

NORFOLK Bird & Mammal Report 1977



Published by The Norfolk Naturalists Trust
and The Norfolk & Norwich Naturalists Society

Vol. 24 Part 5

ISBN 0375-7226

Norfolk Naturalists' Trust Properties

Date Acquired					Acreage		Status*
On the Coast							
1926	Cley Marshes	..	..	..	435	Gift	S.S.S.I.
1937	Duchess's Pightle, Burnham Overy	..			1	Gift	—
1937	Great and Little Eye, Salthouse	..			10	Purchased	S.S.S.I.
1945	East End of Scolt Island	..	..		76	Purchased	N.N.R.
1955	The Eye, Salthouse	..	..	..	21	Purchased	S.S.S.I.
1965	Holme Dunes	..	..	..	400	Purchased, Gift & Agreement	S.S.S.I.
1971	Salthouse Marshes	..	..	..	200	Agreement	S.S.S.I.
Broadland							
1928 and 1974	Starch Grass (Martham)	..	..	..	43½	Purchased & Gift	S.S.S.I.
1930	Alderfen Broad	..	..	..	72	Purchased	S.S.S.I.
1945 and 1969	Hickling Broad	..	..	..	861	Purchased	N.N.R.
1945	" "	..	..	..	500	Leased	N.N.R.
1945	Barton Broad	..	..	..	355	Half Gift &	S.S.S.I.
1952	" "	..	..	..		Half Purchased	S.S.S.I.
1948	Surlingham Broad	..	..	..	253	Purchased	S.S.S.I.
1949	Ranworth Broad	..	..	..	124	Gift	N.N.R.
1949	Cockshoot Broad	..	..	..	12	Gift	N.N.R.
1964	Firs Marsh, Burgh St. Peter	..	..	..	2½	Leased	—
1971	Martham Broad	..	..	..	103	Leased	S.S.S.I.
1972	Hardley Flood	..	..	..	90	Leased	—
1972	Chedgrave Common	..	..	..	10	Leased	—
1974	Barton Marshes..	..	..	..	10¼	Gift	—
Breckland							
1938	East Wretham Heath	..	..	..	362	Purchased & Gift	S.S.S.I.
1942	Weeting Heath	..	..	..	343	Gift	N.N.R.
1949	Thetford Heath	..	..	..	250	Gift	N.N.R.
Other Areas							
1957	Thursford Woods	..	..	..	25	Gift	—
1960	Hethel Old Thorn	..	..	..	⅛	Gift	—
1961	Scarning Fen	..	..	..	10½	Gift	S.S.S.I.
1962	Hockham Fen (Cranberry Rough)	..			20	Purchased	S.S.S.I.
1963	Roydon Common	..	..	..	140	Purchased	S.S.S.I.
1966	Stoke Ferry Fen	..	..	..	25	Agreement	S.S.S.I.
1968	Lenwade Water	..	..	..	37	Agreement	—
1968	Dickleburgh Pightle	..	..	..	1	Agreement	—
1972	Smallburgh Fen..	..	..	..	19	Leased	S.S.S.I.
1972	Ringstead Downs	26	Agreement	S.S.S.I.

(Continued on inside back cover)



Norfolk Bird Report - 1977

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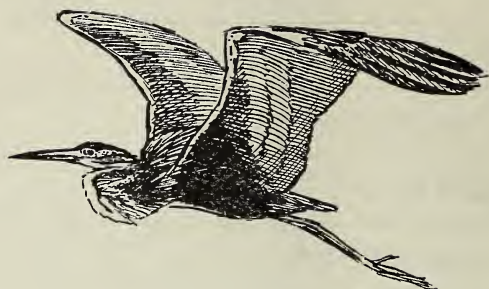
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Published by
THE NORFOLK NATURALISTS TRUST, 72 Cathedral Close, Norwich NR1 4DF
(Telephone 25540).

and
THE NORFOLK & NORWICH NATURALISTS SOCIETY, Castle Museum,
Norwich (*Transactions* Volume 24 Part 5).

NORFOLK BIRD REPORT 1977



Editorial

The Council of the Norfolk Naturalists Trust, in co-operation with the Norfolk & Norwich Naturalists Society, is pleased to present the annual report on the birds of Norfolk.

Review of the Year: Somewhat surprisingly, 1977 produced four additions to the county list: Ruddy Duck, Sociable Plover, Thrush Nightingale and Isabelline Wheatear. Whilst the first three species were not entirely unexpected, the last one breeding no closer than Greece, was undoubtedly the surprise vagrant of the year.

Mild weather in the first half of March resulted in an exceptionally early arrival of summer visitors with records of Chiffchaff and Wheatear on 6th, House Martin on 8th and Yellow Wagtail on 13th. These early arrivals were closely followed by a Tawny Pipit at Holme on 19th, by far the earliest ever British record of this vagrant from southern Europe.

April was again disappointing with below average temperatures and no large influxes of migrants. Nevertheless a Serin was found at Wells and what was almost certainly the same Crane observed at various north coast localities in the second half of the month.

The cold weather continued for the first week of May, being followed by a week of wet westerlies. On the 14th high pressure commenced building up and the associated north-easterly winds produced a Thrush Nightingale at Holme on this date and a Red-throated Pipit at Cley on 18th. Warmer conditions at the end of the month, with generally south-easterly winds, resulted in the appearance of 3 White-winged Black Terns, another Red-throated Pipit (at the same locality as one in 1973) and an Isabelline Wheatear at Winterton, only the second British record and the first this century.

Whilst the vast majority of migrants have passed through the county by June the first half of the month invariably produces one or more overshooting vagrants from southern or eastern Europe and 1977 proved to be an above-average year in

this respect. Another White-winged Black Tern was at Cley, together with a Red-rumped Swallow. Breydon Water attracted a Broad-billed Sandpiper and a brief visit from a Gull-billed Tern. A fortunate inland observer also discovered a Lesser Grey Shrike near Downham Market. The cold weather for most of the month did have some compensations: north-east winds and torrential rain on 10th resulted in unprecedented numbers of Manx Shearwaters moving east along the north coast, together with other seabirds including a Cory's Shearwater at Holme.

The highlight of the summer was undoubtedly the successful breeding of Avocets at Cley, where a pair of Bitterns was also successful in rearing young. The number of Marsh Harriers reared by the slender population was well above average. Despite the downward trend elsewhere in England, Red-backed Shrikes bred in compatible numbers compared with 1976; the small number of young reared is disturbing, however, despite the discovery of two new breeding sites.

July is generally regarded as a 'wader' month, but it produced a number of unusual records: a Caspian Tern at Swanton Morley GP, a Woodchat Shrike at Sheringham and a Cory's Shearwater picked-up alive on the beach at Yarmouth.

In the past, most large autumn 'falls' of passerines have occurred in September, but in recent years August has proved increasingly rewarding. On 6th August an anti-cyclone became established over southern Scandinavia and from 7th until the 23rd a large number of 'falls' occurred on both the north and east coasts as a result of a series of small depressions circling the North Sea, causing north-easterly or easterly winds, frequently accompanied by rain. Unprecedented numbers of Icterine Warblers and Red-backed Shrikes were present during this period in association with other migrants, including large numbers of Wrynecks and at least 3 Greenish Warblers. The place of origin of the migrants was noticeably different in the various 'falls' in view of the wide variance in the proportions of the actual species involved, as evidenced by the lack of any Aquatic Warblers which occurred in similar conditions in the previous year. Two other rarities were recorded during August: a White-rumped Sandpiper at Holme and a Gull-billed Tern at Cley.

September produced a scattering of unusual migrants including a Ferruginous Duck in the Brecks, an obliging Sociable Plover at Welney, another Broad-billed Sandpiper at Breydon and a Woodchat Shrike at Cley. Despite a spell of north-easterly winds for several days from mid-month onwards, no large 'falls' of migrants were recorded due to unsettled weather over southern Scandinavia. Nevertheless the small trickle of migrants included several Yellow-browed Warblers and two well-observed rarities: an Arctic Warbler at Wells from 18th to 23rd and a Little Bunting at Stiffkey from 22nd to 26th. The same winds also produced excellent sea-watching on 17th, including several petrels and 2 Long-tailed Skuas. Most large sea-bird movements occur with onshore gales, but on this occasion the wind only averaged force 6; the presence of large numbers of birds in the southern North Sea was obviously due to continuous northerly winds for several days beforehand.

October was disappointing with many days of southerly winds and a lack of easterlies. The only rarity was a Great Spotted Cuckoo at Cley. However, many observers were pleased to see the large number of Richard's Pipits and Lapland Buntings which appeared at many coastal localities, in addition to the exceptional number of rarer divers and grebes throughout the autumn.

The most exciting period of the late autumn was in mid-November with several large sea-bird movements on different dates. On 16th the wind veered to the north-west and then to the north the next day. Large immigrations of winter thrushes and starlings occurred at this time, much later than normal, with big movements of geese, ducks and gulls at sea. A Corncrake at Holme was the month's surprise.

Acknowledgements: Thanks are due to G. M. S. Easy for the cover drawing and for text illustrations; also to Dr. K. J. Carlson, P. R. Clarke, R. Powley and Dr. R. Vaughan for photographs and vignettes; to Holme Bird Observatory/N.O.A. for access to records; to the Norfolk Naturalists Trust Wardens; to the National Trust (Blakeney Point); to the Nature Conservancy Council (Scolt Head, Holkham, Bure Marshes (Woodbastwick) and Hoveton Great Broad); to the Cambridge Bird Club; to the Gt. Yarmouth Naturalists Society; to P. R. Allard and D. A. Dorling (for compiling the annual record cards); to Mrs. M. Dorling, J. T. Fenton, P. D. Kirby, Mrs. P. Rix and Mrs. M. J. Seago for valuable assistance and to all other contributors.

Recording: Records for the 1978 Report (including field descriptions of rarities and semi-rarities) should be sent *by the end of January* to Michael J. Seago, 33 Acacia Road, Thorpe St. Andrew, Norwich NR7 0PP. Contributors are requested to submit notes in the order followed in Dr. K. H. Voous' *List of Recent Holarctic Bird Species* (1977). In order to minimise the work involved, records will not normally be acknowledged. The names of all contributors will be included in the Report. It will be appreciated that delays in receiving observations create considerable problems for the Recorders, the Records Committee and the printers. For several reasons it is essential that publication is achieved by early September.

The County Records Committee (P. R. Allard, G. E. Dunmore, D. Holman, S. C. Joyner and Dr. M. P. Taylor) considered an increased number of written descriptions of semi-rare birds in 1977 compared with the previous year, the majority of records being accepted and included in the Classified Notes. Regretfully, many observers did not include descriptions, where applicable, of those species listed in the 1975 Report, necessitating follow-up letters causing additional costs and delay. Only two observers failed to reply and the relevant records of species (which could well have been correctly identified) have not been included. In a number of cases the Committee considered that the birds had been incorrectly identified, eg. Black-necked Grebe instead of Slavonian Grebe, but it was resolved to include the records on the basis of the Committee's amended identification.

Due to the large number of accepted records received, details of some of the divers and grebes have had to be summarised in the Classified Notes. Observers are still requested to submit descriptions of such species where required in future years, however, as they are likely to revert to their normal uncommon status.

In 1975 it was decided that no records of species considered by British Birds Rarities Committee would be included in this Report unless accepted by that Committee. Unfortunately, the Committee has been unable to consider many 1977 rarities until recently due to administrative problems so as a result decisions on many records are still outstanding. In view of this situation, it has been decided—for 1977 records only—that a number of rarities should be included in this Report on the basis that they were seen by many observers, thus anticipating future acceptance by the Rarities Committee. There are still several outstanding records, however, mainly seen by individual observers only, which have not been included in this Report. Such records, if accepted, will be published in next year's issue.

The new Secretary of the Rarities Committee has devised a system of improved liaison between the Committee and County Editors and in future all observers are requested to submit details of rare birds to the Editor who will then forward them to the Secretary.

OBITUARY

MR. R. A. RICHARDSON

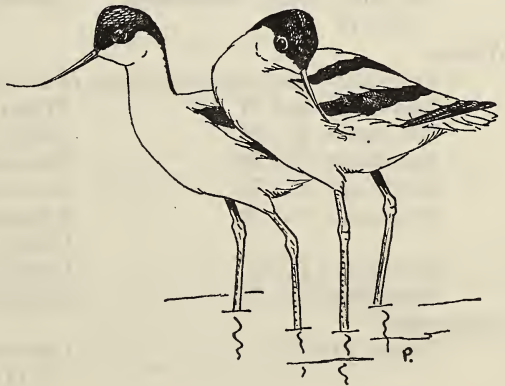
The untimely death of Richard Alan Richardson on 9th October, 1977, at the comparatively early age of 55 is a severe blow to Norfolk ornithology. A Londoner by birth, he spent the last 28 years of his life at Cley, living simply in a small cottage where he happily produced the drawings and paintings which gained him an international reputation. His major publications were the illustrations he did for Richard Fitter's *Pocket Guide to British Birds* and its companion volume on their nests and eggs. He also published *A Checklist of the Birds of Cley* and his drawings appeared in this Report for many years and can be found in many other publications and journals—most recently in *The Atlas of Breeding Birds in Britain and Ireland* published late in 1976.

Richard regarded himself primarily as a field ornithologist and devoted most of his time to that end. He never took a notebook or pencil with him in the field, but when an unusual bird appeared he would study it closely with those bright blue long-sighted eyes that missed nothing and within an hour or so of returning home would have produced a drawing and sometimes even a painting that omitted no detail of plumage or attitude and was also a good picture.

He had a hard childhood and it was perhaps this that made him so kind and thoughtful to all young people. He was a superb teacher and the many youngsters who came along the East Bank could be sure that Richard would help and advise them in every possible way. Many of the young professional ornithologists of today owe him a great debt for the technical knowledge and insight which they acquired in his company. He contributed greatly to organised ornithology and conservation, including the founding of the Cley Bird Observatory and its ringing station, work for the Norfolk Naturalists Trust and was President of Holme Bird Observatory.

He was deeply devoted to Fair Isle, which he visited every spring and again in the autumn. He was a member of the committee of the Observatory there and an honorary member of the Shetland Bird Club. He also founded the John Harrison memorial trust—the object being to help young ornithologists to visit and to enjoy Fair Isle.

Richard was innocent of conventional schooling and had never seen the inside of an art school, but despite these apparent drawbacks he had an enormous knowledge of birds. He was modest and totally unassuming which allowed people of all ages to ask him questions with the assurance that he would answer both seriously and carefully.



Bird Ringing Report

Ringling activity in the County is more or less restricted to certain areas including Norwich, Sheringham, Happisburgh and East Runton, one or two sites in Broadland, the North Coast centred on Titchwell and Holme, and Downham Market, and in some parts it tends to be seasonal.

There is also all-year-round activity on the Wash, between Holme and Gibraltar Point, catching waders. These are aged, weighed and measured as part of a continuing study by the Wash Wader Ringing Group, to whom we are indebted for permission to publish their recoveries.

The list of recoveries for Norfolk includes Spanish and Italian-ringed passerines, which are of infrequent occurrence in the British Isles; some long-distance movements of various species into USSR and to Africa; one or two proved to live an exceptionally long time; and others that have been controlled a second or third time.

A bird ringed before it reaches the free-flying stage is referred to as a pullus, and a control is a bird that is handled by a ringer when it is already carrying another person's ring.

Fulmar

Sheringham (pullus) 3.8.76

Zandvoort, N. Holland, Netherlands
(dead) 21.5.77

Shag

Farne Is., Northumberland
(pullus) 26.7.76

Old Hunstanton (caught and released)
3.12.76

Heron

Two birds moved to Lincs. and Notts. The following lived longer, and moved more than 250 km.

Barton (pullus) 30.5.69

Garstang, Lancs., 14.6.77

Ranworth (pullus) 26.5.70

Keighley, Yorks., 6.11.77

Teal

Snettisham winter-tinged Teal were recovered between August and October in Denmark (2), Netherlands and France.

De Koog, Texel, Netherlands
16.9.75

Salthouse (shot) Sept. 1977

Wigeon

Previously unreported recoveries of the species include:

Snettisham 24.1.74

Pitlyar, Tyumen, USSR 29.5.75

Snettisham 28.1.74

Ukhta, Komi ASSR 25.6.75

Snettisham 22.1.75

Zelenogradsk, Kaliningrad USSR 30.8.75

Snettisham 22.2.72

Kondinskoye, Tyumen, USSR 15.5.76

Snettisham 28.1.74

Khatanga, Krasnoyarsk (72°N, 102°E)
USSR 9.6.76

Snettisham 1.2.73

Lappajarvi, Kuopio, Finland 18.9.76

Snettisham 28.1.74

Langerak, Jylland, Denmark 9.10.76

Sparrowhawk

Holme 20.4.76

Canterbury, Kent (dead in barbed wire)
29.11.76

- Kestrel**
 Thorpe-le-Soken, Essex (pullus) Shouldham Warren (dead) 3.8.77
 28.6.77
- Great Black-backed Gull**
 Gt. Ainov Is., Murmansk, USSR Breydon (dead) 26.12.76
 (pullus) 27.6.75
 Utsira, Rogaland, Norway Breydon (recently dead) 30.6.77
 (pullus) June 1976
 Kuli, More & Romsdal, Norway Breydon (dead) 21.8.77
 (pullus) 11.7.75
 Haram, More & Romsdal, Norway Breydon (dead) 30.10.77
 (pullus) 4.7.74
- Common Gull**
 Suur-Harjamaa, Estonia Norwich (control) 19.1.78
 (pullus) 15.6.77
- Black-headed Gull**
 Recoveries include a bird shot well north in USSR. Others were to usual areas at usual times of the year, and involved birds up to ten years old.
 Buxton 4.1.71 Onega, Arkhangel'sk, USSR 10.7.77
- Common Tern**
 Stiffkey (pullus) 16.6.67 Seaforth, Lancs. (controlled and worn ring replaced) 18.9.77
- Little Tern**
 A pleasing live recovery, albeit from foreign breeding grounds, of an endangered species.
 Snettisham (juvenile) 31.7.72 East Frisian Is., Germany (controlled, breeding) 16.6.77
- Sandwich Tern**
 The majority of Sandwich Terns recovered end their days off West Africa, particularly Ghana and, as in this case, Senegal.
 Stiffkey (pullus) 22.6.67 Thiaroye, Dakar, W. Africa (caught) April 1977.
- Cuckoo**
 An interesting, though regrettable, example of reorientation.
 Holme 15.5.77 Finningham, Suffolk (dead) end May 1977
- Swallow**
 Included are two interesting reports of birds controlled on spring passage.
 St. Pryve-St. Mesmin, Loiret Weybourne (control) 20.8.77
 France (juvenile) 16.9.76
 Zele, E. Flanders, Belgium Happisburgh, 19.5.77
 (pullus) 12.6.76
 Wainfleet, Lincs., 18.9.76 Happisburgh, 12.5.77
- Sand Martin**
 Roost netting in France continues to provide recoveries.
 Coltishall, 3.8.77 Rochford, Charante Maritime, France, 5.9.77
- Long-tailed Tit**
 Long distance movement of two birds, that kept together no doubt. It would be interesting to speculate when the movement took place, and whether they would have remained resident in Essex. See N.B.R. for 1963, 1973.
 Holme 16.10.75 Benfleet, Essex (traffic casualty) 20.1.77
 Holme 16.10.75 Benfleet, Essex (control) 8.6.77

Bearded Tit

For comparable movements of the species see N.B.R. for 1963/4/6.

Goole, Yorks. 18.10.75

Titchwell 8.10.76

Titchwell (two) 2.7.76

Goole (control) 28.10.76

Titchwell 21.7.76

Goole (control) 8.11.76

Fieldfare

Sprowston 30.1.76

Valkeakoski, Hame, Finland (dead) 1.7.77

Song Thrush

Sheringham 26.10.76

Estibeaux, Landes, France 18.12.77

Blackbird

Finland features prominently among recovery localities with four, including one near the border with USSR. Others were from Sweden (2), Denmark, Germany (3) and Eire.

Tunstead 2.1.77

Viitaa, Kuopio, Finland (shot) 10.7.77

Titchwell 31.10.74

Kildare, Eire 8.2.77

Reed Warbler

Two useful, if unspectacular, autumn journees.

Weybourne 29.7.77

Attleborough (cat) 24.8.77

Earlham 8.7.77

Wheathampstead, Herts. (control) 21.8.77

Sedge Warbler

Le Migron, Loire Atlantique

Sheringham (control) 26.4.77

France 7.9.76

Garden Warbler

Holme 21.8.77

Helgoland (control) 21.9.77

Goldcrest

Brasschaat, Antwerpen,
Belgium 15.11.76

Sheringham (control) 30.3.77

Spotted Flycatcher

Sheringham 17.9.76

Rabat, Morocco, May 1977

Pied Flycatcher

Winterton 4.9.74

Sando, Buskerud, Norway (dead) 23.5.76

Tree Pipit

This is the first foreign-ringed Tree Pipit to be found in Britain. The few autumn recoveries of individuals ringed elsewhere in Britain have mostly been from Portugal, and none very far from the Atlantic seaboard.

Varese, Italy 26.9.76

Sheringham (killed by car) 14.5.77

Yellow Wagtail

Cap Breton, Landes, France
2.10.76

Tottenham (control) 22.6.77

Starling

Foreign recoveries include seven from USSR. There is only one report of a British-ringed Starling further east than the following.

Sheringham 30.1.76

Ukhta, Komi ASSR (53°43'E) 26.5.76

Tunstead 12.2.76

Ekofisk field, N. Sea 14.1.77

Greenfinch

Holme 30.3.75

Cleethorpes, Lincs. 19.1.77

Sandwich, Kent 20.11.76

Sheringham (control) 13.3.77

Goldfinch

Happisburgh 6.5.76

Walberswick, Suffolk (control) 8.5.76

Westmalle, Antwerpen, Belgium
10.10.76

Sheringham (control) 18.4.77

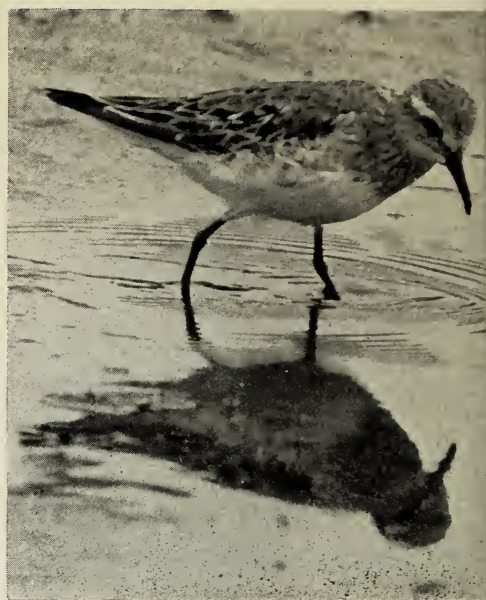
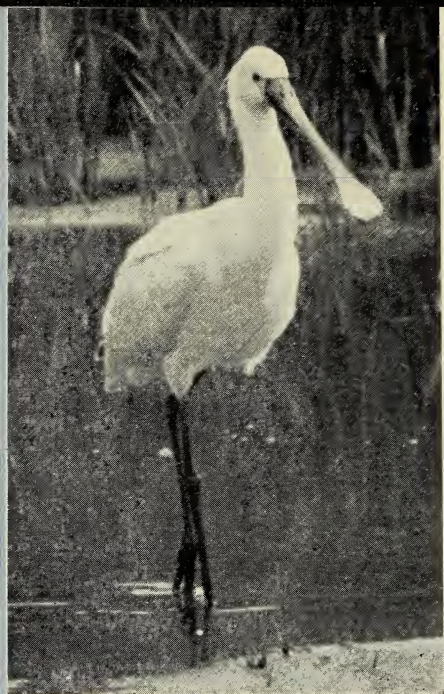
Lezo, Guipuzcoa, Spain 18.4.74

Hellesdon (caught by cat) 15.7.75



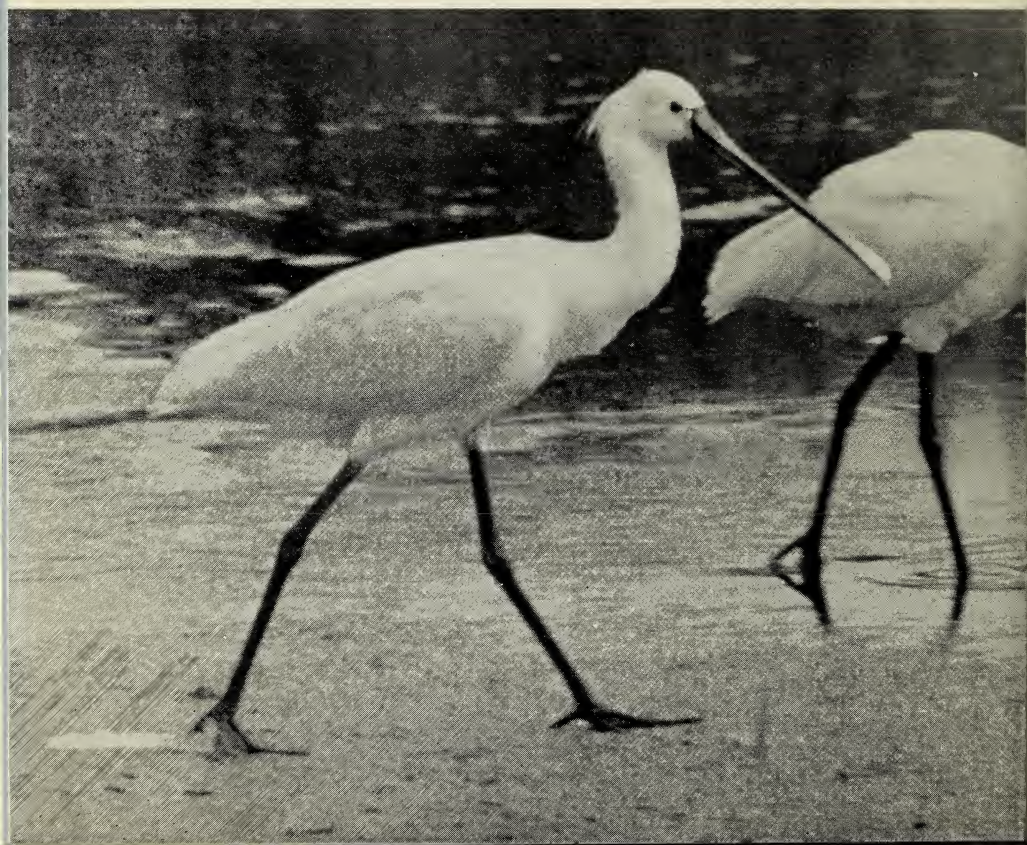
Two pairs of Avocets each reared three young to the flying stage at Cley in 1977; the first successful breeding in Norfolk this century. A small colony of five nesting pairs became established in 1978 when a total of 16 young left the reserve.—*Photos Dr. K. J. Carlson*





Among the year's exciting visitors at Holme were these Spoonbills and White-rumped Sandpiper. The latter stayed six days and was seen by many observers

Photos P. R. Clarke and Dr. R. Vaughan



Redpoll

The case for a spring movement from wintering grounds across the North Sea onto the Norfolk coast and west and south into eastern England finds support from the following two recoveries. There are other recoveries within East Anglia, and between Norfolk and Belgium, but they do not indicate the precise period of movement to the same degree.

Kruisberg, N. Holland, Sheringham (control) 20.4.77

Netherland 16.3.77

Sheringham 9.5.77

Wisbech, Cambs., 24.5.77

Bullfinch

South Runcton 14.8.76

Burnham Overy (shot) 24.3.77

Sheringham 5.11.76

Leiston, Suffolk, March 1977

Sheringham 23.7.77

Fakenham 24.10.77

Reed Bunting

Further evidence of seasonal movement in this species; the timing remains rather a mystery.

Jersey, Channel Islands 7.1.76 Titchwell (control) 5.1.77

WADER RINGING ON THE WASH

The Wash Wader Ringing Group has now been functioning for nearly nineteen years, with well over 100,000 individual birds ringed, and many more controlled from Britain and overseas. The Group's activities extend to the Lincolnshire side of the Wash, and whereas recoveries published are only for Norfolk, statistics quoted include Lincolnshire birds. The following comments and recent recoveries are reproduced from the Report 1975-76.

Oystercatcher

183 out of 253 recoveries abroad during the past eighteen years have come from Norway, revealing the main breeding area of the Oystercatchers found on the Wash. 1975 also brought the first recovery from Iceland. There are four earlier recoveries from the Faeroe Islands, and nine from Orkney and Shetland. Also given is a recovery of local interest.

Heacham (ad) 20.2.72

Kjosarsysla, Iceland (dead) 26.4.75

Terrington 12.7.75

Lakenheath, Suffolk (taken by peregrine)
25.2.76

Ringed Plover

The recovery in Senegal, listed on page 101 of the N.B.R. 1976, was only the third from Africa. The first from Norway came in 1975.

Snettisham (juvenile) 27.9.73 Varangerfjord, Finnmark, Norway (70°N
Lat.) 23.8.75

Grey Plover

1976 produced the second Moroccan recovery of the species.

Terrington (juvenile) 1.11.75 Ait Melloul, Agadir (taken) 7.1.76

Turnstone

It is evident from recoveries that Turnstones occurring on autumn passage on the Wash are of Finnish origins, and over-wintering birds are from Greenland and N.E. Canada. The following has been controlled twice:

Terrington 28.8.72

(1) Alert, Ellesmere Is., Canada 3.6.75

(2) Snettisham 4.1.76

Woodcock

This is the second recovery of the species from the Wash area. It suggests the possible wintering area of a bird on passage through the north of the county.

Holme 14.10.72

Tamworth, Staffs., (shot) 25.11.72

Curlew

Autumn and wintering Curlew have been ringed in fair numbers over the years, and breeding season recoveries have been from as far east as Finland and USSR.

Terrington 6.9.75

Ilmajoki, Vaasa, Finland (dead) 16.6.76

Oulunsalo, Oulu, Finland

Brancaster (shot) 22.11.74

(pullus) 11.6.66

Redshank

Some interesting movements were noted during the years under review; one individual was at least in the nineteenth year of its life when controlled in August 1976, having been ringed in the Group's first-ever catch on 18.8.59.

Others include:

Terrington 20.7.74

Gulf Tide Drilling Rig (dead) 8.5.75

Snettisham 1.1.72

(1) Reykjavik, Iceland (Ring No. read through binoculars) 23.6.74

(2) Snettisham (control) 4.1.76

Spotted Redshank

The Group's first recovery came in 1976, though an earlier one from Cantley is listed in the Norfolk Bird Report for 1969.

Terrington 27.7.75

E. Jadida, Morocco (shot) 25.3.76

Knot

Recoveries for this species from Greenland and N. Canada number 64 and 6 respectively, and from Iceland on passage, 123. By contrast the Knot mentioned in the N.B.R. for 1973, page 101, was again caught in S. Africa in January 1976, having travelled a minimum of 50,000 miles between controls. Regular ringing on both sides of the Wash reveals that the Knot moves rapidly from place to place, whereas the Dunlin, for instance, will rarely be controlled more than a few kilometres from where it was originally ringed. Two individuals were at least 15 years old when handled in 1975.

Dunlin

Dunlin recovery areas extend from USSR (14 recoveries) to Eire (13), and France (68) and from Greenland (1) to Mauritania (6). An interesting quick double foreign control, over a distance of 300 miles in four days.

Snettisham, 13.4.68 & 4.4.69

(1) Pori, Turku & Pori, Finland 21.7.75

(2) Lake Vattern, Sweden 25.7.75

Curlew Sandpiper

The few recoveries have ranged from Leningrad and the Crimea in USSR to Tunisia and Senegal in Africa.

Wisbech S.F. 1.9.69

Mikoszewo, Poland (control) 21.7.74

Wisbech S.F. 13.9.75

Dakar, Senegal (dead on ship) October 1975

Sanderling

As previously indicated, the Sanderling moves far and wide, to and from USSR (2), Greenland (1), N. and W. Africa (11) and S. Africa (1), and many parts of Europe.

Snettisham 29.7.73

Palmi, Reggio Calabria, Italy (killed) 31.3.74

San Rossore, Pisa, Italy 9.5.75

Snettisham 26.7.75

Ruff

The Ruff has produced some of the most distant recoveries into Siberia. More humble are the following:

Wisbech S.F. 23.8.69

(1) Shotton, Flints., 6.3.71

(2) Wel ey (dead) 20.1.74

Wisbech S.F. 14.8.71

Lago de la Tancada, Tarragona, Spain
16.11.75

AVOCETS AT CLEY 1977

New Year 1977 started promisingly at Cley with the occurrence of a single Avocet that heralded the long anticipated breeding of this species in Norfolk. Thirty years of expectancy were finally realised, since in 1947 this magnificent, pied wader with its remarkably aristocratic upswept bill decided to make Suffolk's Minsmere and Havergate its first British nurseries in modern times.

Plundering of a Salthouse nest in 1941 may have denied Norfolk the hosting of this attractive bird until this year, but dedicated bird lovers had willed the breeding, and in 1977 breed it did. The long wait was over and the long anticipated settling was at last factual. This was due in no small measure to the work of the Warden and the dedication of many helpers who created the unique habitat so necessary to the well-being of the breeding Avocet.

The story unfolds thus: Our New Year's bird was joined by a mate on 5th Feb. A second pair made it a mini-colony on 28th March, and early in April nesting activity was evident. By 21st April a pair was settled on precious eggs, but like many other treasures they went to the rat thief.

All was not lost, however. By the 4th May three pairs of Avocets were in evidence on Cley Marsh, and although the nest of the first pair had been destroyed by rats on 12th May, mating again took place on the 18th, and five days later a new clutch had been laid on Pat's Pool, whilst a second pair was on eggs on North Scrape by 26th May.

During early June the build up of nesting birds continued with four pairs on the third. Pair number three duly laid, and were noted sitting on eggs on 10th June, to be followed closely by a fourth pair's clutch on the 12th, the North Scrape being the chief centre of all this exciting activity. Two more pairs joined the nesters bringing the total Avocet adult population to a good, highly viewable, round dozen. Nesting, however, was to remain restricted to the four pairs already established, and from here on expectancy, anxiety, excitement and tension followed each other as hopes for successful breeding mounted. There were anxious moments when rumours of egg collectors in the vicinity were whispered. Watches were organised at all hours to protect the prized but highly vulnerable eggs. Dawn and dusk eyes were strained into the half light towards the sitting, patient silhouettes of the pied birds.

Yet probing eyes are not enough to counter rodent predators or assuage the violence of the weather. For a second time, on 15th June, rats plundered the nest on Pat's Pool. On the following day cold weather prevailed and forced the third pair on North Scrape to desert. A quick decision was made to remove the two eggs and place them under a broody bantam. In part this operation proved a success, for both eggs hatched on the 8th July. There was no triumphant outcome alas, the

heavy-footed bantam trod on, and despatched one chick soon after hatching, whilst its brood-mate only survived for five days.

Numbers of Avocets continued to be attracted to the area, for on 18th June there were thirteen on view on the North Scrape.

Three rats and a large male stoat were humanely removed to make life easier for the remaining two breeding pairs, which still sat through all the tribulations. Happiness and relief came on 22nd June when the pair on North Scrape successfully coaxed three fluffy and very live chicks from their encasing shells. Watchers through telescopes on the evening of the 22nd had the unique privilege of seeing the first known Norfolk-born Avocets within living memory.

Wader chicks are highly mobile. Shortly after emergence, they negotiated, with the help of their parents, the 300 metres of intervening terrain, and were on Simmond's Scrape within 48 hours. From there they moved on to Pat's Pool, settling there to be filmed by both B.B.C. and I.T.V. enabling thousands of home viewers to share the intimacies of family life with this most elegant of waders.

The remaining sitting pair eventually hatched three eggs on 2nd July. From then on six chicks and their parents had the nutritious Cley ooze in which to probe and thrive. This they did whilst Warden and watchers relaxed and glowed. Throughout July 'Avocets normal' was recorded with satisfaction in the Warden's log.

The growing young were watched daily from the fluffy stage onwards. The flying stage was reached on 28th July, just five weeks from emergence from the eggs. From then on the free-winged young were able to move territory, to migrate, and perhaps to return as adults to the place of their birth, and establish a thriving colony, and so give pleasure to the many who flock to Cley to see what flocks to Cley.

There were still three adults and three young on view on 20th Aug. and Avocets continued to be seen into September with 8 on North Scrape on the 2nd and 6 on the 7th. Indeed one bird was regularly present from the 18th Sept., (when all the others had left), through the remainder of the year.

Cley was not the only locality to have nesting Avocets in 1977. A pair settled in the Snettisham area where eggs were laid, but the attempt to raise young ended when the nest was trampled by the clumsy hooves of browsing cattle.

As previously suggested, nesting of this species at Cley was not altogether unexpected. For more than twenty years records of Avocets in Norfolk have been an annual feature. 1967 was unusual with only one bird noted, that at Breydon on 24th April. In most years birds have been seen in Spring, especially at Cley and Breydon Water, whilst other favoured localities have been Snettisham, Holme, Brancaster and Morston. Following the singleton, the next year 1968 was a prolific contrast when 26 birds were at Breydon and 10 at Cley, where mating took place, and hopes were raised. In this memorable year Avocets were also noted at Morston, Holme, Heacham, Scolt and Wisbech S.F. 1974 was also a year of numbers with 27 at Cley on 4th May and 9 at Snettisham during the first week of May. Breydon again had eleven on 23rd March 1975, and in 1976, 7 were at Hardley Flood on St. George's Day and 4 at Snettisham in mid May.

Winter sightings have also been more numerous over the past decade, usually of single birds, with the most regular areas being Breydon, Cley and Holme.

H.R.R.

Classified notes

These notes are based on *Birds of Norfolk* (revised edition 1977) where fuller details regarding status, distribution, migration and ringing recoveries may be found. Important records for Wisbech Sewage Farm (part of which is on the Lincolnshire side of the county boundary) have been selected from the files of Cambridge Bird Club. Fuller details of Fens records may be found in the *Cambridge Bird Club Report* for 1977.

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

Red-throated Diver: North: Sheringham, interesting movements include 92 east Jan. 15th (in 20 minutes) and 182 east on 16th. Only two inland records: Strumpshaw and Colney.

Black-throated Diver: North/East: In first winter period Cley Feb 13th and May 4th. In autumn more records than usual especially between Blakeney and Cromer from Aug. 28th. Peak of 5 at Cley Nov. 10th.

Great Northern Diver: North/East: Many more records than usual from mid-Sept. onwards including 3 at Salthouse Oct. 15th. Broads: Hickling Jan. 2nd.

Little Grebe: Breydon: At least 12 breeding pairs in adjacent dykes. Wash: Peak of 41 at Snettisham in Nov.

Great Crested Grebe: Wash: 35 off Hunstanton Feb. 13th and 60 Nov. 13th. East: Breydon midsummer peak of 41 July 28th.

Red-necked Grebe: North: An increased number of observations including small influx Oct.-Nov. when as many as 7 off-shore at Cley Nov. 16th. East: Winterton 3 Sept. 25th.

Slavonian Grebe: North: More records than usual. Sheringham one dead April 14th and up to 5 Oct. 30th to Nov. 13th; Weybourne 4 in late Oct.; Wells peak of 12 Nov. 5th; Cley-Salthouse 2 in late Oct. and 4 in mid-Nov. Ones and twos elsewhere at Titchwell, Holkham, Hunstanton, Overy Staithe and Snettisham. Broads: Ranworth Nov. 30th. East: Horsey 2 Oct. 21st.

Black-necked Grebe. Remains the rarest of the grebes. North: Morston Jan. 2nd to 16th; Hunstanton Feb. 13th; Weybourne 2 Nov. 13th; Sheringham 2 Nov. 13th and Cley Sept. 2nd. West: Tottenhill G.P. Aug. 29th to Sept. 2nd.

Albatross species: North: Cley Oct. 19th (MK, CO)

Fulmar: North: Total of 24 young counted on cliff ledges between Weybourne and Cromer (JCM) as follows: Weybourne-Sheringham 12, Sheringham-West Runton 3, West Runton-East Runton 2, East Runton-Cromer 7. At Sheringham present on ledges until Sept. 24th and from Nov. 5th. Wash: Hunstanton. over 40 pairs present Jan. 29th, 7 young still on ledges in early Sept. and over 50 pairs back at end of year. East: Bacton, nest with an egg but later robbed. Happisburgh, 5 pairs on cliffs but no evidence of breeding and Hopton singles April to Aug. Wash: 112 passing Snettisham in two hours Sept. 23rd.

Cory's Shearwater: East: Yarmouth, one of the North Atlantic race picked up alive July 23rd was released on 28th but later died (PRA). North: Holme June 10th (PRC)

Sooty Shearwater: North: Cley Aug. 18th, 30 on 27th, 2 on 28th, 2 Sept. 9th, 7-8 on 17th and 2 Oct. 1st. Blakeney Point 15 Sept. 16th. Sheringham Aug 17th-18th, Sept. 9th, 13 on 17th. Wash: Snettisham 2 Sept. 17th and Hunstanton 9 Oct. 2nd. East: Winterton 43 in 4 hours Sept. 17th, 6 on 18th and one on 25th.

Manx Shearwater: Unprecedented numbers recorded June 10th moving east along north coast in strong NNE winds and rain: Hunstanton 48, Holme 113, Brancaster 30 and Cley 126. Also 8 off Holme next day with 9 on 15th/16th. Sheringham 8 June 7th and 3 on 11th. Usual late July to Oct. records off North coast and in Wash including 26 Snettisham in 2 hours Sept. 17th and 19 Sheringham same date. Birds of the Balearic race Snettisham and Cley Sept. 17th. East: 1-4 Aug. 7th to Oct. 2nd including one Balearic Sept. 17th.

Storm Petrel: North: Holme Sept. 17th and Nov. 13th. Sheringham Sept. 17th. East: Yarmouth one brought into port aboard an oil rig supply vessel first week of Dec.

Leach's Petrel: North: Cley at least 3 Sept. 17th, one on 18th, Weybourne 2 Sept. 18th, 4 Nov. 21st, Sheringham Sept. 17th/18th, Cromer Nov. 15th. East: Winterton Sept. 18th.

Gannet: Impressive movement along coast Sept. 17th; 240 in 2 hours Snettisham, 300 Hunstanton, 282 into Wash at Gore Point in 1½ hours, 250 Holme, 230 Cley, 260 Sheringham and 150 at Winterton.

Cormorant: East: Feb. maximum of 102 at Breydon. Broad: Ranworth, 250-300 in winter roost. Fens: Welney up to 41 roosting in March. North: Wells harbour 72 Nov. 13th.



Shag: Coastal records between Wells and Gorleston and maxima of 20 at Sheringham Nov. 13th and 12 at Yarmouth on 27th. Breck: Barnham March 1st. Central: Costessey GP Nov. 27th. Fens: Denver Sluice Nov. 12th with 5 Dec. 27th.

Bittern: Broads: 7 regular boomers compared with 9 the previous year. North: Cley one pair bred rearing 2 young. *Further reading:* "Breeding Bitterns in Britain" (*British Birds* 71: 285-300.)

Grey Heron: The following heronries were counted: Borders of Wash: Snettisham 16. Fens: Hilgay 33, Islington 38 and Denver Sluice 2. Breck: Didlington 10, Shadwell 8, Hockham Fen one and Narford 5. Broads: Belaugh 7, Upton 6, Fishley 3, Wickhampton 4, Reedham Park Carr 4, Fritton 3, Ranworth 9, Horning Hall 5, Herringfleet 3, Mautby 4, Woodbastwick Marshes 10, Barton 8, Heigham Sounds 14, Hickling Colls Plantation 2, Buckenham 14, Strumpshaw one, Wheat fen 5, and Surlingham 3. Central: Lyng one and Keswick one.

Black Stork: Central: East Tuddenham Sept 11th (AB)

White Stork: Central: Brandon Parva Aug. 21st (JDG *et al*). Wash: Hunstanton /Snettisham Oct. 25th (AGH, PMH) and Dec. 4th-5th (HRR *et al*).

Glossy Ibis: Central: Hockering Aug. 24th (MDK).

Spoonbill: North Coast: Singles and parties up to 4 May 8th to Sept. 10th. East: Breydon 9 present June 15th-19th with smaller numbers June 7th to Sept. 12th. Winterton 7 south June 7th. Broads: Hickling maximum of 9 present June 11th to 18th with others May 26th to July 29th. Singles at Hardley Flood & Strumpshaw May 14th and July 21st.

Bewick's Swan: Recorded up to May 11th and from Oct. 12th. Largest concentration at Welney where over 1,000 by early Dec. and 1,777 in mid-Feb. Elsewhere exceptional numbers in East Norfolk during Jan.-Feb. with 397 in 3 herds Jan. 1st (including 224 at Upper Thurne). 330 still present Jan. 29th in 5 herds, 171 March 15th, 70 on 19th and last 16 on 25th. The largest single herd was 268 on lower Bure levels Feb. 21st A yellow-dyed bird on lower Bure March 10th-20th was one of 57 caught at Slimbridge Jan. 11th.

Breck: Fowl Mere 5 Dec. 26th and 14 Dec. 18th. North/Wash: Maxima of 92 at Wolferton-Snettisham Jan.-Feb. and 48 at Burnham Overy in March.

Whooper Swan: Recorded up to April 10th and from Oct. 9th at usual haunts with largest herds at Welney where 82 at end of Jan. (a new record) and over 50 in Dec.

Bean Goose: East: Up to 127 in usual area till Feb. 26th; 5 returned Nov. 17th with 70 Dec. 10th and 86 on 26th. North: Cley 4 Jan. 3rd-16th. Holkham 11 Jan. 8th-12th with 13 on 29th, 9 Feb. 19th and one Dec. 21st. Blakeney 4 Jan. 8th. Wash: Snettisham up to 15 Jan. 9th-18th and one Feb. 21st.

Pink-footed Goose: East: Yare valley one with Bean Geese until Feb. 8th and 3 on 15th. Halvergate one with Bewick's Swans March 15th-19th. Winterton 24 Oct. 2nd. Breydon 11 Oct. 1st. Wash: Snettisham 3700 in Jan., 68 returned Oct. 28th and 4572 at end of year. North: Titchwell 75 Nov. 4th. Holkham 43 Jan. 2nd with 34 on 12th and 5 on 29th.

White-fronted Goose: East: Yare valley 12 Jan. 2nd increasing to 23 Feb. 8th; 7 returned Dec. 4th later increasing to 10. Breydon 120 Jan. 7th with 32 remaining on 13th and last 8 on 30th; 20 returned Dec. 10th. Horsey 21 Dec. 2nd. North: Holkham 232 Jan. 22nd with 234 Feb. 19th and 170 still present March 15th; 75 returned Dec. 4th and 85 on 17th. Cley 35 Jan. 1st. Hunstanton 16 Feb. 13th. Holme 17 Dec. 6th. Wash: Snettisham 10 Jan. 6th, 25 Feb. 21st and 7 Dec. 13th. Fens: Welney 7 late Nov.

Barnacle Goose: East: Burgh Castle March 13th and Breydon 3-4 April 21st-30th. North: Cley Jan. 28th. Holkham 4 Jan. 22nd-30th. Wells 4 Oct. 3rd on golf course. Burnham Deepdale 4 Jan. 24th-27th. Wash: Snettisham 3 Jan. 9th-18th, 4 Feb. 3rd and one shot Nov. 19th. Fens: Welney March 27th.

Brent Goose: Maximum numbers at regular localities: Wells 2500, Blakeney 1200, Salthouse 150, Cley 2000, Stiffkey 3000, Scolt Head 1500, Hunstanton-Holme 2000, Snettisham 1200 and Terrington Marsh 650. Recorded monthly except Aug. Off Sheringham unusual numbers off-shore Nov. 17th during gales when 700 west in 3 hours and off Winterton on same date when 408 north in 1½ hours.

Egyptian Goose: Reported at Barningham, Blickling, Swanton Morley, Sparham, Shouldham, West Rudham, Flitcham, West Newton, South Raynham, Stradsett, Narford, Sandringham, West Acre Gunton Park, Hillingdon, Salthouse, South Acre, Narborough, West Litcham, Holkham, Hoveton, Berney Arms and Caister on Sea.

A county summary of recent observations is planned for the next Report, full details requested.

Ruddy Shelduck: East: Adult female at Cantley B.F. July 30th-Aug. 7th when it moved to Breydon.

Shelduck: Wash: Snettisham maximum of 2477 in Feb. and 1760 in March. Fens: 50 young at Welney, 36 young at Wissington B.F. and 188 young at Wisbech S.F. East: Breydon winter peaks of 855 Jan. 7th and 794 Dec. 9th; remarkable build-up of adults in June prior to departure to Continental moulting grounds including 810 June 23rd. Breeding records elsewhere include single pairs at Tottenhill G.P., Barningham Park, Blickling Park, Winterton, Pentney G.P. and Stanford Water with 27 young in Gunton Park.

Mandarin Duck: East: Smallburgh pair nested in next-box 15 feet from ground in an oak, but eggs failed to hatch. Broads: Hickling 2 Nov. 24th.

Wigeon: Fens: Welney maximum of 35,000 at beginning of year with 15,000 early Dec. East: Exceptional numbers at opening of year with 23,500 at 3 sites Jan. 19th (Breydon 6,500, Yare Valley 5,000 and Upper Thurne 12,000). Numbers reduced to 3,500 by end of month.

American Wigeon: Fens: Welney Cct. 23rd (DJF).

Gadwall: Breck: Largest counts: 105 Gooderstone Nov. 25th and 83 Thompson Water Oct. 23. Wash: Snettisham 21 Jan. 9th. North: Gunton Park 219 Sept. 21st, 469 Oct. 14th and 308 Nov. 11th. Broads: Hickling 76 March 13th. East: Breydon 16 Aug. 12th. Fens: Welney 5 broods.

Teal: Broads: Hickling counts include 960 Dec. 6th and 1318 on 8th. Fens: Welney 8 broods.

Pintail: Fens: Welney maximum 1,000 beginning and end of year; 2 broods noted. Hockwold pair on flood May 29th, but not proof of nesting. Wash: Snettisham 434 Feb. 6th. North: Cley 450-500 Jan. and 50 Oct. 21st. East: Breydon maximum 188 Jan. 1st and 108 Dec. 16th.

Garganey: Spring arrival from March 6th (Cley and Welney) and subsequently at Breydon, Hickling, Strumpshaw, Surlingham, Hardley Flood, Ranworth, East Wretham, Wisbech S.F. and Cantley. Only breeding record from Cantley (brood of 6).

Shoveler: Fens: Welney Maximum 250. North: Cley 60 Feb. 13th and Gunton Park 44 Oct. 14th

Pochard: Breeding records: 3 pairs in Breck at 2 sites; elsewhere 11 pairs bred at 4 sites. Fens: Winter total of 500 at Welney.

Ferruginous Duck: Breck: Fowl Mere Sept. 24th (JDG).

Tufted Duck: Breeding records: 40 pairs at 8 sites in Breck; elsewhere a minimum of 22 pairs at 8 sites.

Eider: Coastal records throughout year and largest flocks for main localities given below: East: Yarmouth 44 and Happisburgh 47. North: Brancaster 22, Sheringham 14, Holme 30, Overy Staithe 60 and Hunstanton 23.

Long-tailed Duck: Wash: Hunstanton monthly maxima: Jan. 24, Feb. 50, March 50, Oct. 1, Nov. 15 and Dec. 30. North: Occasional records of up to 25 until April and from Sept. 8th. East: Winterton Nov. 13th.

Common Scoter: Wash: Hunstanton 2000 Jan. 9th-Feb. 6th. North: Overy Staithe 1200 Dec. 14th. Broads: Ranworth April 1st.

Velvet Scoter: Wash/North: Recorded monthly except June to Aug.; maximum 42. East: Up to 8 noted off Hopton, Gorleston, Yarmouth, Winterton and Bacton up to May 1st and from Oct. 19th.

Goldeneye: Maxima as follows: North: 126 west off Sheringham Nov. 13th-18th. Wash: 50 at Snettisham. East: 46 at Breydon. Breck: 7 at Narford.

Smew: Ones and twos up to March 7th at Bawburgh/Colney G.P., Martham Broad, Snettisham and Welney.

Red-breasted Merganser: Largest numbers include 37 Hunstanton in Feb. and 35 Brancaster in Oct. Late bird at Snettisham June 2nd when 7 at Thornham. East: Ones and twos at Breydon, Winterton and Yarmouth.

Goosander: Winter observations at 8 localities including 8 at Welney and at Breydon, 17 at Gunton Park, 10 at Stanford and 6 at Sheringham.

Ruddy Duck: Fens: Welney Jan. 10th-18th (GHS). The first county record.

Honey Buzzard: North: Pair at one site from June 1st but no proof of successful nesting.

Red Kite: East: West Somerton Dec. 10th (SJB, ADB) and Belton Dec. 25th (MM). North: Titchwell Dec. 22nd (NS). Wash: Snettisham Dec. 24th (PG, CPP). South: Redenhall Dec. 8th and 12th (BS-D).

Marsh Harrier: Five breeding pairs at 4 sites reared 19 flying young. A female present at a fifth site from mid Feb. to end of year.

Hen Harrier: Recorded at 12 sites till May 7th (Winterton) and from Sept. 9th (Cley). Up to 4 at Roydon in Jan., March and Dec.

Montagu's Harrier: None bred, but occasional records of singles in Broads April 20th to Sept. 3rd. North: Titchwell May 25th-27th, Holme May 15th, Sept. 1st. Wash: Snettisham May 28th and Terrington Aug. 6th.

Goshawk: East: Female dead Waxham beach Nov. 30th (OF). North: Hunstanton Park Feb. 26th (HI).

Sparrow Hawk: Recorded at 43 localities, but only a single breeding record. Spring passage Winterton—Horse Gap March 20th- May 7th with 6-8 April 16th.

Buzzard: North: Holkham Park Feb. 5th, Holme May 8th. East: Winterton March 3rd, 4 on 19th, April 16th. North Walsham 2 May 8th.

Osprey: Broads: Singles recorded between April 24th and June 29th at Blakeney Point, Cley, Earsham, Hickling, Holme, Narford, Pentney, Thornham and Titchwell.

Red-Footed Falcon: East: Winterton June 4th (TEB).

Merlin: Singles (and once 2) recorded at 17 localities till April 28th (Sheringham) and from Sep. 17th (Winterton).

Hobby: North: Cley May 5th, 28th, Sept. 25th-30th, Salthouse June 14th, Holme June 25th/26th, July 22nd, Sheringham May 6th and 13th, Titchwell June 6th, 26th, Oct. 10th, Felbrigg June 12th. Broads: Hickling Sept. 16th, 18th. East: Breydon June 6th, Winterton May 1st, 19th-27th. Wash: Hunstanton April 30th, Terrington Aug. 6th. West: Tottenhill G.P. July 7th.

Peregrine: North: Wintered at Scolt Head until April 8th; noted Holme Aug. 29th. Wash: Snettisham Dec. 31st. Fens: Wisbech S.F. July 12th with jesses and throughout autumn when jesses missing.

Quail: Calling during summer at Massingham Heath, Salthouse Heath, Weybourne (4 birds), Ridlington (2 birds) and 5 seen Aug. 14th, Sheringham (2 birds)

with 5 at Happisburgh Aug. 14th. Additional 1976 record: An immature killed by combine out of a party of 6 at Brancaster Aug. 13th.

Golden Pheasant: Recorded at Swaffham Heath, Fowl Mere, Brandon, St. Helen's Well, Bridgham, Stanford, East Wretham, Thompson, Watton, Wolferton and Weeting.

Lady Amherst's Pheasant: Breck: Hockham May 20th.

Spotted Crane: North: Cley Aug. 28th and up to 3 until Sept. 19th; one Oct. 14th/15th. Fens: Wisbech S.F. late Aug. to mid-Sept. East: Earlham Oct. 17th.

Corncrake: North: Holme, Nov. 16th (P.R.C.)

Crane: North: Wells and Sheringham April 16th (KBS), Cley on 19th (BB, MPL) and Holme on 30th (HBO). East: Bacton April 21st (RC); doubtless same bird.

Oystercatcher: Records of breeding pairs include: East: Breydon area 7. North: Thornham 10-15, Brancaster 11, Scolt Head 170-175, Bob Hall's Sands 2, Overy 4, Wells 8, Stiffkey Binks 14 and Blakeney Point 200. Broads: Horsey 2. Wash: Snettisham 6. Maximum counts in East at Breydon 101 March 16th and 150 Aug. 21st, on Wash at Snettisham 8700 in Jan. and 11500 in Dec.

Avocet: for the first time this century bred successfully in the county. In addition a further pair attempted to breed on The Wash. Breeding: North: Cley one present at the start of the year, was joined by 2 more in early March. By the beginning of May 3 pairs were present increasing to 4 pairs by early June. Clutches were laid by each pair and 6 young were raised from two broods. Wash: one pair, eggs trodden on by cattle. Non-breeders: East: Breydon 1-3 on six dates Feb. 23rd-July 15th, Nov. 26th and Dec. 9th-15th. Broads: Hickling 1-2 May 1st, 3rd, 27th/28th and June 1st. North: Holme 1-3 irregularly May 12th-Sept. 18th, with 5 May 26th. Titchwell 5 flying east June 10th. Sheringham 2 flying west April 8th and Sept. 11th.

Stone Curlew: Extreme dates March 3rd and Oct. 25th. Away from breeding areas reported from Winterton May 8th with 3 May 10th and Holme May 2nd.

Little Ringed Plover: Breeding: 20 pairs at 12 sites. Elsewhere spring records from March 31st at Winterton, Breydon, Hardley Flood, Cley, Stanford and Thompson Water. Maximum counts at Cley 5 July 25th and 11 on 26th. In autumn reported only from Hickling and Earlham.

Ringed Plover: No significant change in number of breeding pairs since 1976, with area totals as follows—East: 17-19. North: 260-320 and West: 34. Of particular interest were 2 young reared on Yarmouth beach and 2 pairs breeding on cliff-top fields at Cromer/Overstrand.

Kentish Plover: East: Breydon April 18th-June 24th and July 5th, intermittent records, with several birds involved. Winterton May 28th, June 5th/6th. North: Cley/Salthouse 1-2 April 11th-June 9th. Blakeney Point 2 Aug. 12th and 14th.

Dotterel: East: Winterton May 26th-28th. North: Mundesley Oct. 8th. Cley May 10th, 11th and 18th-22nd. Wells 8 May 10th. Wash: Snettisham Oct. 8th-10th, 17th and Oct. 20th-Nov. 4th Fens: Ouse Washes Sept. 8th.

Golden Plover: Largest concentration of 2000 at Cley Oct. 29th.

Grey Plover: Wash: Unusually large concentrations at Snettisham with 515 Jan. 9th, 2000 in early April and 660 Sept. 4th.

Sociable Plover: Fens: Welney Sept. 3rd-15th (many observers). The first county record of this vagrant from south-east Russia and west-central Asia.

Sanderling: Single inland record at Hardley Flood March 22nd.

Little Stint: East: Breydon June 19th, 1-2 July 13th-Oct. 25th. Broads: Hickling March 10th, 2 May 22nd-26th, 6 June 2nd, 2 Aug. 7th and 1-9 Sept., 7th-Nov. 12th. North: Cley 2 in Jan., singles Feb. 3rd, March 20th and 27th, up to 5 May 8th-28th, 2 June 18th, 9 July 30th/31st and up to 4 Aug. 4th-Nov. 6th. Holme Oct. 5th-30th.

Weybourne 1 west Nov. 12th. Wash: Snettisham Nov. 20th. Fens: Wisbech S.F. April 2nd-10th and autumn maximum of 4 Aug. 20th.

Temminck's Stint: North: Cley May 10th, 3 May 27th/28th, 2 June 25th, 1-2 Aug. 3rd-Oct. 24th (one bird with a damaged right leg making a prolonged stay Aug. 11th-Oct. 16th.). Edgefield 1 by village pond April 24th/25th. Titchwell June 6th, Holme Aug. 28th. Broads: Hickling June 5th/6th, 2 on 12th, July 27th, 3 Aug. 7th. 19th, Sept. 3rd-8th, 18th, Oct. 17th, 27th and Nov. 4th. Hardley Flood May 23rd and a different individual May 27th. Fens: Wisbech S.F. May 6th and Aug. 20th.

White-Rumped Sandpiper: North: Holme Aug. 28th-Sept. 2nd (G. W. Maybury *et al*).

Pectoral Sandpiper: East: Breydon Sept. 3rd. Broads: Hickling Sept. 4th-20th, with 2 on 15th and another Oct. 13th. North: Cley May 19th and Oct. 2nd-4th. Fens: Wisbech S.F. July 9th and Sept. 2nd-10th.

Curlew Sandpiper: East: Breydon 1-2 May 24th-June 6th; present July 25th-Sept. 23rd with maximum of 12 on July 30th and Sept. 5th. Broads: Hickling May 26th. June 16th-19th, July 27th-Sept. 5th, with maximum of 18 on latter date. North: Cley May 14th-June 6th; present July 13th-Sept. 11th, with maximum of 30 on Sept. 2nd and 11th. Fens: Wisbech S.F. maximum 13 Aug. 27th, last recorded Sept. 12th

Purple Sandpiper: East: Winterton Aug. 28th. Yarmouth Sept. 16th (3) and Dec. 26th. Breydon Oct. 16th. Bacton Nov. 14th. North: during the first winter period recorded only at Sheringham, up to April 22nd. Unusual series of late spring/summer records with singles at Cley May 14th and 18th, Blakeney harbour June 18th and Titchwell June 18th, 26th, July 7th and 13th. Possibly only one bird involved. During second winter period recorded from Aug. 23rd at Brancaster, Holme, Blakeney Point, Cley, Kelling, Weybourne, Sheringham and Cromer. Usually 1-2 but 7 Holme Oct. 2nd and 5 west at Weybourne Oct. 1st. Wash: extreme dates April 10th and Oct. 2nd, with maximum of 4 Dec. 18th at Hunstanton and 7 at Snettisham Jan. 9th.

Dunlin: East: Breydon maximum 4,000 March 10th. Wash: Snettisham maxima 3650 in Jan. and 3500 in Aug.

Broad-Billed Sandpiper: East: Breydon June 5th/6th (PRA, ADB), and Sept. 21st (PRA).

Ruff: Breeding season: Fens: Welney at least one pair bred. North: Cley up to 7 displaying in early May, but no proof of breeding. At other seasons notable concentrations of 170 Welney Dec. 11th; 70 Wisbech S.F. Aug. 27th; 60 Cley Aug. 4th; 40 Hickling Feb. 23rd and 32 Sheringham Aug. 25th. At last locality a pair fed on the lawn of a town garden with starlings.

Jack Snipe: Extreme dates May 7th (Weybourne) and Sept. 18th (Hickling).

Woodcock: Breck: Hockham Fen, an early nest contained 3 eggs Feb. 2nd.

Black-tailed Godwit: Breeding season: North: Cley pair displaying in May and up to 13 present in June but no evidence of breeding. Fens: Welney 8 pairs bred raising 17 young. During winter recorded each month at Breydon except March and 1-2 Snettisham in Jan. and Feb.

Bar-tailed Godwit: Wash: Maxima at Snettisham 1900 Jan. 9th, 2080 Feb. 6th and 3000 Dec. 1st.

Whimbrel: Extreme dates April 16th (Winterton) and Nov. 27th (Holkham). Unusually heavy autumn passage with 100 Blakeney Point July 16th; 101 Breydon July 31st; 50 Wells Aug. 19th and 180 west in 20 minutes Sheringham Aug. 19th following heavy rain.

Spotted Redshank: Unprecedented numbers in Wash at Snettisham with 77 Aug. 3rd and 187 Sept. 13th (PG). Winter records from Breydon Jan. 1st-25th and 2 Dec. 9th-12th.

Greenshank: Maxima in Wash at Snettisham with 20 Aug. 3rd and 19 Sept. 13th. Recorded in winter at Titchwell Dec. 3rd.

Green Sandpiper: Highest counts at Cantley B.F. with 24 July 10th, 25 on 31st and 44 Aug. 7th, including a single party of 24. Recorded during winter months only in East at Breydon and Halvergate marshes.

Wood Sandpiper: Spring passage from April 29th at Breydon, Winterton and Holme. Autumn passage Aug. 2nd-Oct. 27th, with peaks of 25 Wisbech S.F. Aug. 20th and 17 Hickling Aug. 21st. Also reported from Breydon, Cley, Cantley B.F. and Tottenhill G.P.

Common Sandpiper: A wintering bird at Breydon until Feb. 26th. A pair summered at Pentney G.P. with 1 at Breydon June 18th-19th.

Red-necked Phalarope: North: Cley Aug. 23rd, 24th, 31st and Sept. 1st. Broad's: Hickling Sept. 3rd and 24th.

Grey Phalarope: East: Yarmouth Nov. 23rd-25th. North: Cley Sept. 18th/19th and Nov. 17th; Sheringham Nov. 23rd; Holme Nov. 28th. Wash: Snettisham Nov. 17th.

Pomarine Skua: Total of over 30. East: Winterton Aug. 20th and 2 Oct. 2nd; Yarmouth Sept. 15th. North: Sheringham June 11th, 2 Sept. 10th, 2 on 16th, 5 on 17th, Oct. 1st and 2 on 2nd; Weybourne Oct. 1st; Cley Aug. 27th, Sept. 1st, 17th, Oct. 2nd and Nov. 12th; Blakeney Point Aug. 27th and Oct. 15th; Holme Aug. 15th, 30th, Oct. 10th, 12th and Nov. 13th. Wash: Hunstanton Sept. 17th; Snettisham 3 Sept. 17th

Arctic Skua: North coast/Wash: In spring a sick bird at Sheringham April 2nd. Autumn passage until Nov. 21st with peaks of 60 at Sheringham Aug. 8th and Snettisham Sept. 17th.

Long-tailed Skua: North: Blakeney Point July 16th (TW,JL) and Aug. 11th (LFW,SW); 2 Cley Sept. 17th (JK *et al*).

Great Skua: East: Winterton Sept. 17th, 25th, 8 Oct. 2nd, 16th, 10 Nov. 13th; Walcot Oct. 1st. North/Wash: Passage Aug. 7th-Nov. 22nd with monthly peaks of 22 Sept. 17th at Snettisham, 65 Oct. 2nd Holme-Hunstanton and 64 Nov. 13th entering Wash at Holme during 3½ hours observation. In addition one dead Old Hunstanton Dec. 18th.

Mediterranean Gull: East: Yarmouth adult July 29th-Sept. 17th. North: West Runton/Sheringham adult March 23rd-26th; Holme May 12th-15th; Scolt Head first-summer May 28th; Snettisham Sept. 17th; Stiffkey Sept. 25th; Sheringham Oct. 20th.

Franklin's Gull: North: West Runton Oct. 29th 1976 (GRH, JVH, DH). An addition to the county list.

Little Gull: Records of singles in May at Breydon, Cley and Holme. Recorded away from coast at Hardley Flood May 27th, Denver Sluice Aug. 5th/6th, Hickling Aug. 21st and Tottenhill G.P. Sept. 3rd. Remarkable numbers passing offshore Nov. 12th/13th with 213 flying south in 3½ hours at Winterton, 100 at Cley, 118 at Sheringham, 60 at Holme and 103 at Weybourne, including 12 moving inland, December records from Yarmouth and Burgh Castle (3rd), Overy Staithe (14th), and Sheringham (29th).

Sabine's Gull: East: Yarmouth Sept. 15th/16th; Winterton Sept. 17th. North: Blakeney Point 3 adults Aug. 27th; Cley Aug. 27th 1-2 Sept. 8th, 17th and Oct. 29th.

Black-headed Gull: Breeding colonies reported as follows: Cantley B.F. 130 pairs, North Wootton Marshes 10 pairs, Stiffkey Binks 30 pairs, Scolt Head 600 pairs, Titchwell 30 pairs (a new colony) and Blakeney Point 300 pairs.

Common Gull: North: Blakeney Point one pair bred rearing one chick.

Lesser Black-backed Gull: West passage totals of 54 west Sheringham April 2nd and 53 Breydon Aug. 25th.

Iceland Gull: North: Sheringham first winter March 5th; Holme March 26th.

Glaucous Gull: East: Yarmouth Oct. 16th, Nov. 22nd and 27th. North: Cley-Sheringham extreme dates of regular wintering adult (recognized by damaged right foot and leg) March 6th and Sept. 3rd. In addition a second bird flew east Feb. 27th, while gales in November resulted in 5-7 flying west on 17th and 6 west on 21st. Elsewhere noted at Holme Jan. 6th, Nov. 17th and Dec. 8th; Blakeney Point 2 Sept. 27th and Wells Nov. 23rd.

Kittiwake: North/Wash: Hunstanton several thousand passing west Nov. 12th/13th and Brancaster 5-10,000 on 17th.

Gull-billed Tern: East: Breydon June 6th (PRA). North: Cley Aug. 28th (RA, CRI).

Caspian Tern: Central: Swanton Morley GP July 11th (JK *et al*).

Sandwich Tern: Earliest record Scolt Head and Sheringham March 18th. Breeding: North: Scolt Head 3,000 pairs (1,200 flying young); Stiffkey Binks 91 pairs; Blakeney Point 1,700-1,800 pairs (600 flying young). Two reported inland in Fens at Downham Market June 15th and 20th. Late birds Nov. 13th at Sheringham, Cley (2) and Hunstanton.

Common Tern: Extreme dates March 27th (Cley) and Nov. 2nd (Cley) with reports of 'comic' terns at Blakeney Nov. 12th and Weybourne Nov. 21st. Breeding: number of pairs (with number of fledged young in brackets where known). East: Breydon 17 (6) a new colony on a man-made raft. Broads: Ormesby 3 (8), Ranworth 32 (55), Hoveton 4, Martham 3 (6), and Hardley Flood 16 (39). North: Thornham 3, Titchwell 3 (2), Overy Staithe 4-5, Wells 15, Stiffkey Binks 119, Bob Hall's Sand 34, Scolt Head 300 (175) and Blakeney Point 1200-1400. Wash: Snettisham 60 (45). Inland non-breeders (away from Broads): Swanton Morley G.P. 4 from April 30th and Earham Park G.P. 1-6 July 20th-Aug. 8th.

Arctic Tern: Breeding: North: Stiffkey 1 pair, Scolt Head 2 pairs and Blakeney Point 2 pairs. Broads: Hickling 4 July 24th. Last recorded at Sheringham Oct. 16th.

Little Tern: Extreme dates April 21st (Winterton) and Oct. 2nd (Snettisham). Breeding: (number of pairs) East: Sea Palling-Waxham 3, Waxham-Horsey 9, Winterton 8-10, Winterton-Hemsby 1, Caister on Sea 8, Yarmouth 5 and Breydon 1-2. Broads: Hickling 30 (rearing 41 young). North-Blakeney Point 180-200, Brancaster 7 (10-12 young), Thornham 35 (only 2 young), Holkham 3, Wells-Overy Staithe 35-40, Overy Staithe Harbour 18-20, Stiffkey Binks 20, Bob Hall's Sand 7, Scolt Head 68 (18 young) and Titchwell 24. Inland recorded at Denver Sluice Aug. 7th.

Black Tern: Spring passage May 8th-June 22nd with noticeable peak May 26th/27th. During this two-day period 60 at Breydon, 34 Winterton, 11 Cley, 3 Titchwell, 5 Holme, 10 Hardley Flood, 14 Colney G.P., 20 Swanton Morley G.P. and 9 Denver Sluice. Also 3 flying north-east East Wretham Heath May 22nd. October records on 13th Cley (2) and 19th Hickling.

White-winged Black Tern: North: Cley adult June 2nd-9th (WFB, JK *et al*). Broads: Hardley Flood May 26th-28th (JCE, DAD, DJH). Fens: Welney 2 May 23rd-25th (GHS). Additional 1976 record: Cley July 14th (RL, SCL).

Razorbill: Largest numbers: North: Sheringham 240 east in 2 hours Oct. 11th (JCM). East: Winterton 174 north in 80 minutes Dec. 31st (PRA).

Black Guillemot: North: Sheringham Sept. 26th, Salhouse Oct. 31st and Wells harbour Jan. 2nd to 29th.

Little Auk: North- Cromer Nov. 16th, Cley oiled bird April 11th/12th, 10 Oct. 29th and Nov. 17th, Weybourne 6 Nov. 21st, Brancaster dead Feb. 1st, Thornham accompanying Starlings Oct. 22nd with same or another next day and Titchwell dead April 9th. East: Happisburgh dead on main coast road Nov. 24th, Yarmouth Nov. 16th.
Puffin: North: Fifteen autumn/winter records of up to 7. East: Winterton dead Dec. 19th.

Woodpigeon: North: Holme assembly of 4000 headed west April 27th.

Turtle Dove: Breck: 680 at a duck farm Foulden June 23rd increasing to 820 on 27th; all had dispersed by mid-July. North: Sheringham 270 west May 29th, Cley total of 406 west June 5th to 11th including 243 on 8th. East: Late individual Yarmouth Nov. 23rd.

Ring-necked Parakeet: Recorded at High Kelling Nov. 5th, Cley Oct. 13th, Winterton July 2nd, Blakeney March 8th/10th, Sheringham April 28th and Holme Feb. 6th.

Great Spotted Cuckoo: North: Cley-Salthouse Oct. 21st (CEH, MSH, GGW *et al*).

Barn Owl: Recorded at 76 localities.

Little Owl: Recorded at 24 localities.

Long-eared Owl: Single pairs bred at Fritton, Kelling Heath and East Wretham. Breeding season records from Massingham Heath, South Wootton and Hickling. Wintering birds at Massingham Heath, Ringstead, Strumpshaw and Welney (3). Single migrants in off sea at Holme April 9th and 23rd.

Short-eared Owl: Bred at Sculthorpe. Breeding season records at North Wootton and Tunstall (carrying food). Maximum winter numbers: Halvergate 8, Scolt Head 5 and Ouse Mouth 8. Single migrants in off sea at Cley Sept. 25th, at Winterton Oct. 7th, at Salthouse on 9th and at Cley Nov. 17th and 28th.

Nightjar: North: Blakeney Point migrant Aug. 21st. Breeding: Away from Brecks singing males as follows: Salthouse Heath 6, Kelling Heath 4, Sandringham 3, Wolferton 1 and Winterton 1.

Swift: First record, Hickling April 27th. 1000 + moving eastwards Sheringham Aug. 17th during ENE gale. Latest record, Cley Oct. 14th.

Kingfisher: Breeding confirmed at Brampton, Cantley B.F., Fritton area (3 pairs), Hunstanton, North Walsham, Snettisham, South Creake and Strumpshaw. At Brampton the nest was in overturned tree roots and one at Fritton was in the base of a fallen oak

Hoopoe: In spring singles between Bircham and Houghton April 30th and at Surlingham for at least a fortnight up to May 3rd. In autumn Sheringham Aug. 18th and Wells/Holkham Aug. 20th-30th joined by a second bird 26th-30th.

Wryneck: Spring records as follows: Wells May 2nd and 22nd. South Wootton May 5th and West Runton May 17th. In Autumn first recorded Aug. 13th, followed by large daily falls of migrants Aug. 18th-21st. on North and East coasts with maximum numbers as follows:- 14 Blakeney Point 19th, 10 Wells/Holkham 20th, 11 Winterton and 13 Sheringham 21st. During this period inland records at Reepham 21st, Hickling 19th-21st with 2 on 22nd, Norwich 23rd and Wickhampton (dead) 28th. Most migrants had moved on by end Aug. and surprisingly only two September records: Blakeney Point 3rd and Castle Acre 11th-14th. Two late records in October: Horsford 5th and UEA, Norwich 13th.

Woodlark: Recorded at 11 localities in Brecks in breeding season. Elsewhere Winterton March 6th, two flying south at Eaton, Norwich March 16th, Weybourne Nov. 5th and Salthouse Nov. 12th.

Shore Lark: Extreme dates May 14th and Sept. 25th. Occasional records of up to 5 at Breydon, Winterton, Morston, Holkham, Scolt Head, Burnham Overy, Holme and Snettisham. Majority of records from Sheringham-Cley where monthly maxima as follows: Jan. 30, Feb. 35, March 31, April 30, May 12, Oct. 12 and Nov/Dec. 8 Also 14 Hickling Nov. 27th.



- Sand Martin:** Late October migrants at Weybourne on 28th and Cley on 31st.
- Swallow:** Under a low railway bridge between Berney Arms and Reedham a nest which had accumulated over 8/10 years to a height of 18 inches had eggs in topmost nest. An Albino between Little Melton and Hethersett Oct. 23rd. A considerable number of late birds on North coast in November with latest at Cley on 17th. One December record, Toftwood on 17th.
- Red-rumped Swallow:** North: Cley June 11th (RJF, PN, NJR). The third county record.
- House Martin:** An early migrant at Winterton March 8th. Many November records including 82 north at Winterton and 23 west at Sheringham on the 12th. Latest birds, Hardley Flood (2) on 20th, Framingham Earl on 21st and Norwich on 28th.
- Richard's Pipit:** Largest numbers since 1970. East: Winterton-Horsey 1-4 almost daily Oct. 1st-23rd and one Dec. 31st, the latest county record. North: Sheringham Sept. 28th and up to 4 Oct. 20th-25th, Weybourne 2 Oct. 27th and Nov. 5th-7th, Cley 1-2 Oct. 13th-28th; Blakeney Point Oct. 13th, Stiffkey Sept. 22nd and 25th and Oct. 10th, Warham Oct. 1st/2nd, Wells Oct. 7th, 3 11th, 2 12th-18th (one different bird from the 11th) and 23rd, Holkham (Gun Hill) at least 2 Oct. 11th-13th and 2 Oct. 29th, Scolt Oct. 16th-29th with 2 on 27th, Burnham Overy Oct. 16th and Holme Oct. 1st/2nd and 10th-28th.
- Tawny Pipit:** North: Sheringham Sept. 24th (MF, KBS, MPT) and Cley Oct. 21st (IRC, CRL, GGW). Holme March 19th-April 10th. A very early arrival date and a prolonged stay.
- Meadow Pipit:** East: A pale buffish bird Breydon Jan. 1st-30th.
- Red-throated Pipit:** North: Cley May 18th (MFS) and Kelling May 29th-31st (many observers). The fifth and sixth county records.
- Water Pipit:** Most regularly seen at Hickling where singles Jan.-April, first recorded in Autumn Oct. 22nd increasing to 6 early Nov. and up to 3 in Dec. Elsewhere singles at Cley in April and Oct., Winterton in Oct. and Dec. and Cantley B.F. in Jan. and Oct., where 3-4 end Nov.
- Yellow Wagtail:** A very early bird at Sheringham March 13th.
- Blue-headed Wagtail:** East: Breydon April 28th-May 27th with other singles May 1st and 6th, Happisburgh 2 April 26th and 4 on 28th. Broads: Hickling 2 April

22nd and one 30th. North: Cley/Salthouse April 10th/11th, up to 2 20th-23rd, May 8th/9th, 2 June 4th and singles July 17th and 30th, Titchwell May 30th.

Grey-headed Wagtail: North: Salthouse June 5th.

Ashy-headed Wagtail: North: Cley May 7th-9th (RC, KB *et al*). The fourth county record of this race.

Grey Wagtail: Breeding records from Taverham, Lenwade, Lyng, Ellingham, Gressenhall and along River Nar (6 nests).

Pied Wagtail: An unusual concentration of 200 near Rackheath Church Oct. 5th. A roost of 100 birds in small reed bed at East Tuddenham early Nov.

Waxwing: Only a small number of records: Costessey Feb. 5th, Wells Nov. 17th with 2 19th/20th, Swaffham Nov. 21st and 23rd, Eaton 2 Nov. 26th, Wiveton 2 Dec. 1st and Hellesdon Dec. 24th-27th.

Black-bellied Dipper: Singles recorded at the following localities: Old Costessey Jan. 22nd, Keswick Mill Feb. 4th, Hellesdon Mill Feb. 6th, Gunton Park Feb. 14th-20th, Honingham up to Feb. 24th and Gressenhall in Nov./Dec.

Thrush Nightingale: North: Holme trapped May 14th (PRC). The bird was not seen in the field before or after capture. The first county record.

Nightingale: Passage birds at Sheringham April 30th, Titchwell May 14th and Blakeney Point Aug. 20th.

Bluthroat: Two spring records: Holme May 8th/9th and Weybourne May 21st. The only two autumn records were both unusually late: Happisburgh Oct. 2nd and UEA, Norwich Oct. 12th, the first inland record for many years.



Cetti's Warbler

Black Redstart: Yarmouth 3 pairs, 2 of which definitely bred, and Weybourne one pair, but no proof of breeding. Winter records from Sheringham in Jan. and Feb. and Titchwell Jan. 9th. Spring migrants March 10th-April 25th including inland records at Mulbarton, Norwich and Reepham. Isolated records Holme May 13th and Aug. 7th. Autumn records Sept. 18th-Nov. 6th with maximum of 4 Blakeney Point Oct. 15th.

Redstart: Breeding season records from 9 Breck localities. A very late migrant at Holme Nov. 18th.

Whinchat: Present in breeding season at Bridgham Heath, Frog Hill, Stanford, Sturston Warren and Weeting. Late migrants at UEA, Norwich Nov. 8th and Snettisham Nov. 12th.

Stonechat: Two breeding pairs at Weybourne and six pairs at Winterton-Horsey. A sudden influx at Holme March 6th when 24 present with 6 next day.

Isabelline Wheatear: East: Winterton May 28th (PRA, TEB). The first county record.

Wheatear: Extreme dates—March 6th (Holme) and Nov. 12th (Snettisham). Only breeding locality reported away from Brecks was Kelling Heath.

Siberian Thrush: East: Yarmouth male Dec. 25th (P. J. Wilkinson). First county record of this vagrant from Asia. Accepted by Rarities Committee Sept. 1978.

Ring Ouzel: An early record Burnham Overy March 12th. Main Spring migration March 26th-May 28th with largest numbers April 17th-27th including 13 Salthouse Heath on 21st. A male at Wiveton Down on the unusual date of June 23rd. Autumn passage Sept. 24th-Nov. 3rd with maximum of 7 at Wells/Holkham Oct. 7th.

Fieldfare: Latest spring record Swafeld May 24th. East: a pair summered for third year running, but again no evidence of breeding. First recorded in Autumn Aug. 21st at Wells and Blakeney Point.

Redwing: Late spring records at Holme May 19th (singing) and Holkham May 22nd. At an East Norfolk locality 4 still present May 29th and a pair again summered, but no evidence of breeding.

Mistle Thrush: A large flock of 75 at Gunton Feb. 21st.

Cetti's Warbler: Broads: Total of 25 singing males in Yare valley at Rockland, Wheatfen, Surlingham and Strumpshaw. Elsewhere, 2 males in song at Hoveton and at Hickling (from Oct. 11th) and another at Smallburgh.

Grasshopper Warbler: Two October records, Hickling on 5th and Happisburgh on 19th (trapped).

Savi's Warbler: Broads: Hickling present from April 26th and 3 singing by July. One bird also seen carrying food (SEL). Horsey pair seen, male singing, in August (JJB).

Sedge Warbler: A pure albino at Wells on Aug. 14th (GED, SCJ)

Icterine Warbler: A remarkable series of falls in the Autumn, mainly on the North coast. All records are listed *and refer to August*, unless otherwise stated:

East: Winterton 21st. Waxham 16th, 18th, 21st, 22nd and 28th. Inland: North Walsham (Crane Fruehauf factory) 10th. North: Sheringham 15th, 17th, 20th, 30th and Sept. 3rd (all trapped). Blakeney Point 8 7th, 4 8th, 2 13th, 5 14th/15th, 2-3 16th, 3 17th, 4 18th, 8 19th, 2 20th, 4 21st, 22nd/23rd, 29th and Sept. 1st.

Morston Sept. 1st. Wells/Holkham 3 8th, 11th, 14th, 15th, 2 17th, 4 20th, 3-4 21st, 27th, 28th, 30th and 31st. Holme 7th a new bird 8th, 4 9th, 13th, 17th, 18th, 3 19th, 20th, 22nd and 23rd. Old Hunstanton 15th (retrapped 20th) and 18th (also trapped).

Barred Warbler: East: Winterton Aug. 27th/28th. North: Beeston Regis Aug. 24th Sheringham Aug. 16th & 20th (retrapped 24th). Weybourne Aug. 16th and Oct. 3rd. Cley Aug. 28th and Sept. 1st-4th. Blakeney Point 2 Aug. 8th, 12th, 13th, 2 18th, 19th, 2 20th, 22nd, 23rd and Sept. 15th-17th. Wells/Holkham Aug. 21st, 27th, 2 28th and 2 Sept. 5th. Holme 2 Aug. 23rd and Sept. 3rd. Hunstanton Aug. 22nd.

Garden Warbler: October records at Wells until 18th and Sheringham until 22nd.



Greenish Warbler

Blackcap: January records: 3 separate birds at Sheringham (2 trapped), Cley 13th/14th, Acle 23rd and up to 4 at Holme. In February 2 at Holme, 3 at Sprowston (2 trapped) and Hunstanton 23rd.

Greenish Warbler: North: Blakeney Point Aug. 12th (AMH), two 13th, one remaining until 15th (many observers). Holkham Aug. 20th/21st. (SDH, SCJ).

Arctic Warbler: North: Wells Sept. 18th-23rd (GED, S. Gantlet, *et al*). The eighth county record.

Yellow-browed Warbler: North: Wells/Holkham 2 Sept. 20th/21st, Oct. 7th, 3 Oct-8th and 2 Oct. 9th, Blakeney Point Sept. 20th, Holme Sept. 21st-24th and Weybourne Sept. 22nd.

Dusky Warbler: Additional 1976 record: North: Wells Oct. 16th (JDS, GGW) the eighth county record.

Bonelli's Warbler: Additional 1976 record North: Holkham Sept. 14th (HS, DW). Almost certainly the same bird as that seen on Sept. 5th (1976 NBR).

Wood Warbler: Spring migrants at Thornham May 20th and Wells May 22nd. Singing males in breeding season at Blickling, Castle Rising, Felthorpe, Great Hockham, Kelling, Narborough, Sheringham and West Runton. Autumn migrants as follows: East: Yarmouth Aug. 18th and 23rd. North: Sheringham Sept. 25th (trapped), Blakeney Point Aug. 10th, 2 13th/14th and 15th, Wells/Holkham 2 Aug. 17th, 18th and 3 21st, Holme Aug. 7th, 9th, 18th, 21st and 22nd, Old Hunstanton Aug. 19th (trapped).

Chiffchaff: Early spring arrival from March 6th (Beeston Regis). Up to 3 Wells/Holkham late Sept.-early Oct., showing characteristics of *abietinus*. A late bird at Salhouse Nov. 20th feeding on shingle with Snow Buntings. Winter records: Cantley B.F. Feb. 12th and birds of Northern race *abietinus* trapped Sheringham Jan. 15th-18th and Dec. 4th (2).

Firecrest: Only a small number of records: Holme 2 March 20th, one 21st-24th, Wells/Holkham 2 April 11th, 12th, 17th and Oct. 28th, Yarmouth Sept. 24th, Winterton Sept. 25th and Bradwell Nov. 9th.

Red-breasted Flycatcher: North: Holme Sept. 17th, Blakeney Point Sept. 20th and a different bird Sept. 22nd/23rd and Wells Oct. 9th.

Pied Flycatcher: A total of 14 migrants in Spring April 30th-June 1st, including inland records at Felbrigg, Kelling Heath, Honing and Swafeld (2). Large Autumn

falls of 75 Blakeney Point Aug. 15th and 50 Aug. 19th; 70 Yarmouth Aug. 18th. A late bird at Yarmouth Oct. 23rd.

Bearded Tit: Breeding records include one pair at Dersingham, 15 pairs at Titchwell (maximum count of 76 Dec. 4th), at least 12 pairs at Cantley B.F. and 10 pairs at Strumpshaw, where late Autumn maximum of up to 300 birds. Other Autumn migrants as follows: Mundesley 2 Oct. 8th, Sheringham 2 Oct. 29th, Weybourne up to 5 Oct. 14th-Nov. 29th, Scolt Head 13 Oct. 20th, Holme 15 Oct. 8th and Snettisham where 4 Sept. 27th and 8 Oct. 14th, with 2 remaining until Nov. 12th.

Golden Oriole: East: Winterton May 15th and June 11th (PRA, ADB). North: males seen in flight at Holkham May 28th (GED, SCJ), Titchwell June 28th (RK) and Sheringham July 5th (BB).

Red-backed Shrike: Spring migrants at Cley May 8th, Holkham May 24th, Holme May 27th/28th and June 1st and Gorleston May 28th and 31st. In breeding season at least 10 pairs present at 6 localities but young only reared from 3 nests, including a new site in North-east Norfolk. Isolated records also from 6 other localities including several former breeding areas and at least one other suitable new locality. A major Autumn influx, on a larger scale even than that which occurred in 1976: Broads: Hickling Aug. 20th-22nd, and 27th. East: Gorleston up to 3 Aug., 18th-Sept. 2nd, Yarmouth 1-3 Aug. 18th-26th, Winterton influx commenced Aug. 18th, peak of 12 on 21st, 9 still present on 27th (last record Oct. 1st), Waxham Aug. 16th, 3 18th and 21st, 6 22nd, 3 remaining 28th, Happisburgh Aug. 14th-22nd and 28th. North: East Runton 2 Aug. 30th and one 31st, Beeston Aug. 13th, 2 20th/21st, 24th, 27th and Sept. 1st-4th, Sheringham Aug. 7th, 11th and 1-4 15th-28th and one Sept. 25th-28th, Cley Aug. 13th, 3 Aug. 14th, 17th, 22nd and 27th. Blakeney Point 1-4 on most days Aug. 7th-23rd, Morston Sept. 1st, Wells/Holkham up to 7 Aug. 13th-Sept. 2nd, Scolt Aug. 20th/21st, Burnham Overy Aug. 21st, Brancaster Aug. 24th & 29th and Sept. 3rd, Titchwell 2 Aug. 20th and Holme Aug. 13th, up to 4 Aug. 17th-Sept. 4th.

Lesser Grey Shrike: Fens: Downham Market June 8th (CO'N).

Great Grey Shrike: Winter records up to April 15th and from Oct. 9th. Recorded at 22 localities.

Woodchat Shrike: North: Sheringham July 5th-8th (JCM *et al*) and Cley Sept. 24th-25th (BR *et al*)

Hooded Crow: Following heavy snowfall 23 arrived at Smallburgh Jan. 16th; also 27 Sandringham Jan. 18th. Most records in April when concentration of birds during cold weather prior to departure, including 44 at Sheringham on 16th, 24 at Winterton on 21st and 36 at Bacton on 22nd.

Brambling: Concentrations of 6-800 at Heggatt March 25th and 1500 at Marham Nov. 26th.

Serin: North: Wells April 11th/12th (LE,DF).

Goldfinch: East: Happisburgh 750 moving north early on May 6th and a similar movement of 1,200 on May 13th.

Siskin: Only flocks reported were in second winter period including 48 at Narford Oct. 6th and at least 80 Gunton Park Dec. 16th.

Linnet: North: Sheringham peak westerly movements 3,000 on April 16th and 2,500 on 26th. East: Happisburgh largest northerly movement 2,000 early morning May 1st.

Twite: North: Winter counts included 500 at Titchwell, 300 at Wells and 250 at Thornham.

Mealy Redpoll: Only records: Morston Sept. 22nd and Happisburgh 3 Oct. 28th, one trapped on 29th.

Crossbill: Recorded at several localities in Brecks with maximum of at least 25 East Wretham March 3rd. Elsewhere several parties Felthorpe area in June including immatures, 10 Kelling Heath June 5th, 3 Sheringham third week of July and 5 there Oct. 21st and Wells Sept. 23rd.

Hawfinch: Only regularly recorded at East Wretham where maximum of 36 Jan. 22nd and April 3rd. Also irregularly seen at Santon Downham (two juveniles recorded), Felthorpe (unsuccessful breeding) and Framingham Earl. Elsewhere: Tottington Jan. 3rd, 6 Narford Jan. 6th, 2 Diddlington Jan. 23rd, Tommy's Belt (Stanford Battle Area) April 24th, Buckenham Tofts May 28th, 3 Lower Kelling Sept. 8th and Gooderstone in Dec.

Lapland Bunting: In Jan. and Feb. up to 5 noted at Kelling, Cley and Morston. A male at West Runton May 27th-29th. In Autumn recorded in much larger numbers than in recent years with at least 150 birds on the North coast and Wash in October at numerous localities with a maxima of 38 Cley 22nd/23rd and 15 at Sheringham and Holme. On East coast total of 46 flying south at Winterton Sept. 14th-Oct. 29th including 14 on latter date. Peak of 10 at Breydon Nov./Dec. One Gorleston Oct. 18th-20th. Two inland records: one flying west Norwich (Thorpe) Oct. 16th (when noticeable arrival on north coast) and 15 Halvergate Dec. 26th.

Snow Bunting: In first Winter period 200 at Holme and 88 at Snettisham in Jan. and 250 at Kelling and 100 at Happisburgh in Feb. Last noted at Cley April 23rd. In Autumn recorded again from Sept. 14th (Winterton) with 300 at Cley/Salthouse and 100 at Weybourne in Oct. and up to 55 at Breydon in November.

Ortolan Bunting: North: Blakeney Point Aug. 13th/14th (many observers), Stiffkey Sept. 23rd (GED) and Salthouse Sept. 24th (SCJ).

Little Bunting: North: Stiffkey Sept. 22nd-26th (PM *et al*). The ninth county record.

The following, not mentioned in the Classified Notes, were also recorded in 1977 ((*breeding species in italics*): Mute Swan, Canada Goose, Mallard, Scaup, Kestrel, Red-legged Partridge, Grey Partridge, Pheasant, Water Rail, Moorhen, Coot, Lapwing, Knot, Snipe, Curlew, Redshank, Turnstone, Herring Gull, Great

Ortolan Bunting



Black-backed Gull, Guillemot, *Stock Dove*, *Collared Dove*, *Cuckoo*, *Tawny Owl*, *Green Woodpecker*, *Great Spotted Woodpecker*, *Lesser Spotted Woodpecker*, *Skylark*, *Tree Pipit*, *Rock Pipit*, *Wren*, *Dunnock*, *Robin*, *Blackbird*, *Song Thrush*, *Reed Warbler*, *Lesser Whitethroat*, *Whitethroat*, *Willow Warbler*, *Goldcrest*, *Spotted Flycatcher*, *Long-tailed Tit*, *Marsh Tit*, *Willow Tit*, *Coal Tit*, *Blue Tit*, *Great Tit*, *Nuthatch*, *Treecreeper*, *Jay*, *Magpie*, *Jackdaw*, *Rook*, *Carrion Crow*, *Starling*, *House Sparrow*, *Tree Sparrow*, *Chaffinch*, *Greenfinch*, *Bullfinch*, *Yellowhammer*, *Reed Bunting* and *Corn Bunting*.

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FEEDING WILDLIFE IN THE GARDEN

by DR I F KEYMER

Providing food for wild creatures is a satisfying pastime for many people. It is practised even by those who have only the slightest interest in or knowledge of natural history. Birds such as house sparrows, chaffinches, blackbirds and tits are the species most eager to take advantage of the household scraps provided in this way. The enthusiasts, however, take more trouble to provide a greater variety of food and thereby attract a wider variety of birds and sometimes squirrels and hedgehogs. There is little doubt that in hard winters the lives of some species, especially small birds, are saved by such artificial feeding. It is important to realise, however, that providing food artificially is not always as beneficial or harmless as it may seem.

The fact that wild species have similar nutritional requirements to ourselves and to domestic animals is often not realised. Even when some species have evolved to eat highly specialised foods they still need water and a basic diet that contains carbohydrates, fats, protein, vitamins and minerals, although the proportions may vary according to the type of animal.

It is a common fallacy that animals instinctively know what is good for them. Unfortunately, like ourselves, they can develop cravings for foods which are harmful when eaten in large quantities. Foods which should *never* be fed include long strips of bacon rind, especially if raw, and shredded or dried coconut. This type of coconut and even dry bread can swell up inside the crop or stomach and cause impaction that can lead to discomfort or death. Only fresh coconut should be offered, and bread should be soaked in water or milk before feeding. Long strips of bacon rind may choke birds and also produce impactions because they take a long time to digest. Most people love salted peanuts and the same applies to many birds and squirrels. For this reason therefore peanuts containing high concentrations of salt are not recommended because an excessive amount of salt in the diet can be dangerous, especially to young birds. Only fresh nuts should be fed. However, nuts contain a high proportion of phosphorus and a substance called phytic acid which interferes with the absorption of calcium. If nuts, therefore, are eaten in quantity by young growing animals over a long period there is a danger that they will interfere with normal bone formation and help to produce the disease known as rickets. Indeed, I have found evidence that feeding nuts in large quantities may have caused a disease of this kind in a young red squirrel that died of pneumonia in Norfolk.*

Other foods which should be presented in small quantities, or for strictly limited periods of the day, include lumps of fat and even soaked bread. Such foods are of limited nutritional value, although they are a source of energy and quickly fill an empty stomach. This is important for small birds first thing in the morning after roosting through a cold night or late in the afternoon before going to roost, but if birds are given this type of food in the middle of a winter's day the sense of well being that is probably produced could easily slow down normal feeding activities. It is quite possible that this could result in death later in the night,

*See I. F. Keymer and J. M. Hime (1977) Nutritional osteodystrophy in a free-living red squirrel (*Sciurus vulgaris*). *Veterinary Record* 100. 31-32.

because it is important for birds, especially small ones, to go to roost with a full crop and enough food inside them to maintain their body temperature until dawn.

In addition to the disadvantages already mentioned of feeding foods such as nuts, there is also published evidence that feeding excessive quantities of white bread to birds can lead to vitamin deficiencies. This is most likely to affect pigeons and some other birds in town parks where other sources of food supply are limited. It is also on record that when an excessive amount of fat is fed by parent tits to their nestlings this can prevent proper feather development with the result that the young readily fall prey to cats.

The experiences that I have quoted clearly show that regular artificial feeding of wild birds, and even of such animals as squirrels, may interfere with their natural feeding habits and make some species too dependent upon man, thus leading to unfortunate and unexpected results. Any regular concentration of birds around feeding tables soon becomes well known to local cats, as many bird watchers will be aware. What is not well known, however, is that there is evidence that a build up of disease producing bacteria known as *Salmonella* may sometimes occur in places where small birds such as house sparrows and greenfinches regularly gather. In addition to being lethal to wild birds many strains of these organisms can also infect domestic animals, and even man occasionally causing severe illness. This, therefore, is yet another consequence that should be borne in mind. The obvious problem which now arises, is how the above disadvantages can be overcome. Firstly, in my opinion, wild birds and other animals should not be allowed to become too dependent upon artificial feeding. There is, I agree, a very good case for providing food and water during severe weather conditions such as frost, snow, or drought, especially early in the morning and late in the afternoon. The food should be placed where it is easily found by the animals for which it is intended. Wild animals spend most of their waking hours searching for food, so there is little reason to worry about the food being overlooked if it is scattered about the garden instead of always being put in the same place.

The next thought which will come to mind is the type of food which should be fed. There is surprisingly little advice readily available on this important topic, although the R.S.P.B.† produces a leaflet which gives guidance on how to present food to garden birds and encourage them by growing types of shrubs which bear berries. Briefly, however, the greater the variety of food that is provided the better. Not only will this minimise the possibility of dietary deficiencies occurring, but it will also attract a greater variety of species. In addition to halved, fresh coconuts to attract tits and household scraps comprising the usual crumbs, pieces of meat, stale cakes or buns and lumps of fat, the following are also suitable and will attract both seed eaters and fruit eaters:—cheese and rinds, baked potatoes, hard-boiled eggs, corn, and bruised apples or other fruit including sultanas and currants. Proprietary seed mixtures for cage birds such as canaries, budgerigars and parrots and the special mixtures prepared for so-called “softbills” (predominantly insectivorous species) are very good, but expensive. Meal worms and maggots are also appreciated by insectivorous species, but are also relatively expensive to buy. Similarly proprietary wild bird foods and even tinned cat and dog foods are relished by many birds. Some ornithologists even make special “puddings” based chiefly on mixtures of mutton fat, coarse oatmeal, flour and water. In fact most of the foods I have recommended can be used in the preparation of these puddings and, if thought necessary, baked in an oven.

†Leaflet entitled “Information on Feeding Birds”. Obtainable from the Royal Society for the Protection of Birds, The Lodge, Sandy, Bedfordshire, SG19 2DL.

Most people seem to know that hedgehogs relish bread and milk and in moderation this is a suitable diet for them. However, being carrion eaters they will also eat meat scraps as well as eggs. In addition to liking nuts, squirrels will also take currants and sultanas, but all these should be fed in moderation and indeed especially in Norfolk and Suffolk the destructive grey squirrel should not be encouraged by artificial feeding, because our native red squirrel that still occurs in some areas is slowly dying out and being replaced by this species. You are unlikely to want to encourage other mammals into your garden, but don't forget that foxes are rather partial to poultry!

Dr Keymer has offered to carry out post-mortem examinations on wild mammals and birds, free of charge to NNT members.

Carcasses should be refrigerated (NOT deep frozen) for 12 hours before dispatch securely wrapped in airtight containers. A complete history should be provided where possible.

Address packages to Dr I. F. Keymer, M.A.F.F. Veterinary Investigation Centre, Jupiter Road, Norwich NR6 6ST and mark "Urgent: pathological specimen".

This offer is confined to wild animals, NOT pets.

HIBERNATION HABITATS OF BATS IN NORFOLK

JOHN GOLDSMITH

"Where do bats go in winter?" This is a question often asked me. Do they perhaps seek the same places as the proverbial fly, their insect food? Reading the standard text books on the subject will supply only part of the answer. Recent research provides a little more and conjecture has to fill in the rest! Most of my searching for the winter habitats of bats has, in fact, been confined to those species in this county which "go underground", that is, Long-eared, Natterers, Daubenton, Whiskered and Brant's bat.

Hibernation for these species is not usually the uninterrupted sound slumber for for six months that may be imagined. They certainly fatten up during the autumn then become torpid in their chosen site. However, they will wake up as frequently as humidity and temperature changes occur and move to a site where better conditions prevail. This means, of course, that even a single visit by a human to a particular site could upset this delicate balance and force a site change. The humidity recorded at sites where bats are hibernating shows they usually need over 80% relative humidity. This prevents the delicate wing membranes drying out. The temperature must not fluctuate much and must lie somewhere between the approximate figures of 3 deg. C and 12 deg C. Good indicators of suitable conditions are mosquitoes, *Eristalis* flies and Herald Moths. The latter, incidentally always face towards the entrance of the cave.

The traditional site in which hibernating bats are found is of course caves, but Norfolk has no natural caves, only man-made caves in chalk at four sites which are still penetrable. There are many records of chalk workings details of which have been long forgotten. Some of these are rediscovered by accident during building operations, such as those at Thetford and Grape's Hill in Norwich. Another category is exemplified by the "Harford tunnels", south of Norwich, whose whereabouts



Brent Geese at Holme Broadwater. Brents lingered at Brancaster until the last days of May; the first birds returned to Snettisham, Brancaster and Blakeney by mid-September.

Photos P. R. Clarke





The Yellow-necked Mouse surpasses its closest relative, the Wood Mouse in size and vividness of colouring.

Photo R. Hancy

This attractive white Fallow Deer buck was seen by many observers at Taverham until it met an untimely end at the beginning of the year.

Photo Eastern Daily Press





is known fairly precisely, but the enthusiasm, the will or the money is not forthcoming to re-open them for further geological research and, of course, to provide more winter homes for bats. Besides these, there are the fictional ones which appear in local tales and ghost stories, such as those under Norwich Castle. The construction of any tunnel in soft sands here would have caused the collapse of the massive keep many centuries ago! Forgotten ice-houses, brick kilns, lime kilns, cellars, water towers, tunnelled watercourses and various military structures can all look like an interesting cave to a bat and many of these may provide the requisite conditions. A card index of most of the known structures in at least the eastern half of the county has been compiled. This has been made partly by scouring old 6in. Ordnance Survey maps and partly by the exchange of information with several industrial archaeologists (to whom I extend my thanks) who have their own, differently angled, interest in these types of buildings. From the conservation point of view, these places are best not being disturbed during the winter for detailed measurements, photographs or excavation if there is any likelihood of bats being present. They will almost certainly be woken and will use up valuable fat reserves trying to reach another safe site. In return for this consideration, I on my part refrain from poking out pieces of loose mortar from between bricks, even though most bats love to squeeze themselves into such cracks rather than hang upside down from the ceiling, as is popularly supposed. They may even be found almost flush with the brickwork, having squeezed into what is to our eyes the slightest of recesses. Several hundreds of bats are safely accommodated in this way each winter, usually with less than a dozen at a site, but many more must find other inaccessible sites above ground in which they can winter such as hollow trees, barns and churches. Our commonest species, the *Pipistrelle*, certainly winters in this way.

Grimes Graves near Thetford is undoubtedly the oldest man-made chalk tunnel site in this area with a discontinuous record of bat occupation for perhaps four and a half thousand years since stone-age man first dug the tunnels seeking the prized black flint from which he could fashion tools. Bat bones recovered during various digs have recently been re-examined by Dr. R. E. Stebbings, who has also fostered the work on Eaton Chalk Caves. Dr. Stebbings has shown that *Bechstein's* bat, a high forest species now confined to a few sites in the Southern Counties, occurred there in some numbers, along with the same species that can occur in Norfolk tunnels today. Some preliminary discussions have already taken place over this site with a view to allowing bats to utilise the tunnels unmolested. It seems especially possible now that further mine-shafts in the complex have been re-exca-

vated. Long-eared, Daubenton's and Norfolk's first record of Brant's bat come from this site, while earlier records of Whiskered bats now need confirmation.

Two remaining "open" sites of former chalk workings in Norwich are both inaccessible and rather unsuitable for bats. The one under Earlham Road is mainly a solid brick tunnel, probably lined in this way to construct a war-time explosives dump. It was later used for growing mushrooms. The other, near the old Gas Works still contains blocks of latrines dating from its use during the Second World War as an air-raid shelter.

The last and most interesting place is Eaton Chalk Caves, on the southern outskirts of Norwich. The origins of this pit probably go back to the early part of the 19th century, but by about the turn of the century the overburden of sands and gravels began to be too much to move by hand and work began on addits or tunnels bored into the almost vertical chalk face. War-time activities in 1944 brought about the filling over of all the eight or more addit entrances. However, in 1947 some of the fill slipped and one entrance was partially reopened and became known to me secretly during my school days as a Daubenton's winter roost. Material was again bulldozed over the edge in March 1969 to prevent children entering the dangerous hole. As the site had been selected as a Nature Conservancy Council Site of Special Scientific Interest a decision was taken to open the tunnels again, with the land-owner's permission. As it was not possible to drive a mechanical digger into the pit, the entrance was dug out by hand. More than 250 man-hours were expended between October 2nd, 1971 and August 4th, 1972 by Norfolk Young Naturalists' work parties before the final break-through. The hole was subsequently enlarged and a 5m. semi-circular steel grille with a padlocked access door was welded in place on September 1st, 1972. This allows free passage of air and bats, and summer access to geologists. More details of the opening of this tunnel and its geological significance are given in Hornby, Goldsmith and Goff, 1973, *Bulletin of the Geology Society of Norfolk*, No. 23 pp. 3-14.

The two "caves" average nearly 5m. in width and up to 6m. high. The first tunnel is about 15m. long, while the second is in the form of a cross, roughly 25m. by 30m. Obviously it is of interest to bat conservation to know how quickly a safe hibernacular will be recolonised once reopened.

At Eaton a single Daubenton utilised the cave in its very first winter and two during the second. It has now been open for six winters and during the past two, monthly visits have been made to coincide with a check on a similar Suffolk site to see if any comparisons can be made. As well as counts of bats, temperature and humidity readings have been recorded. The peak number of bats found so far was on January 28th, 1977, with Dr. E. A. Ellis present, when 7 Natterers, 5 Daubenton's, 2 Long-eared and 1 possible Brant's bat were counted—a total of 15 individuals. Since the policy over these winters has been to make as short a visit as possible and not to touch the bats in any way it has not always been possible to identify every bat found, but for each visit, every bat is plotted on a map. Very few will "stay put" for more than two visits. When they do, the high humidity condenses in tiny droplets on their fur and they become "bedewed" with a frosty appearance. Natterers do not become "bedewed" as often as Daubentons, perhaps because they tend not to arrive at the caves until after Christmas and go again after February. As they all have a tendency to disappear it is often thought that twice as many are actually using the caves as can be found at any one time. Eaton therefore could already be utilised by 30, but we are hoping that more will arrive eventually, once they have had a chance to find it.

We are anxious to find or hear of any new localities which may be suitable for bats. There are still several species to record in Norfolk and indeed much more for us to discover about bats generally.

NORFOLK MAMMAL REPORT 1977



Editorial

The Editor is pleased to present the 22nd Norfolk Mammal Report.

This year we publish two specialist articles. Most of us try to help our wildlife through the difficult winter months, though we may not be aware of what constitutes a balanced diet. In the course of his work, Dr. Ian Keymer has studied many animals suffering from nutritional deficiencies and is well equipped to point out some of the pitfalls. He is familiar to our members as a regular contributor to both the Bird and the Mammal Reports and as the pathologist who has been attempting to isolate the virus which causes "red squirrel disease". His article could well be included in the Bird Report and demonstrates, as does the single cover, that there is little between us but a slight difference in classification.

John Goldsmith is another local naturalist with wide-ranging interests. One of these is a unique knowledge of bats in Norfolk. He has explored caves and tunnels in chalk, kilns, ice-houses and other difficult and at times potentially dangerous structures in his efforts to learn more about the distribution and wintering habits of this group. His article describes species that can be found in our county.

We tend to forget how many of our mammals are, historically speaking, recent additions to our list. They include invaders such as the brown rat, introductions such as the rabbit, while escapees are represented by the coypu. Some other species cause little trouble and add interest to our rather restricted fauna but the examples given do remind us of the potential havoc in unwise and unrestricted importations and inefficient housing. This report may not be the proper place for discussion of the issues involved but we may ask the question how soon will such mammals as porcupine and capybara be included in our classified notes? Both of these species are included in the card index for 1977!

Another major cause for concern is the increasing disturbance of habitat by thoughtless misuse. Modern personal transport makes every once quiet corner of Norfolk easily accessible. To quote an example, unleashed dogs running through such a seemingly suitable exercise ground as Thetford Forest may put up otherwise

undetected deer or ground nesting birds. On some occasions no harm may be done, but on others irreparable damage may be done beyond the observation or imagination of the ignorant owner.

Our thanks are extended to all contributors mentioned here and in the following text, to such specialists as Arthur Woodhams, Pest Control Officer, MAFF, Rex Whitta, Wildlife Ranger, Forestry Commission District Office, Santon Downham, and to the growing number of friends from all over the county, many still recognised only by their names at the end of increasingly informative notes.

John Goldsmith, as ever, has given invaluable help and encouragement. He will continue to answer queries addressed to him c/o The Castle Museum, Norwich, NR1 3JU. Tel.: Norwich 22233 ext. 649.

Contributions for the 1978 report should be sent to R. C. Hancy, 124 Fakenham Road, Taverham, Norwich, NR8 6QH (Tel: Norwich 860042) by the end of January, 1979.

Classified notes

INSECTIVORA

Perhaps it is appropriate that the Hedgehog *Erinaceus europaeus* should head our classified list. Have we a more easily identifiable mammal? It saddens us by the corpses we see on our roads, endears itself by, in human terms, its eccentric behaviour in our gardens. There is no doubt that many of our contributors come to a more detailed study of Norfolk mammals by way of an initial enthusiasm for the urchin. Perhaps eccentricity is transferable. A Brooke cat fostered an orphaned family. There are areas in the county where massive clearance and hedge removal have reduced numbers to a very low level. Elsewhere, the population appears to be static and, in some places, is reported to have increased.

Records are not full enough nor do they extend back far enough to arrive at a proper conclusion regarding numbers of many species. This is true of the Mole *Talpa europaea*. When most villages had their resident mole-catcher large numbers were taken and it is interesting to speculate on their effect on the population and whether natural controls work as effectively. The theme from 1977 reports is "excessively abundant", "considerable activity". One contributor offers one to a good home, with little hope of takers. At Brooke, a golden variant was caught by a cat, rescued, and later released.

The smaller insectivores do not accommodate themselves so readily to the immediate presence of man. Pygmy shrew *Sorex minutus* reports exemplify methods used to detect their presence and estimate trends in numbers. Records include remains found in owl pellets and a skull found in a discarded drink can on Kelling Heath. Cats often toy with shrews but rarely eat them so this portion of their catch is easily identified. In Corpusty, a Common shrew *Sorex araneus* took over a discarded voles nest under a tin in the garden. Reports of Water shrews *Neomys fodiens* were more plentiful and widespread this year. They were boosted by the analysis of owl pellets from Corpusty and Morston. Sightings came from Ranworth, Hoveton, Keswick, Kirstead, Seething and from the East Bank, Cley, where one was actually touched before it ran off. A strong contender for the oddest report of

the year was the water shrew caught in a mouse-trap in a cupboard under the stairs at Mill House, Corpusty.

CHIROPTERA

It is gratifying to see that more contributors are taking an interest in our flying mammals. Most notes, of necessity, record impressions of numbers rather than hard facts and are mainly of decreases in particular areas. The provision of boxes in gardens has been a minimal hit and maximum miss affair but can be most rewarding. The Noctules *Nyctalus noctula* at Ludham reached a record total of 53 in the one box on June 7th and provided a spectacular show as they streamed out at dusk. Large scale experiments such as the Nationwide Bat Box Scheme will eventually provide the information that will enable prefabricated accommodation to be provided where necessary and justified. Thetford Forest is a site where the experiment is going particularly well. Most bats using the boxes have been Long-eared *Plectotus auritus* and Pipistrelles *Pipistrellus pipistrellus*. One of our problems is that our thinking is coloured by observations of birds using garden nesting boxes, forgetting that bat roosting and breeding behaviour is entirely different. There can be a great deal of movement from site to site even when parturition is imminent. Large maternity colonies of Pipistrelles that sometimes cause such unwarranted alarm at mid-summer may move from house to house along a modern street. One Taverham colony was dogged by misfortune. 360 plus were roosting under hung tiles. The householder had booked cavity insulation and feared the bats would be disturbed and the young endangered. Sadly, the colony moved from what may have been the comparative safety of the hung tiles into the cavity itself. After small-hour attempts to prevent re-entry, female and young bats were subsequently found in the most unlikely places in sheds and garages. Bats on the wing belie their true size and can roost in apparently impossible crevices. One temporary roost was in a crack in a flag-staff!

LAGOMORPHA

Brown Hare *Lepus capensis* distribution follows the pattern noted in recent Reports, increasing in some areas but rare in other districts in central Norfolk. On the other hand, the continuing battle between the Rabbit *Oryctolagus cuniculus* and the myxomatosis virus with its multiple strains of varying degrees of virulence in different districts can be pictured as an intriguing tangle of threads with many loose ends and knotty problems. The Editor would be pleased to receive reports of regular observations of colonies noting some or all of the following points: distances to nearest other colonies, earliest appearance of young, estimates of rates of build-up of numbers, how does the latter correlate with estimates of births, the form of an effects, in any, of disturbance, date of first signs of myxomatosis, appearance and behaviour of possible survivors, does the colony appear to have been deserted, if so when do rabbits reappear or recolonise the site, are these rabbits young adults or old adults.

At Weeting, a summer estimate of 3,000 over the Reserve was made. Amongst these one adult melanistic and one albino were present.

RODENTIA

The time is rapidly approaching when we will draw tight circles on maps delineating the remaining colonies of Red Squirrels *Sciurus vulgaris*, giving up the rest of the county to the Grey Squirrel *Sciurus carolinensis*. Most contributors tell of fewer reds

and more greys, many of the latter in districts we once imagined would not be penetrated. Road casualties show they are prepared to cross comparatively open country. One was found quite close to the Editor's own doorstep. A live grey was in Surrey Street, Norwich, in October and another was reported from Trafford Road. Shooting grey squirrels is generally recognised as inefficient and potentially inhumane. Where numbers need to be controlled, advice on trapping methods that are efficient and humane is readily available.

Thetford Forest still contains our largest colonies of red squirrels. The numbers in Thorpe Woods, Norwich, where we have a squirrel enthusiast, remain stable. This territory extends almost to the Wensum where it skirts the Cathedral but the gross overuse of the Telegraph Plantation for canine and human exercise on the "Trim-track" have seriously reduced its wildlife potential. Attempts to isolate the elusive virus responsible for "red squirrel disease" continue. Speed is essential and if a sick squirrel is sighted please contact Dr. Ian Keymer at the Veterinary Investigation Centre, Norwich, immediately.

The group of traps that accounted for the Corpusty Water shrew also caught three Bank voles *Clethrionomys glareolus* in November. They had been baited with cheese after tulip bulbs had been eaten. Short-tailed voles *Microtus agrestis* had a good year and the Water vole *Arvicola terrestris* continues its slow come-back. It was plentiful at Saxthorpe and Corpusty where a high proportion were black or dark brown with black backs. Numbers continue to rise along the middle reaches of the Wensum.

In many respects, the year under review could be called "The year of the Mouse." The Wood mouse, *Apodemus sylvaticus* was plentiful and was described as a nuisance and as a winter pest, eating lettuces at East Tuddenham. At Holkham and Narborough it provided ultra-close daylight sightings. Black-headed gulls at Saxthorpe were seen following the plough and eating wood mice, while a mother and young made a successful passage through a working potato harvester in Aldborough during October.

The status of the Yellow-necked mouse *Apodemus flavicollis* as a Norfolk mammal has been in doubt for some years, the only record coming from Ellingham, in the Waveney Valley, almost two decades ago. As the site was very close to the Editor's birthplace he regarded the removal of the question mark as something of a personal crusade! The owner of Ellingham Hall, Colonel H. Smith, was most helpful and a joint live trapping experiment was arranged with John Goldsmith in February. A total of 84 trap/nights over four days was undertaken. Out of the 60 small mammals found, two were Yellow-necked mice, both during the first inspection and both at the base of separate hollow trees. One has been retained for observation. Later in the year, a cat in the neighbouring parish of Broome left the remains of a Yellow-neck and later still some were trapped in the next parish along the valley, Ditchingham, after they had raided a bulb store. The end of the year brought further news from Fornsett St. Peter where another positive identification was made. This last site is coincidentally on the same degree of latitude as our main area along the Waveney Valley. When further specimens turn up, please communicate as soon as possible preferably posting any dead examples in plastic bags to the Editor.

The accolade for oddity mentioned earlier must surely go to the House Mouse *Mus musculus*. At East Tuddenham one found its way into a shoulder bag in our contributor's bedroom where it ate two extra strong mints and half a Menthol and Eucalyptus sweet. In Thorpe, a pet female white mouse was relegated to a cage in the garage. There she was visited by a wild male small enough to slip through the bars. Transferred to the Norfolk Room, Castle museum, for observation, the

succeeding generations of her offspring would have brought a very smug expression to the face of Mendel.

We are once again indebted to Dr. L. M. Gosling, Coypu Research Laboratory, MAFF, for his note on the Coypu *Myocaster coypus*. It reveals the delicate state of balance that exists in our attempts to control this escapee. While we await the report of the Coypu Strategy Group with interest, we do wonder why the trapping campaign could not be stepped up to reduce numbers to an easily controllable minimum. Is the publicised choice of total extermination possible without serious danger to other species? Has a modest number of coypu now become part of "New Broadland"? There are other invaders that pay for the privilege of creating even greater disturbance and destruction of habitat!

Dr. Gosling reports: "About 11,874 coypus were killed during 1977 and the majority of these (87%) were accounted for by the 15 trappers employed by Coypu Control. The number of adult coypus at large in the spring of 1978 is estimated at about 5,000 which is somewhat higher than the 3,000 predicted in the 1976 Mammal Report. This discrepancy is largely due to our improved understanding of the type of cold weather that affects coypus. It now appears that the cold fortnight in early 1976 had a larger impact than we believed at the time. This led us to overestimate the effect of trapping and thus to an underestimated prediction of the current spring population. The future depends on trapping intensity and weather: with the existing trapping force and a run of mild winters the population would slowly increase; with winters of the slightly colder type that we have experienced over the last three years the population should continue its present very slow decline. It is of course critically important to maintain at least the present number of trappers: our simulation model suggests that pre 1962 population levels would be reached within three years if control were abandoned."

CETACEA

The rather tenuous position on our Norfolk list held by this order is maintained by the few remains that were washed up on our shores. The Common Porpoise *Phocoena phocoena* at West Runton in July had lacerations that had possibly been caused by a propeller. The Lesser Rorqual *Balaenoptera acutorostrata* which finally beached at Heacham caused a great deal of embarrassment to the local council before its great bulk was cleared.

CARNIVORA

The Fox *Vulpes vulpes* is described as "very much with us" by observers in Central Norfolk and this is the county-wide pattern. An interesting point concerning the gathering of information is highlighted by one contributor who was told by the keeper on one estate that numbers were high, whilst his neighbour from an adjacent estate with hunting interests sought to paint a very different picture. Our Bird Report Editor had a Boxing Day bonus on Halvergate Marshes when he saw a fox being mobbed by a Short-eared owl.

Stoats *Mustela erminea* and Weasels *Mustela nivalis* have been active and prolific, numerically and anecdotally. A stoat at Lyng was seen being kicked from the back of a young rabbit by the doe and conceding defeat. Another at Corpusty, after careful observation of the Mandarin ducks, sought less formidable prey. On Weeting Heath, stoats had an adverse effect on Wheatear breeding success and may have taken two young Stone Curlew.

Reports of Badgers *Meles meles* are very confusing in that we have received reports of single badgers being seen or tracked at a number of long disused sites outside their present enclave. However, hopes of re-establishment have not been realised and without positive encouragement there seems little prospect of halting their continuing decline.

The Otter *Lutra lutra* has far more references in the file than any other species but only as the result of the campaign at the beginning of the year that culminated in the addition of the Otter to the list of animals protected under the Conservation of Wild Creatures and Wild Plants Act. Sadly, very few references are of positive identifications and we must ask if we have done too little, too late. There is no justification for complacency and, like the Badger, positive help must be given to retain this carnivore on our list. Non-disturbance of key habitats is vital and the promises of Otter Hunters to seek coypu instead must be viewed in this light.

The Common Seal *Phoca vitulina* colony breeding in the Wash appears to be naturally regulated. They are at the apex of one food-triangle in the North Sea and will reflect a decline in its basic resources. An unusual number of seals were sighted up-river, including the young common seal held at Acle till the turn of the tide in July and the intruder that upset the fishing match at Potter Heigham in December. The main event of the year was the loss of Scroby Sand which coincided with the birth of the Grey Seal *Halichoerus grypus* pups. Several cows pupped on the mainland beaches but the loss was total. Grey seals will desert after minimal disturbance. Two intriguing questions are, firstly, will Scroby reappear soon enough for the present generation of cows to re-establish a breeding colony there, or secondly, will its loss induce them to find an alternative site further south and thus extend the east coast range?

ARTIODACTYLA

Norwich had its now regular excitement this time caused by a Red Deer *Cervus elephas* stag crossing the Dereham Road during the rush-hour. It was later seen in several localities to the south and west of the city. The Muntjac *Muntiacus reevesi* that tried crossing the Plumstead Road was less successful. It was knocked to the roadside, though not seriously injured. The policemen who went to its aid found it very difficult to handle. As well as tiny horns and sharp tusks, the hoofs of small deer can be very dangerous. Great care must be exercised by the inexperienced when attempting to help confused and frightened animals. Further examination showed that this specimen had previously suffered a broken leg which had set itself. It was released in a suitable locality the next day. These recent introductions seem to be slowly gaining ground while our native species are holding their own.

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1973	East Winch Common	80	Gift	S.S.S.I.
1974	Sparham Pools	30	Agreement	—
1974	Buxton Heath	159	Agreement	S.S.S.I.
1975	Pope's Drift	8	Agreement	—
1975	Wayland Wood	80	Purchase	S.S.S.I.

In addition, the Trust shares with the National Trust in the management of the coastal reserve at Blakeney Point (1,335 acres), and it manages Arnold's Marsh, Cley (29 acres) on behalf of the National Trust.

By arrangement with the Nature Conservancy Council, Scolt Head Island, Ranworth Broad, Hickling Broad and the Breckland Heaths now form part of the National Nature Reserves.

*Status: N.N.R. denotes National Nature Reserve

S.S.S.I. „ Site of Special Scientific Interest

†In 1966 Cley Reserve was established as a Bird Sanctuary under the Protection of Birds Act, 1954.

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Printed by H. G. Stone & Co. (Printers) Ltd., Wymondham, Norfolk