme Sept 29th; last Yarmouth Oct 28th.

Whinchat: Maximum spring count: 32 Holkham May 22nd. Pair successfully bred at Horsey and 4 pairs summered in Stanford Battle Area. Largest autumn movements in early Sept when 30 Scolt Head 4th, 18 Cley 5th and 21 Holme 7th. Last, Eccles and Weybourne, Oct 13th.

Stonechat: Usual widely scattered winter observations with maxima of 4 Cley following reed-cutters from mid-Jan and at Thornham Point Oct 13th. East Norfolk breeding population reduced to 3 successful pairs.

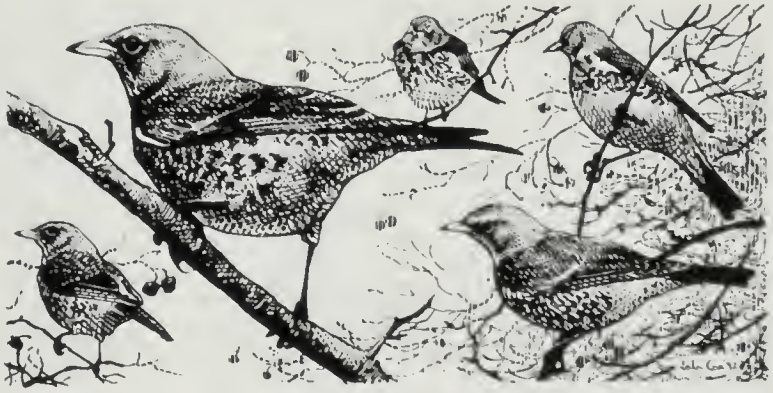
Siberian Stonechat: An unprecedented series of records: Blakeney Point 5 Sept 29th (MAG MPL *et al*) with 3 remaining Sept 30th (JBK) and one Oct 1st-4th and another Oct 21st (AMS); Breydon Oct 7th-11th (PRA KRD); Thornham Point Oct 11th-13th (TB RQS); Sheringham Oct 22nd-24th (MY-P) and Happisburgh Oct 27th/28th (MF *et al*)

Wheatear: First East Winch March 8th with arrivals Burnham Overy, Grime's Graves, Holkham and Holme next day. In addition to Breeks, pair bred Bacton. Last Berney Marshes Nov 6th and Yarmouth Nov 9th.

Ring Ouzel: An unusual winter record: a female in gardens in Hickling village Feb 10th-March 9th followed by an early arrival Waxham March 16th-18th.

Main spring passage April to June 8th with observations from many localities; maxima 11 Holme April 12th and 10 Salthouse May 2nd. A late male Waxham June 8th and 20th. Autumn passage Sept 28th-Nov 3rd with maxima 10 East Hills Wells Oct 9th, 15 Blakeney Point next day and 11 Holme Oct 12th. Late bird at Scratby Nov 14th.

Blackbird: Titchwell; A large influx involving thousands moving south Nov 17th.



Fieldfares (*John Cox – Richard Richardson Award Winner*)

Fieldfare: Many small flocks still present well into May owing to adverse weather. Unseasonal birds Waxham June 20th and Blakeney Point July 30th. First in autumn Fakenham Aug 11th and Holkham Aug 15th, but main arrival not until second half of Oct.

Redwing: Extreme dates May 10th (Brundall) and Sept 27th (Holkham and Holme).

Mistle Thrush: Post-breeding flocks of 31 Holkham Park July 12th and 30 Bodney Warren Sept 25th.

Cetti's Warbler: A typical scatter of records at Broadland sites with singing birds at Barton, Buckenham/Cantley, Catfield, Hoveton, Ranworth, Rockland (4), Strumpshaw (6-7), Surlingham Broad and Surlingham Church Marsh (1-2).

Grasshopper Warbler: Earliest Strumpshaw April 10th. Autumn migrants: Paston July 14th and Blakeney Point Sept 1st and 29th and Oct 12th.

Savi's Warbler: Earliest Rockland and Strumpshaw April 13th. Then singing birds also at Fleggburgh Common, Hickling, Horsey (2), Martham, Ranworth and Upton (2).

Sedge Warbler: Earliest Berney Marshes April 11th. Some 45 singing males at Cley was 40% down on 1990. Welney 73 singing males May 15th.

Marsh Warbler: Surlingham: Singing June 5th to 16th. Tenth county record.

Reed Warbler: Earliest Pentney GP April 23rd. At Cley 60 singing males was 60% down on 1990. Last Titchwell Oct 28th.

Icterine Warbler: *Spring:* Horsey June 1st and Fordham near Hilgay singing June 29th to July 10th.*Autumn:* Sheringham Sept 6th, Blakeney Point Aug 28th and Sept 29th, Wells East Hills Sept 4th, Holkham Meals Aug 26th and Sept 1st-3rd and King's Lynn (west bank of Ouse) Sept 1st/2nd.

Additional 1990: Hunstanton Aug 1st.

Sardinian Warbler: Muckleburgh Hill, Weybourne, singing male April 27th (RJJ *et al*).

Barred Warbler: Autumn records: Winterton Sept 2nd, Waxham Sept 3rd/4th and 12th, Cromer Sept 4th-7th, Cley Sept 9th, Blakeney Sept 7th, Blakeney Point Sept 11th-12th, Holkham Meals Sept 8th/9th with another on 9th and Oct 25th/30th, Scolt Head Aug 24th, 26th and Sept 4th/5th, Holme Aug 27th and Sept 3rd-7th and Hunstanton Aug 29th/30th and Sept 4th-10th and Sept 17th/18th.

Lesser Whitethroat: Earliest Holme April 18th. During Oct birds thought to show characters associated with *blythi* at Holkham Meals 11th, Happisburgh 12th and Blakeney Point 13th and 25th. Late birds at Brancaster Nov 8th and Snettisham next day.

Whitethroat: Earliest Boughton Fen April 23rd; latest at Holkham Meals Oct 27th.

Additional 1990: Cromer a late bird Oct 27th.

Garden Warbler: Earliest Wolferton May 4th. A very late bird at Snettisham Nov 15th-17th.

Blackcap: During Jan/Feb recorded at Garboldisham, Gunton Park, Norwich (Earlham Road, Hellesdon and Mile Cross), Sheringham and Weybourne.

In autumn a high count of 35 Blakeney Point Sept 29th. During Dec records from Brundall, Carbrooke, Holkham Meals, Holme, Pott Row and Thorpe St. Andrew.

Greenish Warbler: Waxham Aug 14th (GPC) and Blakeney Point Sept 1st (AMS *et al*).

Additional 1990: Holme Sept 8th (GFH *et al*).

Pallas's Warbler: Six Oct records and all within a five-day period: Weybourne (2) 25th (SEP), Blakeney Point 25th (MY-P), Holme 25th-27th (CD), Waxham 29th/30th (BWJ) and Yarmouth 30th (IHS).

Yellow-browed Warbler:28 recorded (as in 1990): Horsey Sept 28th, Waxham Oct 26th and 29th , Lessingham Sept 29th, Happisburgh Oct 12th/13th, Cley Oct 25th/26th, Blakeney Point Oct 10th, Morston Oct 10th, Stiffkey Oct 10th, Warham Oct 26th, Wells

: Red-breasted Flycatcher, Waxham, May and
rrian Stonechat, Breydon, October. Centre: Roller,
cham, July. Bottom: Newly arrived Long-eared
, Cley, October and Penduline Tit, Titchwell,
.

Bewick's Swans flighting into Welney Washes.
Goosander, Red-breasted Merganser and Smew on the Great Ouse during February's cold spell.

narine Skua, Cley Marsh, Nov.
kk Sparrow, Waxham, May.

Yellow-browed Warbler (*Timothy Hinley – Richard Richardson Award Winner*)

Town Sept 30th, Holkham Meals Sept 27th with 2 on 28th, 3 on 29th and single on 30th (minimum of 4 birds), Oct 1st-12th with 2 on 13th and one 24th (minimum of 7) and Holme Sept 29th (2), 30th (3), Oct 12th and Oct 26th.

A late bird inland Brundall Dec 6th. One in Holkham Meals Oct 26th to Nov 1st showed characters of the race *humei*.

Radde's Warbler: A good series of records: Stiffkey Oct 10th (PK), Happisburgh Oct 12th (PJH BWJ *et al*), Kelling Quags Oct 21st-23rd (many observers) and Holkham Meals Oct 27th (RM).

Dusky Warbler: Sheringham Oct 27th-31st trapped and ringed (PJH BWJ DHS).

Wood Warbler: Coastal spring migrants at Yarmouth (3) May 11th; Titchwell May 10th/11th and Holkham Meals May 18th. Elsewhere spring singers at Glandford, Kelling Caravan Park, Kelling Triangle, Lynford, Mousehold Heath, Sandringham Warren (April 11th - very early), West Runton, West Walton and Weybourne.

Autumn migrants at Elsing Aug 20th, Cley Aug 24th, Hemsby Aug 27th, Thornham Point Sept 2nd-4th, Holme Sept 29/30th and Cromer Oct 6th.

Chiffchaff: Recorded in first-winter period at Beeston Regis, Burnham Market, Burnham Norton, Cley, Downham Market, East Somerton, Fleggburgh Common, Grimston, North Walsham, Titchwell, West Somerton, Weybourne, Winterton and Yarmouth.

Spring migrants widespread from second week in March. Autumn migrants lingered though Nov with following birds showing characters of *tristis*:

Winterton Oct 28th, Nov 10th and 23rd; Kelling Quags Oct 21st; Cley Oct 29th and Nov 1st and Holkham Meals Oct 11th and 29th. Dec birds at Beeston Regis and Winterton.

Willow Warbler: First Strumpshaw March 23rd with other March birds at Holme (30th), Kelling Triangle and Cley Walsey Hills (31st). Late ones at Holkham Meals Oct 27th and Blakeney Point Oct 27th-30th.

Top left: Little Egret, Breydon, Sept/Oct.
Top right: Caspian Tern, Filby Broad, July.
Centre left: Pacific Golden Plover, Cley, Dec.
Centre right: Great Snipe, Welney, Sept.
Bottom left: Great Northern Diver, Potter Heigham, Dec.
Bottom right: Radde's Warbler, Kelling Quags, Oct.

Goldcrest: High Oct counts of migrants; 100 Waxham 12th, 200 Stiffkey 26th, 100 Wells East Hills 26th, 200 Holme 25th and 120 there 26th.

Firecrest (*Stephen Message – Richard Richardson Award Winner*)

Firecrest: Two unusual Feb occurrences: Lynford 2nd and Holkham Park 3rd. Ones and twos in *Spring* March 17th to April 21st at Horsey, Waxham, Weybourne, Cley, Holkham Meals and Sparham, A pair at Wolferton June 9th.

During *Autumn* ones and twos Oct 9th to Nov 1st at Yarmouth, Winterton, Waxham, Wells East Hills and Holme.

Spotted Flycatcher: Earliest Ryston May 12th. Cromer lighthouse 12 Sept 4th. Very late bird Blakeney Point Oct 27th.

Red-breasted Flycatcher: Waxham singing male May 18th. In Autumn at Yarmouth Oct 10th, Blakeney Point Sept 30th, Wells East Hills Sept 3rd, Holkham Meals Sept 6th, 22nd and 29th, Thornham Point Sept 7th/8th and Holme Sept 4th.

Pied Flycatcher: A better *Spring* than of late with total of 18 records April 30th to June 5th at Yarmouth (6+), Waxham, Paston, Holkham Meals (5), Brancaster and Titchwell (2) and inland at Horstead and Welney.

Few in *Autumn*, largest numbers 10 Yarmouth Sept 1st 18 Holkham on 4th and 10 Holme on 5th. Last Holme Oct 12th.

Bearded Tit: Pairs bred at Breydon (2), Cantley, Martham (3), Hickling/Heigham Sounds (10), Horsey (3), Cley (20), Burnham Overy (3), Burnham Norton (2) and Titchwell (15). King's Lynn BF maximum 12 Jan 3rd, remaining till May 12th but no

evidence of nesting. In Fens at Welney 7 Jan 25th with 6 Feb 3rd.

Long-tailed Tit: Largest numbers: Sheringham Park 62 Feb 5th and East Tuddenham 50 Oct 10th. Unusually 2 wandered to Blakeney Point March 16th.

Penduline Tit: Titchwell: Male May 9th-10th (TRD *et al).*

Golden Oriole: Rockland St. Mary May 30th, Holme June 7th, Welney June 21st, West Walton July 5th and Wereham Aug 22nd. Nine pairs bred in the county and birds present at 4 additional sites.

Large-scale planting of hybrid black poplars took place in the Fens of Cambs, Norfolk and Suffolk during the 1950s and 1960s. According to The Golden Oriole Group these plantations have attracted up to 30 pairs of orioles for some 20 years, no other bird protected under Schedule 1 of the Wildlife and Countryside Act 1981 depends on lowland broad-leaved woodland. In fact, it is the most threatened British bird depending on this habitat. Recently there has been little planting. Most plantations are now mature and many will be felled or will deteriorate due to old age during the next decade. As a result the RSPB has launched a campaign urging a doubling in the area of poplars in agricultural land in the Fens over the next 15 years. Each breeding pair of orioles needs a plantation of between 400 and 1,000 poplars at least seven years' old.

Red-backed Shrike: *Spring*: Cromer pair June 8th/9th and one June 15th; Weybourne June 7th; Wells Boating Lake June 2nd and Welney 'sometime in June'. At Santon Downham a male appeared June 16th, but failing to attract a mate left June 30th.

Autumn: Gorleston, Hemsby, Winterton, Waxham, Ludham, Cromer, Holkham Meals, Burnham Overy, Burnham Norton, Holme (up to 3 continuously Sept 3rd-26th) and Hunstanton GC. Extreme dates Aug 24th to Oct 13th.

Lesser Grey Shrike: Potter Heigham adult Sept 1st-8th (PC EJP *et al*).

Great Grey Shrike: In first-winter period at Wissington Jan 1st to March 30th. Spring: Holme and Great Walsingham April 2nd, Thetford March 10th and 25th and Holkham May 4th. First in autumn Holme Sept 30th. During Oct coastal migrants at Waxham 10th arriving in off sea, Blakeney Point 25th, Holkham Meals 24th, Holme 9th and 25th/26th. Elsewhere Litcham Oct 2nd-4th, Colney 13th and Buckenham 21st. End of year at

Great Grey Shrike (*Alan Johnston – Richard Richardson Award Winner*)

Cantley Nov 10th, Knight's Hill King's Lynn Dec 11th and East Harling Dec 26th.

Magpie: Largest roost count: 50 Roydon Common Dec 22nd.

Jackdaw: Buckenham: 3,000 roosting in Jan.

Rook: Buckenham: 5,000 roosting in Jan.

Carrion Crow: Roydon roost 130 Nov 9th.

Hooded Crow: Singly Jan/Feb at Breydon, Reedham, Horsey and Hickling with 2 Waxham. A good spread of single coastal migrants in North and East Norfolk March 2nd to May 11th. One at Burgh Caslte May 15th remained to end of June.

Total of half-a-dozen migrants last week of Oct and in Nov at Breydon, Winterton, Hickling, Sea Palling, Waxham, Weybourne, Cley and Holkham. During Dec present at Breydon, Stalham Green, Cley and Burnham Overy.

Starling: Holme: Oct total of 44,000 westbound migrants with daily maximum of 20,000 on 25th.

Tree Sparrow: Largest flocks: 70 Docking Feb 19th, 50 Claxton March 28th and 80 Lessingham Dec 25th.

Brambling: Large numbers in opening months: Beechamwell 500 April 1st/2nd, Cley 250 Feb 14th, Drayton 150-200 March 28th, Holkham Park 350 Feb 9th, Holme 210 Feb 10th, Santon Downham 100 March 23rd, Thetford 250 Feb 9th and Weeting 600 April 8th. A pair at Wolferton May 4th, Lynford May 5th and one at Yarmouth May 9th.

In Autumn from Sept 3rd. Good numbers during Oct including 100 Happisburgh 12th, 120 Holme Oct 26th where 200 west next day.

Serin: West Holkham Meals May 12th and shortly afterwards over Burnham Overy Dunes (AIB JT). Horsey singing May 31st-June 1st (DGN).

Goldfinch: Maximum 280 Sheringham May 11th.

Siskin: Several flocks of up to 50 in first-winter period with maxima 90 Beeston Regis Feb 26th, 100 Langford March 10th, 300+ Narford during Feb and 80 Norwich Riverside Walk Feb 20th.

Autumn passage maxima 30 Waxham Sept 29th and 89 Holkham Meals Oct 26th. End of year maximum 200 Narborough Dec.

Twite: Large flocks: 350 Titchwell Jan 20th and 300-600 Holkham beach Nov/Dec. Inland: Welney Oct 12th.

Mealy Redpoll: Largest numbers for some years in the opening months: Filby 10 March 8th/9th; Holkham Meals up to 130 Jan/Feb with 70 there during March declining to 10 April 15th; North Walsham 3 Jan 27th; Norwich (Carrow 12 Jan 30th with 6 still present Feb 21st; Mousehold Heath 60 March 10th-17th declining to 35 by March 20th; Sweetbriar 25 Jan 8th to Feb 15th and UEA 2 Jan 25th with one Feb 9th); Strumpshaw

25 March 2nd; Syderstone Common 5 Jan 4th and Weybourne 10 Feb 3rd with 20 next day, then 3 March 28th and last 2 April 16th.

In Autumn 3 Happisburgh Oct 28th, 10 Cromer Nov 3rd and 8th and single Dersingham Nov 13th.

Arctic Redpoll: Unprecedented numbers associated with the large influx of Mealy Redpolls included the largest flocks ever recorded in Britain: Holkham Meals 8 during Jan (MIE AMS) with 12 perhaps 15 during Feb (AHJH) decreasing until the last 4 April 7th. Also at Bradwell Jan 27th to March 1st (PRA KRD); Filby/Rollesby Broads March 7th/8th with 8 there March 9th (MIE AMS) and 2 March 17th and Norwich (Carrow Jan 30th (RCMcI); Mousehold Heath up to 20 March 10th-17th with 5 until 20th (AMS) and Wensum Valley Feb 14th with 2 Feb 17th-23rd).

Two-barred Crossbill: Lynford Arboretum: The Nov 1990 female remained until June 1st.

Common Crossbill: Numbers reached a peak during May with new arrivals at coastal sites between June and Aug. Majority had departed by the autumn, although smaller numbers remained at a number of sites until year-end. Surprisingly no breeding records received. During the year birds noted at the following localities (larger flock counts in brackets): Bacton Wood (40 Jan), Beeston Regis (30 July 6th/7th), Blakeney, Bodham, Bodney, Bradwell, Buckenham Tofts (60 May 11th), Cley, Cockley Cley, Congham Lodge, Dersingham, Drymere, East Lexham, Edgefield (40 Feb 28th), Felbrigg (30 March 29th), Fowl Mere, Foxley, Gayton Thorpe, Glandford, Great Snoring, Grimes Graves, Gunton Park, Hickling, High Kelling, Hemsby, Holkham Meals (32 April 1st-27th; 60 April 28th; 67 May 12th; 85 May 18th, 60 May 25th-June 2nd and 36 July 3rd), Holkham Park, Holme (37 May 22nd; 42 June 19th; 45 July 20th and 34 Aug 17th), Holt Lowes (50 July 22nd), Hopton, Horsey, Hunstanton, Kelling Heath (50 May 18th), Langford, Lynford (70 Jan 1st; 30 Feb/March; 60 April 12th; 70 May 6th; 100 May 13th/14th and 70 May 27th), Lynn Point, Mannington Hall, Mundford (70 May 11th), Mousehold Heath, Quarles (30 Jan/Feb), Roman Camp West Runton (35 June 27th), Salthouse (40 May 20th), Sandringham 50 Jan 9th; 40 March 9th; 40 May 19th and 36 July 3rd), Santon Downham (30 May 17th), Saxthorpe, Sheringham (30 Feb 5th; 35 June 5th and 30 June 24th), South Pickenham (65 May 18th), South Runcton (37 Jan 13th), Sparham, Sprowston (50 Jan 1st and 37 Feb 3rd), Stanford, Stow Bardolph, Strumpshaw, St. Helen's Well, Surlingham, Swanton Novers (40 March 24th and 19 May 11th), Swaffham G.C. (60 April 15th), Tasburgh, Taverham, Thetford Forest (300 May 13th and several flocks exceeding 100 July), Thetford Nunnery, Thorpe Marriott, Thorpe St. Andrew, Titchwell, Waxham, Weasenham (40 Jan 19th), Weeting (30 April 8th and 47 May 27th), Wells, West Acre, West Tofts, Weybourne (40 Jan-March), Winterton and Wolferton (30 March 31st and 70 June 30th). (*Summary by A. Bloomfield*).

Common Rosefinch: A record year. *Spring*: Cromer 3 June 9th (MPL SCV), Sheringham June 6th/7th and Holme May 24th (AM). *Autumn*: West Runton Sept 29th (TW) and Holme Sept 4th-7th (GH) and Oct 20th-24th (WB GH).

Hawfinch: Bred at Lynford, Hilborough and King's Lynn and almost certainly at Holkham Park. Maximum numbers at traditional sites: Hilborough 14 in March, Holkham Park 10 Feb/March, Lynford up to 25 Feb/March and Shingham 14 in Feb.

Elsewhere recorded at Costessey, Easton, East Tuddenham, Mundford, Narborough,

Norwich (Earlham Cemetery), Salthouse Heath, Sandringham and Surlingham.

Lapland Bunting: Smaller numbers than of late in both winter periods, but coastal observations from all points. Latest in spring Lynn Point March 31st and first returning birds Burnham Overy Sept 27th and Berney Marshes next day.

A very unseasonal first-summer male at Weybourne July 4th. Inland: Cantley Jan 14th and Feb 10th and Brundall 4 Oct 17th. Largest numbers wintering in Breydon/Berney area including 20 in Feb.

Snow Bunting: Many fewer than in recent years, the largest flocks being 82 Snettisham Jan and 92 Cley Nov. Holkham Bay peak only 55 Dec. At Hunstanton 147 were ringed Jan/Feb including 2 controls from Cairngorms. At this time, a bird at Snettisham bore a Cairngorm-fitted colour-ring. Last in Spring inland at Sloley April 15th.

First in Autumn Blakeney Point Sept 13th. Other inland records: Buckenham/Cantley Jan/Feb, Halvergate 31 Dec 27th, Ten-mile Bank Nov and Welney March and Nov.

Yellowhammer: Very high total of 400 North Walsham Feb 9th. Also 80 Flitcham Feb 6th and 250 West Bilney April 20th.

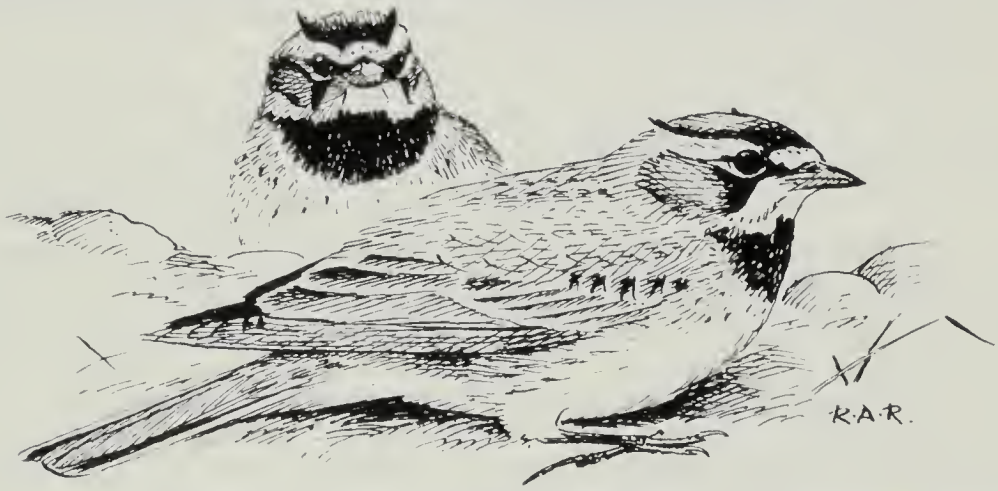
Ortolan Bunting: Blakeney Point Aug 31st to Sept 2nd (GED) and Winterton Sept 7th (PC).

Little Bunting: Cromer April 27th (MPL).

Corn Bunting: Notable flocks included a massive 340 Denver Sluice Feb 4th (bulk departed by the next day - CD); 50 Docking Jan 27th; 68 Lynn Point Feb 10th and 68 Welney Jan 14th.

Singing birds in Spring/Summer at Berney, Burnham Market, Choseley, Downham Market, Feltwell, Happisburgh, Hemsby, Kelling, Knapton, Lynn Point, Marham, Ringstead, Snettisham, Stiffkey, Titchwell, Ten-mile Bank, Waxham, Welney, West Runton, Weybourne and Winterton.

Indigo Bunting: Holkham Meals: The male recorded Oct 1988 (*NBR* 1988 p.312 and *NBR* 1989 p.431) has been accepted by the BOU Records Committee.



The following, not mentioned in the Classified Notes, were recorded in 1991 (*breeding species in italics*): *Mute Swan, Kestrel, Red-legged Partridge, Grey Partridge, Pheasant, Moorhen, Coot,* Great Black-backed Gull, Guillemot, Razorbill, *Woodpigeon, Tawny Owl, Green Woodpecker, Great Spotted Woodpecker, Lesser Spotted Woodpecker, Skylark, Meadow Pipit, Wren, Dunnock, Robin, Song Thrush, Marsh Tit, Willow Tit, Coal Tit, Blue Tit, Great Tit, Nuthatch, Treecreeper, Jay, House Sparrow, Chaffinch, Greenfinch, Linnet, Bullfinch* and *Reed Bunting.*

CONTRIBUTORS TO THE BIRD REPORT

S. ABBOTT
D. ABDULLA
P. R. ALLARD
R. ANDREWS
DR. C. E. ANSON
C. APPLETON
D. APPLETON
J. R. APPLETON
J. ARBON
D. ARCHER
C. ARNOLD
P. W. ATKINSON
T. ATKINSON
J. R. BACON
R. BACON
C. P. BAKER
M. F. B. BAKER
S. BANK
A. BANWELL
T. R. BARKER
M. J. BARRETT
P. E. BEARD
M. A. BEEVERS
D. R. BENNETT
M. R. BENTON
T. J. BENTON
S. BETTS
M. BLACKBURN
A. I. BLOOMFIELD
P. J. BLOTT
A. D. BOOTE
E. F. BOOSEY
N. BOSTOCK
T. E. BOULTON
A. BOWLES
N. BOWMAN
W. BOYD
M. BRAZIL
K. J. BRETT
MRS. A. BREWSTER
MR. & MRS. D. A. BRIDGES
P. BRISTOW
J. BROWN
T. BROWN
J. BROWNE
D. P. BRYANT
A. L. BULL
P. BULLER
J. F. BUTCHER
D. BUTLER
L. BUTLER
J. J. BUXTON
G. BYFORD
C. CAMPBELL
H. CARMICHAEL
P. CARR
G. P. CATLEY
M. S. CAVANAGH
P. CAWLEY
M. G. CHAFFEY
A. CHAMBERLAIN
A. G. CHANNER
R. CHITTENDEN
R. G. CLARK
P. R. CLARKE
P. R. COBB
J. COLEMAN
A. F. COLES
J. COOPER
H. P. CRAWLEY
G. M. CRESSWELL
E. CROSS
S. CULLUM
J. CURSON
S. CURSON
T. C. DAVIES
T. DAVISON
R. G. DAWSON
T. R. DEAN
I. DICKIE
P. DOLTON
C. DONNER
D. A. DORLING
MRS M. DORLING
O. G. DOUGLAS
W. R. DRIVER
S. P. DUDLEY
G. E. DUNMORE
K. R. DYE
DR. M. J. EALES
G. M. S. EASY
J. C. EATON
M. I. ELDRIDGE
H. ELLIS
L. G. R. EVANS
V. EVE
P. F. FAIRMAN
D. FARROW
F. J. L. FARROW
P. C. FEAKES
R. D. FILBY
F. P. FISHER
P. FISHER
M. FISZER
R. J. FOWLER
R. A. FOYSTER
R. J. FRANCIS
D. FROST
R. FROST
S. J. M. GANTLETT
MR. & MRS. H. K. GARNER
R. W. H. GARNER
J. & J. GEESON
J. GILL
I. GILLARD
D. J. & T. M. GIRLING
P. A. GLUTH
J. G. GOLDSMITH
M. GOLLEY
S. GRAHAM
R. GRIBBLE
C. HAINES
A. HALE
MRS. J. V. HALE
M. C. HALL
J. HAMPSHIRE
B. D. HARDING
R. I. HAROLD
A. HARRIS
A. F. HARRIS
J. HARRIS
S. HARRIS
A. H. J. HARROP
P. J. HEATH
D. HERRIEVEN
G. HEWSON
G. F. HIBBERD
G. A. HIRONS
R. HOBLYN
D. J. HOLMAN
HOLME DUNES RESERVE
P. J. HOLT
B. HOPKINSON
S. J. HUGHES
MRS. L. HUTCHINSON
R. A. IMAGE
C. A. JACOBS
G. JAMES
R. M. R. JAMES
B. W. JARVIS
A. JENKINS
G. JOBSON
R. JOHNS
MR. & MRS. I. JOHNSON
P. JOHNSON
D. M. JONES
E. W. P. JONES
MRS. M. JONES
MRS. M. JOWETT
S. C. JOYNER
E. JUDD
G. JUDD
S. JUDD
P. KEARNEY
D. F. KELLY
D. J. KELLY
G. I. KELLY
J. B. KEMP
DR. T. KERRY
A. KETTLE
DR. I. F. KEYMER
H. KIBBLEWHITE
C. R. KIGHTLEY
C. KIRBY
P. D. KIRBY
C. A. E. KIRTLAND
DR. P. KITCHENER
P. B. KNAPP
J. F. W. KNIFTON
C. R. KNIGHTS
MRS. R. J. KNIGHTS
C. D. KNOTT
C. H. LAMSDELL
C. LANSDELL
J. LANSDELL
A. L. LAST
DR. R. M. LEANEY
MRS. J. E. LEE
M. P. LEE
A. J. B. LESTER
DR. J. LINES
S. E. LINSELL
S. M. LISTER
N. LITTLEWOOD
A. LIVINGSTONE
R. S. LUCKING
D. F. MADIN
J. D. MAGEE
R. C. MANSFIELD
J. H. MARCHANT
A. MARR
N. MAXWELL
D. MAYES
J. McCALLUM
R. McCURLEY
R. C. McINTYRE
S. C. McINTYRE
J. McLOUGHLIN
H. P. MEDHURST
D. R. MIDDLETON
MRS. B. MIGHELL
J. MIGHELL
MR. & MRS. P. MILES
P. MILFORD
J. MILLER
R. MILLINGTON
R. MITCHELL
MR. & MRS. R. MONTEATH
T. MOON
P. R. MORRIS
A. NEEDLE
R. NELSON
M. NEWTON
G. NICHOLLS
D. NICHOLSON
D. G. NICHOLSON
T. C. NICHOLSON
P. C. NOAKES
J. OATES
P. A. OLIVER
B. ORR
DR. M. OWEN
G. R. OXBOROUGH
M. PALMER
W. PARKER
J. PARROTT
MR. & MRS. J. PARSLOW-OTSU
D. PARSONS
D. PAULL
A. PEARCE
MR. & MRS. K. PEARCE
S. E. PEARSON
DR. M. PETCH
E. J. PHILLIPS
J. M. N. POWELL
R. POWLEY
A. J. PRATER
S. PREDDY
R. PRESTON
J. L. RAINCOCK
M. RAINS
H. RAMSAY
M. S. READ
J. REDWOOD
J. REED
G. REEDER
D. REVETT
A. P. REYNOLDS
M. A. REYNOLDS
B. ROBSON
M. H. RODGERS
G. ROLFE
R. ROLFE
M. E. S. ROONEY
S. ROPER
C. ROSE
J. ROWE
J. A. ROWLANDS
F. RUSSELL
M. D. RUSSELL
MRS. A. RUMSEY
B. RUMSEY
D. H. SADLER
K. SAUL
M. & D. E. SAUNT
C. SAYER
B. R. SCAMPION
R. SCRIPPS
M. J. SEAGO
C. SELF
J. R. SELF
C. SHAW
A. J. SHEARMAN
K. B. SHEPHERD
A. SHERWIN
D. G. SHORTHOUSE
R. SHRIVE
N. SILLS
R. Q. SKEEN
B. SMALL
C. J. SMALL
I. SMITH
R. SMITH
P. SNOW
R. SOUTHWOOD
R. A. SPAIN
S. SPALDING
E. STANFORD
STANFORD TRG AREA BIRD GROUP
R. STARLING
N. R. STOCKS
A. M. STODDART
L. C. STREET
R. A. STROUD
J. SWALWELL
G. TAYLOR
DR. M. TAYLOR
M. J. THOMPSON
J. G. THREADGOLD
M. TUCKER
M. TUNMORE
G. TYLER
C. UNDRILL
P. L. VARNEY
H. VAUGHAN
A. E. VINE
S. C. VOTIER
C. WADE
R. J. WALKER
G. M. WANT
K. WARRINGTON
R. WATERS
J. WASSE
D. WEAVER
J. WELSBY
W. E. WEYMAN
J. WHELDON
J. A. WHITE
A. J. WHITEHOUSE
J. WHITELEGG
M. A. WILKINS
A. WILKINSON
N. WILLIAMS
J. R. WILLIAMSON
R. WILLIAMSON
M. J. WOOD
H. G. WOOD HOMER
J. WRIGHT
T. WRIGHT
M. YOUNG-POWELL

Photographs: Great Snipe (*D. Butler*); Ring-billed Gull, Slavonian Grebe, Little Egret, Pacific Golden Plover, Great Northern Diver, Red-breasted Flycatcher, Siberian Stonechat and Roller (*R. Chittenden, Rare Bird Photographic Library*); Bearded Tits (*M.D. England/Pensthorpe Waterfowl Trust*); Penduline Tit (*G. Hewitt*); Dotterel, Ring-necked Duck, Caspian Tern and Long-eared Owl (*B.W. Jarvis*); Golden Oriole (front cover and within text), Nobby and Redwing (*C.R. Knights*); Red-backed Shrike and Lark Sparrow (*J. Levene*); Rabbit, Hare, Leverets, Red Deer and Roe fawn (*D. Mason*); Goosander/Red-breasted Merganser and Smew (*M. Rains*); Bewick's Swans (*M. Smith/Pensthorpe Waterfowl Trust*) and Laughing Gull, Red-necked Grebe, Pomarine Skua and Radde's Warbler (*R. Tidman*).

Line Drawings: 257 Marsh Harrier, 262 Caspian Terns, 277 Pochard/Tufted Duck, 278 Velvet Scoters, 312 Long-tailed Skuas and 313 Little Gulls (*N. Arlott*); 281 Long-eared Owls and 268 Bittern (*N. Borrow*); 301 Ring-necked Duck (*A.S. Disley*); 287 Hawfinch and 294 Red Kite/Black Stork (*C. Donner*); 325 Arctic Redpoll (*P. Jones*); 343 Otters (*the late J. Last*); 261 Lark Sparrow (*I. Lewington*); 300 Shelduck, 308 ruffs, 309 Black - tailed Godwit/Marsh Harrier, 322 Bearded Tits and 326 Shorelarks (*the late R.A. Richardson*); 335 Water Shrew (*D.A. Showler*); 252 Great Northern Diver, 304 Hen Harriers and 323 Lesser Grey Shrike (*J.P. Smith*); 267 Snowy Owl (*A.M. Stoddart*); 312 Franklin's Gull/Black-headed Gull (*J. Wilczur*); 259 Franklin's Gull and 260 Laughing Gull (*G. Wright*) and 253 Avocets, 264 Temminck's Stint, 303 Smew, 303 Goosander, 306 Avocets, 323 Long-tailed Tits and 328 Avocets (*J.Wright*)

NORFOLK MAMMAL REPORT 1991

Editorial

The Editor is pleased to present the 36th Annual Norfolk Mammal Report.

The year under review was notable for the effects of the weather on our wildlife. The poor precipitation combined with increased extraction lowered the water table so drastically in certain parts of the county that profound changes in habitat were inevitable. For the higher levels of the food pyramid based on invertebrate life in the litter layer there were problems. Elsewhere the general naturalist found much to see. The profusion of many flowering plants which are suppressed by the rank vegetation associated with wet summers was a joy to behold.

From the point of view of the study of Norfolk animals there were equally exciting bonuses. The long, patient search for harvest mice going on for many years had already identified their continued existence in parts of north and west Norfolk. News from Dr. Martin Perrow that the colony discovered at Hickling by students from the University of East Anglia had proved to be, under his still current programme of study, of major importance. It is probably true to say that at its peak, the number of animals there far exceeds those of any known county site. The rise and fall of the population brought about by all known factors, including weather, we expect to be covered in a major article from Dr. Perrow and his colleagues in a future annual report.

Efforts there were not concentrated on harvest mice though they were the predominant species number-wise. Another significant find was the regular occurrence of water shrews in the live catch. This mammal has been reported on very few occasions during the last few years and appeared to be in serious decline. *The Water Shrews of Hickling* are featured in an article by Dr. Martin Perrow and Adrian Judd in this issue.

Having found what is believed to be a viable population after our pessimistic prognostications must not blind us to the fact that there has been a genuine shrinkage of habitat and these creatures are now likely to be confined to such managed sites where the welfare of the wildlife is the predominant consideration. Our major river systems with their abundant tributaries and associated man-made water-ways no longer provide the extent of water let alone the quality and the plant-life necessary to perpetuate the invertebrates and hence the water shrews that once fed on them.

We must be thankful there are still large areas of Broadland in particular where the nature of the terrain itself precludes the massive disturbance to wild creatures we see elsewhere. The idea that a herd of red deer could thrive and multiply in a part of Broadland was strange and fanciful just a few years ago. It could and did happen. The Chinese water deer has been the arch-type of exploiter of Broadland fastnesses. Now the muntjac has added itself to the list. So common have sightings of deer become in the area a specialist group has formed itself to monitor species and numbers.

Numbers in excess are what can bring about any creature's downfall. Deer are welcome until the damage they cause becomes unacceptable and control has to be exercised.

This is always unpopular, when and where found to be taking place. Yet having reintroduced or imported deer species without any form of natural control, man has to take on the function of the appropriate predators.

The fox is another mammal heightening emotions in certain districts where it has risen beyond the point of balance. The grey squirrel has become very familiar and after so many years of interesting stories has lost much of its previous glamour. Soon efforts will have to be made to encourage reports on this species as we have to do with other rodents!

Grey squirrels are relatively easy to note. They present themselves to us. How do we report on the more elusive species? An interesting and unusual article by Eddie Boosey, requested by the Editor, is included to encourage would-be mammal watchers and recorders. Eddie's light-hearted style does not obscure his point that the evidence is there, that the animals are to be seen by those with wide enough vision, wide enough in every sense. His own notes each year are extensive and detailed although many of the incidents he describes are missed by his companions of the day.

John Goldsmith, co-ordinator of the Norfolk Bat Group, reports on the bat species. Most of his time could be spent on working on these animals alone and it is no doubt with some relief he welcomes the newly appointed Vincent Wildlife Trust Bat Officer to East Anglia. We hope the contract extends beyond the initial three years. John's highlight is the regular monitoring of the Barbastelle using a protected Breckland site.

A mammal that has intrigued us over the years is the Yellow-necked mouse. We are on the extremity of its northern range and it is much more common in lower latitudes. It is not known to migrate for vast distances. So the succession of warm, dry summers is not likely to have encouraged it to foray northwards. However, numbers may have increased to the point of individuals being noted in local populations that have spent years unobserved. The total number of records is still very smll, but 1991 was a very special year.

Michael Seago has taken time out from bird records to scour the literature for references to whales stranded on our Norfolk coast between 1913 and 1991. He has compiled a useful check-list of cetaceans that have come to this sad end. Can we dare expect a similar list of live sightings in some future Report? It would be a daunting task and one requiring the help of sharp-eyed sea-watchers.

Our aim is always to enliven the joint reports with high quality pictorial material so it is a special pleasure to include some of the work of David Mason, Norfolk gamekeeper, who won the BBC Television *Country File* photographic competition and welcome him to our list of distinguished illustrators.

We thank our feature writers, Dr. Martin Perrow and Adrian Judd, Eddie Boosey, Michael Seago, specialist contributors, and all others who have sent in records. Their efforts are greatly appreciated for without them there could be no proper report. Every effort is made to draw up an accurate list of contributors as this is the only acknowledgement. Omissions and errors do occur and we apologise if there are any in this issue.

All notes are filed and eventually lodged in that great storehouse of information, the Natural History Department in Norwich Castle Museum. John Goldsmith is still a member of that department and prepared to answer queries on all vertebrate species, not only mammals.

Contributions to the next report should be sent *as soon as possible* in the new year to: Rex Haney, Ardea, 124 Fakenham Road, Taverham, Norwich NR8 6QH.

Serendipitous Sightings

Eddie Boosey

Peter Cawley aceuses me of "walking around with a brown paper bag over [my] head". This is when I am describing an unidentified bird, but am unable to tell him the colour of its tongue or its shoe size. Peter is exaggerating somewhat. I have been known to take the bag off and have been surprised and delighted by what can be seen, so often by chance, if one does not have the tunnel vision of a complete speeialist.

The case springs to mind of the group to whom I was giving a guided tour of a nature reserve, who all eoineidentally meeting it in mid-stride, stepped over a freshly dead fox without seeing it. They were very surprised entomologists when the body was drawn to their attention.

This is also a good example of how useful the ehance finding of a dead animal can be. Animals, when dead, are much more easy to identify, but they also change other behaviour patterns. Strictly nocturnal animals, for example, can be seen in broad daylight. Also, finding a dead speeimen can sometimes offer fascinating insights into the behaviour of another speeies.

The case of the entomologists and the dead fox is a good illustration. Another is provided by something seen reeently on Searning Fen. On this much studied site, no brown rats had previously been recorded, but on two separate oecasions dead brown rats have been seen in broad daylight. The really interesting point is both had been killed by a stoat but not eaten. I revisited the corpses over many days, but the stoat never returned.

This behaviour compares with the case of the rabbit killed by a stoat, in the same part of Scarning Fen. The stoat had eaten its fill, hidden the remains under some gorse, and kept returning until only a skeleton eould be seen. Now a stoat was killing brown rats and not eating them. Was it simply hunting and killing for exercise?

Faseinating as this may be, more pleasure, more exeitement, and more interest is provided by live mammals, partieularly when the mammals eoneerned have not read the right books.

On a crisp winter's day, I heard the song of a dunnock and turned towards a small hawthorn bush. The dunnock was perched on top, producing its flat, thin, weak warbling. I caught a glimpse of movement on the ground, at the base of the hawthorn's stem caused by a stoat, whieh began to climb the hawthorn.

I watched fascinated, as the stoat slowly, laboriously, and probably painfully, climbed from twig to twig, spurred on by the fact that it was drawing inexorably closer to its lunch. Unfortunately for the stoat, it wasn't the only one to think about lunch. The dunnock also decided that perhaps it was time to go shopping, so it flew away.

The stoat stayed motionless for several minutes, staring up, before realising that all its efforts had been wasted. It then turned and precariously made its way back to the ground, and, as Coleridge might have said, 'It went like one that hath been stunned, and is of sense forlorn: a sadder and a wiser stoat, it rose the morrow morn.'

Similarly ill-educated were some roe deer, with which I had a chance encounter during mid-May. I had, in fact, only learned of their existenee earlier that day, and had returned simply to see them.

In the valley bottom, was a group of willow trees, perhaps twenty yards in diameter, and a roe deer was running around pursued by a roe buek. It was apparently trying to escape, but was, of course, running to encourage the buck to ehase her. After I had seen them eircle seventeen times, the buek stopped here, and the female also stopped, even though she could have escaped if she had really wished. The buck walked a few yards,

folded its legs, and sank to the ground, apparently exhausted, while the doe began feeding. During this performance, another doe had been feeding quietly nearby, ignoring the activity.

While I was waiting for more excitement I realised, as I had read the right books, all this rutting-ring activity was two months early. Perhaps this doe simply believed in the old saying, 'Never put off 'til July what you can do in May'.

The above case is a good example of one of the best ways of finding beautiful and interesting things you could not see by going out to look for them. My method is to go out to look at, or for, something specific, but to keep one's eyes open and see something entirely different by chance.

On another occasion, I had been out all night with the Moth Group, trapping, and decided I would go to a badger sett and see the badgers coming home after their night's wanderings. I climbed an oak tree, from which I had previously watched badgers and was in position at 4.20 a.m.

I saw no badgers. But an unexpected fox came into view at 4.35 a.m., walking along a track which cuts through the field above the sett, and runs next to a line of oak trees, including mine. This fox walked unhurriedly towards me. Then, ninety yards away, it suddenly stopped, raised its head, and smelled the breeze. I saw a rabbit had emerged from amongst the sugar-beet and was hopping unaware towards the fox. Fortunately for that rabbit, the fox suddenly dashed in pursuit of another one I did not see until it ran off, successfully escaping. The fox turned back towards the track, and soon became aware of yet another rabbit, which it pursued for a short distance, again unsuccessfully.

It returned to the track and again walked towards me, stopping every so often to sniff the air, until it was only thirty yards from my tree. Here it turned its head away and obviously caught an interesting scent as its whole attitude suddenly changed. It became tense, gathering its paws together, and crouched, neck extended, and nose twitching. It then leapt forward in a typical fox's pounce, its body moving through the air in an arc, landing with its front feet together, immediately putting its mouth down to join them. Then it raised its head and began chewing.

The fox then began using its nose to investigate the long grass into which its pounce had taken it, before returning to the track, where it continued to walk towards my tree. When it reached the point at which I had crossed the track earlier, it stopped instantly.

Here it sniffed the ground, raised its head and smelt the air, and was clearly no longer relaxed or confident. It stood, undecided, directly beneath me, giving a superb view. Dark, red-brown in its general coloration, it had four knee-length black socks. The backs of its ears were black to halfway down, and its muzzle white with black, diagonal markings for half its length.

Having stood long enough to give a wonderful picture, it turned and trotted quickly away; disappearing from my view twenty minutes after it had first appeared. If only I had had my camera ...

Leaving one's camera at home is yet another good way of seeing wonderful pictures of wildlife. My final example also demonstrates mammals' remarkable sixth sense about cameras.

On a beautiful summer evening, I went to another badger sett, and decided that I would watch in the field above. I found I was not alone. A fox was apparently feeding on earthworms, beetles, and other things I could not see.

Also in the field were several rabbits, which the fox was ignoring and which were ignoring the fox, as is usual when they are neighbours. There were some bales of hay in the field, cylindrical and four feet six inches in diameter. When the fox encountered one, it treated it in a rather derogatory manner, showing it was a dog-fox, then jumped to the top of the bale and stood for a minute or so looking around before continuing its peram-

bulations.

The dog-fox encountered two other bales and jumped onto each before it moved over the crest of the hill.

I returned the following evening, arriving slightly earlier, and stood behind one of the bales, seeing nothing for the first ten minutes. A fox then came into view from the area of the badger sett, and moved across the field in a somewhat zigzag manner. It was a different fox and this was confirmed when, using the same method as the dog-fox, it demonstrated its sex. This vixen also showed its difference by ignoring the bales and rounded it all off by moving much faster than the dog-fox and quickly disappearing from view.

On the third consecutive evening, I came back to the field where I had seen the foxes, both during beautiful evenings, and at close quarters. That night, therefore, I came to watch foxes, not badgers, and I brought my camera. I arrived at 8.30 p.m. Yet another beautiful evening, checked that the wind was again in my favour, and got into position behind a bale.

I waited, camera poised, until it was far too dark to take any photographs. At the precise instant I put the camera into my bag, a fox called three times from somewhere fairly close to where I had been standing so long. It was the call, usually named 'the scream of a vixen', which is, in fact, made by both sexes. It was now too dark to see which of the foxes was calling. I do, however, know precisely what it was saying!

Having been mocked by foxes, and, on other occasions, by Chinese water deer, weasels, golden pheasants, and others; having spent many tortured hours on the trackless, burning sands of Holkham Meals in a futile attempt to see such things as yellow-browed warblers, or soaked to the skin and chilled to the bone at Winterton, Titchwell, Thornham, in a futile attempt to see anything, and having suffered in so many other ways, I would sum up this brief excursion into my memories by advising my readers not to bother themselves. No matter how hard one may try, the greatest interest and pleasure can so often only be obtained from serendipitous sightings.

Stranded Whales on the Norfolk coast 1913-1991

M. J. Seago

Strandings of cetaceans were amongst the first natural history events to be recorded. They formed an important additional source of food and fuel for many coastal people.

Eighty years ago the Trustees of the British Museum made arrangements with Receivers of Wrecks to receive reports from Coastguard Officers of the strandings of specimens of whales, dolphins and porpoises on the entire British coastline. A complete record of strandings has been maintained since that time and now exceeds over 30 species. Prior to 1913 strandings were reported to the Crown as whales had been declared 'fishes royal' in Britain in the 14th century.

Summaries of strandings where the species was identified *(but not sightings at sea)* along the Norfolk coast between 1913 and 1991 appear below. Observations relate to singles unless otherwise stated. Order and nomenclature follow *Sea Guide to Whales of the World* (1981) by Lyall Watson.

Piked Whale (Minke) *Balaenoptera acutorostrata*: Caister 23.11.27 (largest example measuring 29ft), Hunstanton 29.11.33, Wells 25.11.42, Waxham 24.5.59 and Weybourne 25.7.69. Occurs worldwide. Sometimes marooned in open wakes inside the icepack.

Sei Whale *Balaenoptera borealis*: Waxham Gap 16.7.71 (44ft). Lives for some 70 years reaching maturity around age 10.

Northern Bottlenose Whale *Hyperoodon ampullatus*: Terrington 5.9.14, Snettisham Nov. 41, Snettisham 28.6.42, Holkham 22.3.49 (longest specimen measuring 40ft), Holkham two 10.7.62 and Scolt Head 3.8.88. Said to be the longest diver of all cetaceans, submerging for as long as 2 hours at a time.

North Sea Beaked Whale (Sowerby's Whale) *Mesoplodon bidens*: Happisburgh 8.8.52 (10ft 6in). No other species in the Atlantic is likely to be seen so near the Arctic Circle.

Great Sperm Whale *Physeter macrocephalus*: Holkham 30.11.86 (50ft) was featured in the 1986 *NMR* and Brancaster 12.11.91 (50ft). With the head forming as much as a third of the total body length, this whale has been aptly described as the owner of the biggest nose on record.

Common Porpoise *Phocoena phocoena*: A total of 85 strandings including 16 examples 1989 to 1991. Length measurements have ranged from 2ft to 6ft. Has always been the most abundant cetacean in European waters. Many specimens stranded have almost certainly been drowned by being caught in herring nets or killed by fishermen and thrown overboard.

Long-finned Pilot Whale *Globicephala melaena*: Eccles 25.11.82 (9ft) and Stiffkey 22.12.82 (12ft), Scolt Head (16ft) and Holkham both 13.2.83. A school is readily stampeded by the injury or stranding of any of its members, something which whalers quickly exploited.

False Killer Whale *Pseudorca crassidens*: A rare invasion took place on the North Sea coasts of England and Scotland towards the end of 1935. First stranding (when 11 recorded) at Donna Nook, Lincs, 16.11.35 followed two days later by a school of 8 in Wootton Creek on The Wash. They measured between 14ft and 18ft.

Whitebeak Dolphin *Lagenorhynchus albirostris*: Sea Palling and Yarmouth 1919, Happisburgh 1925, Hunstanton 1930, Happisburgh 1956, Blakeney Point 12.3.68 when total of 8 stranded on sandbars, Sheringham and Holme 1980, Scolt Head and Holkham 1986, Overstrand 1988 and Titchwell 1991 (stranded alive and refloated). More examples than any other cetacean — apart from Common Porpoise). Most northerly of its genus ranging from the ice in Greenland and Barents Sea to the North Sea.

Common Dolphin *Delphinus delphis*: Winterton 25.10.43 (7ft) and Hemsby 19.5.44 (5ft 6in). A school of about 20 entered the River Nene and headed upstream reaching Whittlesey, Cambs., 4.11.47. Eight days later others appeared in the Thames reaching Putney and then Chiswick.

Bottlenose Dolphin *Tursiops truncatus*: Blakeney Point Jan. 1920, Cromer 29.11.39, Holme 15.5.42, Caister 19.5.42, Happisburgh 18.1.45, Hemsby 23.1.45 (the largest specimen at 11ft), and inland on Great Ouse at Downham Market 27.9.66. Known from all warm and temperate waters worldwide.

Acknowledgements: Thanks are due to Norwich and Ipswich Museums and also The Natural History Museum London for making available periodic Reports on Cetacea stranded on the British coasts.

Water Shrews at Hickling

Dr. Martin Perrow & Adrian Jowitt,
ECON, School of Biological Sciences, UEA

When our investigation into the effects of reed management upon populations of small mammals, particularly those of harvest mouse *(Micromys minutus)* first started, we had little idea that one of the sites being used at Hickling NNR would contain the highest density of water shrew *(Neomys fodiens)* yet recorded in this country, 9/ha compared to 3.2/ha in water cress beds in southern England.

The initial study was centred on an experimental grid system of 5 replicates (each of 50 x 40m in size) of each of the three treatments typically applied to reed, namely cutting, burning or leaving unmanaged. Work on this site using 300 live traps (50% ground and 50% aerial i.e. 1.2m up a bamboo cane) will hopefully be continued for the next three years, with the ultimate aim of not only determining the most suitable reed treatment regime for small mammals in general but also the habitat requirements of harvest mouse and now water shrew. This information will complement previously gathered data (UEA, RSPB) essential in determining the best strategy for the conservation and management of reed-beds.

With the small size of the replicates precluding a full understanding of the distribution and habitat preferences of mammals (the typical home range of any individual encompasses several blocks), we decided to use a larger area (150 x 120m split into six areas of 30 x 40m with 20m gaps between) in both a homogenous unmanaged bed and a homogenous intensively managed (cut on an annual basis) bed. It is this latter site that has created all the excitement. Trapping was conducted (using 120 traps in each) in two periods, August and late September/October 1991.

The number of individual water shrews captured was always significantly higher in the cut bed than in the managed and up to 22 individuals used the managed block in September compared to 5 in the unmanaged.

An interesting point is that common shrew *(Sorex araneus)* shows a reverse trend, numbers tending to be higher in the unmanaged site (significantly so on one occasion). What is this management preference based on?

For water shrews, the simple answer is water, to which the animal is adapted with distinctly stiffly hairy hind feet and tail as an aid to swimming. The managed bed is carefully flooded, by sluice control, during the spring to promote reed growth. If possible, some water is retained throughout the summer months and if there is enough water available

the site may be re-flooded in late summer. Correlation between the number of individual *Neomys* using an area and water was very strong indeed and it is no coincidence that the wettest parts of the unmanaged site were the only areas utilised.

We think that the presence of water creates suitable foraging habitat for water shrew but tends to make it unsuitable for common shrew which forages under the litter layer. One thing that we hope to do in the future is to determine the diet and foraging behaviour of water shrew in what can be, depending on management, a semi-aquatic environment.

A further striking feature of water shrews is their wanderlust. At Hickling, the average range length (distance between successive captures) was more than 50m and one individual moved at least 109m overnight before its subsequent recapture. Obviously, this underestimates their movements as animals probably don't move in straight lines! Furthermore, individuals caught in the cut bed have turned up several hundred metres away in the experimental site. These animals seem to simply pack up and move on and utilise another range depending on conditions. When creating suitable habitat for shrews we may have to manage large areas but before that can be done we need to fully understand the spatial and temporal patterns of shrews. We hope to determine this with further trapping and the use of radio tracking.

Finally, as has been mentioned before in the Mammal Report, the status of *Neomys* in Norfolk is uncertain to say the least. We would like (if funding can be obtained for the PhD studentship we have in mind) to survey other areas particularly in Broadland to confirm that reed, but also other fen habitat, is the outstanding habitat it appears to be. It seems we're destined to tangle with 12.5g (the average weight of shrews at Hickling, range from 9-22g) of furious black and white (although we have also captured one completely melanistic individual!) energy in the future. By the way, all that you've read about the toxic bite of water shrew is true ...

We are indebted to the Norfolk Naturalists Trust and Francis Russell for the use of the sites at Hickling and to the Broads Authority for treating the experimental site. We are also deeply grateful to The Mammal Conservation Trust and the Nuffield Foundation Undergraduate Bursary Scheme for providing funds.

Classified Notes

Hedgehogs *Erinaceus europaeus* are always well to the fore in the unofficial league table of referenees, all too many of them as road casualties. Last year was no exeeption though overall the number found was below the normal. Far fewer requests for information on the eare and feeding of youngsters found in the garden during the autumn period were addressed to the Editor. This at a time of growing awareness and willingness to give that extra help where needed. The drought must have depleted at least some of the sources of food for all animals depending on ground-living invertebrates for any part of their food supply. The adult females were probably not in eondition to produce so many of the now familiar late broods that cause earing humans so mueh distress.

'The poorest year' was the comment from Breckland and a mid-Norfolk correspondent eehoes this albeit in the form of a question. Heaeham is one exeeption where more were recorded.

One of a mid-summer brood at Hardingham had to be reseued from a grass tussoek where it had become trapped by tough stems. Raw lamb seraps helped to bring it back to health, but when released it was seen to be still dragging one foot. A youngster found at Easton late in the year was fed and sheltered all through the winter. By spring it was in finc condition.

Significantly fewer hills of the **mole** *Talpa europaea* were noted at Lound and not so many at Hempnall. All other references speak of high density, great abundance and very numerous hills. The evidence cited is almost exclusively from the number of workings. This is the nature of things with the mole, but we would expect to receive a few reports of moles on the surface in gardens or crossing roads. There were unusually few of these which may have some connection with the fact that moles had to work in deeper runs. Extending deeper systems may have caused some of the extra activity noted in some areas.

All the record cards for the shrew have fewer entries this year. One of our main sources of information, correspondents' cats, brought in fewer records and, quite unusually, none at all from Hempnall. Barn owls maintain their reputation by leaving pellets containing **common shrew** *Sorex araneus* and **pigmy shrew** *Sorex minutus* remains at Belton and Saxthorpe. Common shrews were said to be common in the garden at the latter locality. Very few of either species were found in the whole of the Breckland area.

Looking through the listed sites it is clear that the majority of shrews seen were on recognized nature reserves. That may seem an obvious conclusion and no more than can be expected but it does again demonstrate the necessity of maintaining islands of favourable habitat to keep populations going when conditions are adverse.

An interesting comparison is from Scratby where a survey was conducted during 1962 and repeated in 1991. The latter produced a 62% lower live catch of common shrews. Follow-up campaigns are planned for the next four years.

It was a reserve that produced the wonderful discovery of **water shrews** *Neomys fodiens* reported elsewhere. Four references are on the card and one is of that healthy population at Hickling. The others are from Stanford, Holme Dunes and from dykes in the Horsey/Winterton areas. Significantly, one is another reserve and the others are areas where wildlife is relatively undisturbed.

Bats: The following note has been supplied by John Goldsmith:

1991 was again a reasonably busy one in the bat world. Another fine dry summer albeit with a cold spring snap, meant that most species in East Anglia had a fairly good breeding season with a good percentage of young surviving to the free-flying stage.

Common Pipistrelles were less reported than in previous years; I suspect because an increasing number of people are prepared to accept a summer colony sharing their house for a few weeks, not phoning up concerned and 'wanting them moved'.

The most numerous bat in my records was **Daubenton**, but this probably reflects our interest in pursuing underground hibernating sites. New summer areas recorded recently for this species include Diss Mere, Langmere near Long Stratton, Cantley and South Walsham Broad, while a new hibernating site in a well was reported at Taverham – thanks to a cat catching some bats! A breeding group of **Natterers** was recorded at Woodton, though unfortunately disturbed during the course of building work. We still know very few breeding sites for this species.

There were no **Brants** or **Whiskered bats** found in Norfolk again this year.

Perhaps the most exciting find concerns **Barbastelle** which now seem to regularly use a World War II building on the Breckland edge in winter. Considerable work has been carried out on the site to protect and enhance its usage, with help from the Vincent Wildlife Trust and English Nature. It has now been secured as a Norfolk Naturalists' Trust reserve and may prove to be the best hibernating site for the species in Britain; no U.K. breeding colonies are currently known.

Mrs. Patty Briggs was appointed at the year's end as the Vincent Wildlife Trust Bat Officer for East Anglia on a three-year contract to help to co-ordinate, fund and encourage bat protection and research in this area. She can be contacted by phone on 081 950 1755.

Coincidences of blank squares on the distribution maps for **Brown hare** *Lepus capensis* and **Rabbit** *Oryctolagus cuniculus* point to a paucity of recorders in those areas rather than a lack of animals. The brown hare was reported from most sections of the county and it is definitely easier to find at least one moving across the fields on journeys through open areas and indeed through the forests than it was a few years ago.

On 31st January 30 were counted on a 60 acre field at Flitcham. 'More than for several years' were reported in the area between Yarmouth and Lowestoft. Yet another correspondent believes the slow decline in the extreme east of the county has continued! Definitely fewer were seen in the Snettisham area. On STANTA they were common and a number of Breckland farms held an abundance. No culling since 1970 on one mid-Norfolk estate has led, expectedly, to a steady increase.

A note on what may be some observers' problem in finding hares in winter and early spring comes from J. Gaffney. 'I had not realised that a hare's form is a fairly deep hollow in the ground, so that you can't see them until you are fairly close, when they suddenly spring up as from nowhere.'

Rabbits were very common in Flitcham until severe myxomatosis struck in August. Most references are variations on the theme of growing numbers set against the reductions imposed by various strains of the disease which no longer respects the seasons. A suffering rabbit was found not far from Melton Constable in January.

A strong increase is reported from the extreme east of the county. 300 at any one time were to be counted at Bodney Warren and similar scenes recalling the old days were discovered in Breckland. Generally on STANTA there has been an increase and the balance between control and allowing grazing to assist the stone curlew is still being adjusted.

Positive identifications of the **red squirrel** *Sciurus vulgaris* were few. That a viable population remains in Thetford Forest is a reasonable assertion, but apart from that the true situation is very difficult to ascertain. West Harling Heath and Beechamwell Warren gave positive identifications in July and August. For the second year running strong indications of at least one in the Watton area have been reported. Sadly, personal checks elsewhere found supposed reds have in reality been rusty greys and we have the unfortunate situation where doubts have to be expressed in most cases.

The **grey squirrel** *Sciurus carolinensis* is 'revoltingly over-abundant' to quote one note. 'Saturation point' is possibly a less emotive, more accurate description for most parts of the county, town as well as country. Pockets of apparently suitable habitat previously not utilised are being filled. For instance Yarmouth cemetery has seen a notable increase, a reflection of rise in numbers in the whole district.

Their scavenging propensity was exemplified at Belton where one was eating a dead pigeon. Overall large numbers were eliminated, only for the temporary vacuum to be quickly filled. The cats at Edgefield made their contribution by catching two. The Hapton House estate produces regular sightings on every visit. On one occasion a squirrel was seen carrying a bright yellow tennis ball in its mouth. When it climbed into a tree the ball continued to give its route away. One or two were present in a Holme garden all year for the first time. Late in April a pair were observed unearthing walnuts buried the previous season. The Flitcham squirrels did not wait so long. They dug the lawn to retrieve the previous year's acorns just after the New Year began.

Fewer reports of the **bank vole** *Clethrionomys glareolus* came in but where they were found they appear to have been plentiful. Common in the garden at Corpusty, good numbers at East Tuddenham, colonies survived near the Holme observatory. Identification from tracks was possible at Belton and scattered single reports came in from a few other sites. It was the view of a bank vole dragging a rotten apple into cover at Holme which prompted the despatch of a set of mammal notes!

More individual recorders mentioned the **short-tailed field vole** *Microtus aggrestis* but the expressions used suggest numbers were low. Owl pellets in Saxthorpe produced positive evidence but only occasionals were seen in the garden at nearby Corpusty. Very scarce at East Tuddenham, very few in Watton and Hempnall and only occasional at Holme. Only from a Hardingham garden do we hear of larger numbers where the word is 'pest'. Mowing on Lolly Moor discovered a small number of adults plus a nest of young. The recorder returned next day with his camera, just in time to see the last youngster being carried away by the mother.

A healthy population of **water voles** *Arvicola terrestris* are at Hickling. What a reserve for a wide range of mammals it is turning out to be! Many water voles were noted at Belton and smaller numbers seen at widespread localities. Remains were teased out of an owl pellet in north Norfolk. The only disquieting reports were from Snettisham and East Tuddenham where previously they were found regularly. Two in the Hun were seen to touch noses briefly and spring back through the water as if they had received a mini electric shock.

The **harvest mouse** *Micromys minutus* is still present in numbers in the Saxthorpe/Corpusty area. Holme produced evidence from old nests and actual sightings. Threxton, East Wretham, Foulden and Upton Fen are on the card as is the unfortunate drowned in a greenhouse at Saham Hills. Pride of place however goes to the major population in the Hickling reed beds where a small-mammal study is continuing by the authors of our article on the water shrews. A full account of the harvest mice can be expected for a future Report.

Plenty of **house mice** *Mus musculus* in Flitcham, two dozen seen during the year in Watton, but apart from that very few reports. All mice are still seriously under-recorded and it is unwise to make further speculation.

The **wood mouse** *Apodemus sylvaticus* is the one reported most often, the number of references vastly superior to the other species of mice combined. Identifications were made by observations, from owl pellets, droppings and by kind permission of a number of cats across the county. Nowhere were they said to have been a serious problem and it is likely that many co-exist with us without our discovering their presence. Unless that is the evidence is as blatant as the prolific consumption of bullace kernels at Hardingham where quantities of neatly opened stones were left in the garden and garage. Perhaps it was the same mouse that built a nest of felt, grass and paper on the cylinder head of a car stored there. The mouse itself was not in evidence when its building operation was found.

The **yellow-necked mouse** *Apodemus flavicollis* had a remarkable year if records are a fair representation. The only colony at Ditchingham was reported to be going strong. Just up the road from our location in Scole, more were caught at Thelveton. Rockland St. Mary and Langley are other new names on the register. One other possible new site in north Norfolk is being monitored. After such a year can we expect to see more or will the species return to its tantalisingly elusive status?

The **brown rat** *Ratus norvegicus* is so clearly present yet lacks the endearing qualities of such an animal as the grey squirrel for example and so goes seriously under-recorded. There are species that are left off lists on the premise that the Editor must know they are there so there is little point in saying so. Travellers on our country roads at night see many live brown rats and the number of casualties recorded in daylight by certain conscientious note-takers is prodigious. A Watton pig farmer challenged over the few rats he recorded told our correspondent that if everyone had cats as efficient as his, they wouldn't have as many rats. His situation was clearly fortunate. Many others had to take much more vigorous steps to control numbers.

Again no coypu were reported and the assumption is that this name can be deleted from our county lists.

Local attempts to control the number of **Foxes** *Vulpes vulpes* met with varying degrees of success. Constant vigilance and a degree of cunning to match the animal itself is necessary. Temporary vacuums are very quickly filled from the reservoir found generally about the county.

A cub was seen in a garden at Old Catton, now included in the greater Norwich area, and more reports than ever were received from the outskirts of Yarmouth. Breckland is overrun says one contributor and that in spite of various agencies attempting to keep a reasonable balance. One was seen from a hide at Hickling carrying a swan's egg across the field of view, though no serious problems were mentioned from that reserve.

Once again it is on Scolt Head Island that foxes have posed what has so far proved to be an insurmountable problem in that for yet another year there has been a complete failure of the ternary. The total loss of all chicks from an internationally important breeding site is a major disaster brought about by the cunning of the last two foxes on the Island in avoiding the strenuous efforts to remove them. Recolonisation from the mainland is inevitable for it is clear that numbers there continue to rise and so the pressure to seek new territories intensifies. Each year the problem will recur until a practical solution is found. For the staff involved, the situation is frustrating and depressing.

Those two adjectives apply equally well to the Editor who has to so qualify the positive news that a Norfolk mammal is on the increase. No qualification whatsoever on the news that the **Badger** *Meles meles* shows signs of a slight rise in numbers. That comes from A. E. Vine who has promised an update on his badger paper published a decade ago and used as a reference ever since. We hope to publish his report very soon.

In his detailed notes E. Boosey describes the setts and individual badgers he mentions in his feature article. In line with our policy over the years we do not give the precise location of any known sett. The consequences could be disastrous for the badgers concerned. We can say they were doing well in mid-Norfolk, always their stronghold and described by a land-owner who has in his care one of the groups of setts as 'our greatest pride'. It is that attitude that is their greatest safeguard.

Otters *Lutra lutra* wander much more widely along our river systems and are more difficult to monitor. Volunteers are always needed to look for signs of otters having passed through. Evidence received was scanty and at least one record said the animal seen briefly could have been a mink. However, the re-introduction programme over the years has resulted in young being born in the wild and from the latest survey it appears that the otter population in key areas could be said to be stable at the very least. Their ultimate future is still uncertain. Many of the water networks have been reduced by the general lowering of water levels resulting in channels drying out and the water quality in many of the survivors is poor. Hope remains that the named main rivers will be protected with improved water quality so that the habitat has a broad enough base to support a sufficiency of these top carnivores.

Stoats *Mustela erminea* as ever to date were much in evidence. An opportunist on the road at Sherborne was seen feeding on a dead rabbit. Not all were careful as they should have been for stoats too feature as road casualties. A stoat in ermine was seen at Shouldham Warren in January 1992 so must have been in that colour during our year. The only other record was from Hilgay when on March 5th one of the two cats provided incontrovertible evidence by dragging a small stoat in full ermine through the catflap and onto the kitchen floor. One of the possible victors bears a scar from a less-successful encounter with a weasel. Size is not everything!

Stories of Stoats' intensity in the hunt always come in. From Heacham we hear of one so close behind a rabbit it was out of view. When the surprised rabbit almost ran into human feet it veered off to one side. The equally startled stoat ran in the opposite direction. Records from widespread locations fill the card, but looking through the names it is

clear the majority are from the north coastal region from Winterton to Holme. It was at the latter a stoat was seen to climb to the roof of a hide made from sacking and perform a trampoline act, broken by a dash inside to peer out of the window at an audience of small birds. The instability of the hide roof was its undoing and it fell off. The mesmerising effect of these antics on prey is well documented. A further instance also comes from Holme when an audience comprising common sandpiper, a greenshank, five avocets and six moorhens edged ever closer to a dancing stoat until actor and audience alike became aware of the observer.

The **Weasel** *Mustela nivalis* was also well represented though from fewer squares on the distribution map. North coastal reserves are always likely to feature because they consist of natural habitat and attract so many visitors with their binoculars and note-books to hand.

The **American mink** *Mustela vison* was mentioned in three sets of notes but this is surely an understatement. Eleven were taken during the year at Welney and this could well become a regular cull. G. J. wrote an article to test the response to his statement that he had not seen one in the wild for some years, although he was reasonably sure he had noted one at Feltwell. The response was overwhelming. Six callers confirmed his Feltwell sighting and Elveden and Thompson Water was added to his list. Mention was made that one apparent characteristic was to bite off the heads of waterhens. Over in the east, two were shot at Ormesby.

Winterton stands out from notes received as the point on the coast to observe a **Grey Seal** *Halichoerus grypus* although other parts of the shore from Horsey round to Cley provided the occasional sighting. Winterton was clearly a focus of activity because pups were born there at the end of November and the beginning of December. The eventual success rate is not known.

Scroby Sands, where the colony regularly bred successfully in the past, was again under water so no young could be produced there. The colony was present though exact numbers are uncertain. An estimate of a maximum of up to 100 has been quoted.

Up-river greys were noted in the Waveney at Fritton on Jan 17th and on Breydon Water on Sept 1st and Dec 31st.

A **Common seal** *Phoca vitulina* was in the Bure at Yarmouth Yacht Station Aug 2nd and one came in over the flooded salt-marsh at Thornham Oct 26th. Others were seen from points round the coast from Heacham to the Suffolk border, though in small numbers. Winterton again features in the notes received.

On Scroby the colony is estimated to remain at about 30 individuals. Common seals are unlike greys in that they do not need a haul out to give birth. However, 3 pups were on Yarmouth beach during the summer. They were well observed, well protected from the over-curious and from dogs and returned to the water.

Students of deer must surely rate Norfolk as a prime county. Species are increasing and in some instances drawing too much attention to themselves by damaging crops and tree nurseries. Two exceptional sets of notes have been received in addition to those from regular contributors. I. & F. Simper have followed the fortunes of West Norfolk deer over the years and have lodged important material with us. R. Bickle made extensive notes on the Hickling red deer during 1991 after many early morning expeditions.

It was there the **red deer** *Cernus elaphus* multiplied to the point when they emerged and were becoming too numerous for their own good. Reduction was inevitable. We can be optimistic that a healthy herd will continue as far as we can see into the future. Thetford Forest still holds the largest herd and realistically is the only one that can do so. Regular sightings are made over the scattered Wensum Forest and individuals can occur in the most unexpected places, instanced by the female at Winterton in June.

The **Fallow deer** *Dama dama* are well established in West Norfolk in local herds. It was last year's statement that few records were forthcoming that elicited much detailed information including a series of road traffic accidents in the Dersingham to Babingley area. Investigations made by our correspondents came to optimistic conclusions. Any lack of live sightings of wild fallow are probably due to the animals wisely moving into less accessible feeding ground. Exceptions do occur as the record from Brancaster proves. Attention now turns to the Horsford/Felthorpe woods where fallow once roamed and from which no records have been received for some time.

'**Roe deer** *Capreolus capreolus* appear to be increasing and expanding their range further north in West Norfolk. They probably live in all suitable wooded areas now. In fact it is probably easier for us to list the woods where we have not found any sign of them. They are still comparatively scarce in the north, however.' That extract from notes received adequately sums up the situation. Culls are necessary to keep damage at an acceptable level in some of the forests. Even in more open countryside with wooded copses numbers are increasing as at East Tuddenham. Occasional sightings are now made in the eastern part of the county. On one Norfolk estate roe deer have been less than popular when they have walked through electric fences set up to confine stock.

References to **Chinese water deer** *Hydropotes inermis* include one from a Taverham garden close to where a record was received many years ago. Apart from that all references are from Broadland where they are becoming much more noticeable indicating a rise in population. The issue is confused by the possibility of roe overlapping feeding territories for they are confirmed to be in this area and by the definite presence of **muntjac deer** *Munitacus reevesi.*

This small deer has spread to Heacham in the west, Winterton in the north and Gorleston in the east where one was found in the town centre. Damage to young trees was attributed to muntjac in STANTA, an ominous record. Their solitary habit, small size and elusiveness undoubtedly disguise the numbers present in their original ingress point into the county, Thetford Forest.

A remarkable year for the number of **Common porpoises** *Phocoena phocoena* sighted. It is not possible, as older recorders remember, to almost guarantee the passage of at least one on a visit to the coast, but it has to be encouraging to see the record card filled again. The first seen, and first found dead, was at Thornham in January where it had been lying for some time. The oddest was a dead porpoise found within yards of a dead roe deer on Holkham beach during the spring. Another was dead at Gorleston in June, showing evidence of having been shot. The 28 inch young one found at Scolt Head appeared injured by nets. At Winterton in May another corpse was found, not necessarily to be associated with the one seen through the telescope on 11th of that month. The body at Beeston Regis in the same period was obviously a small cetacean but was too badly decomposed for positive identification.

After such a catalogue it gives pleasure to report live sightings of singles, pairs and small groups from Waxham in March and Holme in April. August reports are from Holme and Sea Palling. The peak month was September when up to four were seen from Holme, Scolt Head, Cley, Salthouse, Horsey and Sea Palling. The remaining reports are singles from Cley and Waxham in October.

The largest mammal recorded in Norfolk, the **Sperm whale** *Physeter catodon* turned up again, this time at Scolt Head on 12th Nov. Tides later washed it on to Brancaster beach. The carcass, an estimated 40 tonnes, was a weighty embarrassment and the task of dealing with it compounded by its state of decomposition.

Minke whale *Balaenoptera acutorostrata* enter the North Sea on occasions and the best record we have had comes this year from D. Connor who took a series of excellent photographs from a North Sea platform which clearly identify the species.

On 8th May a school of **pilot whales** *Globicephala melaena* was observed off the coast at Holme. The individual noted off Titchwell in January was judged not this species by the shape and size of the dorsal fin. The accompanying sketch from H. Vaughan who is familiar with the appearance of cetaceans supports his opinion that he had seen a **killer whale** *Orcinus orca.*

CONTRIBUTORS TO THE MAMMAL REPORT

P. R. ALLARD
S. BAKER
M. J. BARRETT
S. BAZIRE
P. E. BEARD
G. & K. BECKETT
D. BECKLEY
R. BICKLE
H. BLOOMFIELD
M. & A. BONE
E. BOOSEY
N. BOWMAN
M. A. BREWSTER
T. BROWN
J. BUTCHER
A. BULL
C. B. BUTTERWORTH
C. CAMPBELL
D. CANNINGS
P. CAWLEY
A. G. CHANNER
N. CHAPMAN
D. CHEYNE
P. & M. CLARKE
P. R. COBB
D. COKER
D. CONNOR
E. CROSS
S. CALLUM
J. DAWSON
J. & J. DAWSON
D. DORLING
Eastern Counties Newspapers
D. EARP
H. FAIRHEAD
F. FARROW
I. FARROW
D. FAGG
D. FEATHER
J. G. GOLDSMITH
J. GAFFNEY
R. HADMAN
B.J. HANCY
R. HANCY
P. J. HEATH
A. HUNT
R. HOBBS
J. HAMPSHIRE
A. F. HARRIS
G. JESSUP
J. & J. JERMANY
E. JERMANY
M. JOHNSON
R. F. JONES
A. JUDD
D. F. KELLY
G. I. KELLY
J. KEMP
DR. I. F. & MRS. J. KEYMER
P. KING
C. KNIGHTS
DR. B. R. LAURENCE
DR. R. M. LEANEY
J. LEE
P. & K. LIMB
M. METCALF
J. M. MURTON
D. MASON
Norfolk Ornithologists Association
S. PASCOE
D. & P. PASHLEY
G. PATMORE
R. PAYNE
DR. M. PERROW
T. & E. PHILLIPS
M. PISHORN
R. P. & E. POLS
R. POWLEY
J. L. RAINCOCK
V. READY
G. REEDER
F. P. J. REYNOLDS
K. RIVETT
E. ROGERS
F. RUSSELL
C. SAYER
M. J. SEAGO
C. SHAW
I. J. & F. L. SIMPER
C. J. SMALL
A. SPEAKMAN
R. J. STEWART
G. TAYLOR
DR. P. TAYLOR
P. TRETT
J. TOOLEY
A. J. VINE
H. VAUGHAN
D. WEAVER

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:
Dr. A. Leech,
3 Eccles Road,
Holt,
NR25 6HJ

Membership Secretary:
C. R. Dack,
12 Shipdham Road,
Toftwood,
Dereham NR19 1JJ.

NORWICH 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 389 species of moths recorded.

Walsey Hills Information Centre & Migration Watch Point
Originally est. 1949. Purchased 1973. A vital migration watch-point.
Seasonal Warden.

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

The Quags, Kelling
A 14 acre rough grazing marsh with pool purchased 1984. Passage and resident waders.

Redwell Marsh, Holme
A 35 acre wetland pasture purchased 1985.

Annual Subscription rates:
Individual £8.00
Husband/wife £11.00
Family £12.00
Junior £4.00
Single Life Membership £125.00

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

irty Hares were observed in a single field at Flitcham where severe myxomatosis struck bbits. A decline in Hares in parts of Norfolk may be linked with Fox increases.