NORFOLK Bird & Mammal Report



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

Vol. 26 Part 2

NORFOLK BIRD REPORT 1981

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: 1981 was the wettest for two decades. The opening months were mild resulting in few hard-weather visitors from the continent. March produced several surprises: 116 Barnacle Geese at Blakeney Eye, Surf Scoter at Hunstanton which lingered almost ten weeks and 100 Velvet Scoters on the east Wash. Bewick's Swans again used Breydon as a staging post and the impressive total of 417 roosted there over-night.

Exceptional rainfall April 25th and 26th resulted in flooding in many areas. Storm-driven Arctic Terns became a feature. April's star visitor was a Greater Sandplover on Breydon muds; unfortunately it stayed only a single day. Wader passage accelerated during May when Breydon again attracted the limelight with a party of 5 Kentish Plovers. During the month a total of 30 Dotterel was reported. The catalogue of May highlights included Little Egret, Purple Heron, Spoonbills, Temminck's Stints, 2 Alpine Swifts, Hoopoe, Tawny and Red-throated Pipits, Greyheaded Wagtail, River Warbler and Scarlet Rosefinch. June, too, provided excitements: Rock Sparrow and another Alpine Swift.

Among the scarcer breeders may be mentioned 26 pairs of Avocets, 24 pairs of Little Ringed Plovers. 15 breeding Marsh Harriers, Woodlarks at ten Breckland sites, but only 2-3 pairs of Savi's Warblers. Bitterns continue to decline and were reduced to 11 boomers. Groups of summering Little Gulls spent weeks at both Titchwell and Cley; hopefully this attractive bird may be added shortly to the county list of regular breeders.

Autumn passage extended as usual over many weeks. The list of notables makes impressive reading: White-rumped and Pectoral Sandpipers, Buff-breasted Sandpiper, Sabine's Gulls, Short-toed Lark, Richard's Pipits, Olive-backed Pipit (a rarity from the taiga forest), Orphean Warbler (an addition to the county list), at least 8 Pallas's Warblers, 7 Yellow-browed Warblers, 4 Red-breasted Flycatchers and 3 Ortolan Buntings.

December produced periods of snow and very low temperatures were recorded. Formations of pack-ice appeared on the Yare at Reedham; at King's Lynn icebergs on the Ouse provided an Arctic touch to the waterfront. Every Broad became frozen. At Welney Wildfowl Refuge ice became nine inches thick, but the lagoons were kept open. A peak of 3,000 hungry Bewick's Swans arrived at evening feed. Before it finally froze Narford Lake attracted 50 Goosanders whilst in the Yare Valley unusually high numbers of Bean Geese arrived.

Recording: Records for the 1982 Report should be sent by the end of January to Michael J. Seago, 33 Acacia Road, Thorpe St. Andrew, Norwich NR7 0PP. Cotributors are requested to submit notes in the order followed in Dr. K. H. Voous's

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.

Field descriptions of semi-rarities, as listed in the 1980 Report page 236 (a copy of the list may be obtained from the Editor) should also be submitted as such records are considered by the County Records Committee (B. Bland, G. E. Dunmore, D. J. Holman, S. C. Joyner and J. B. Kemp) prior to publication. Records of rare birds considered by British Birds Rarities Committee should be submitted with full details as soon as possible after observation and not left until the end of 1982. As in the previous year there are several decisions still outstanding for the above reason. Special record forms for the submission of such national rarities are available locally either from the Editor or from G. E. Dunmore (49 The Avenues, Norwich).

Acknowledgements: Thanks are due to G. M. S. Easy for the cover drawings of Cranes and birds of Hardley Flood Reserve and for text illustrations; also to Eastern Counties Newspapers, J. B. Kemp, R. Millington, P. Munsterman, M. Owen and R. Tidman for photographs and vignettes; to Holme Bird Observatory/N.O.A. for 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 Royal Society for the Protection of Birds (Strumpshaw, Titchwell and Snettisham); to Nar Valley Ornithological Society; to G. E. Dunmore (for liaising with British Birds Rarities Committee); to P. R. Allard, D. A. Dorling and P. D. Kirby (for compiling annual record cards); to J. T. Fenton, Mrs. J. Dunmore and Mrs. S. F. Seago for valuable assistance and to all other contributors.



Bearded Tits

Ringing Report

This year's report contains considerably more ringing recoveries than usual, many of the more interesting ones being of birds ringed outside the county. These include the first Whooper Swans to be recovered in Norfolk, no less than five Harrier recoveries, the first Auk from an Irish colony and a Lesser Whitethroat from Belgium. Over half the passerine recoveries were the result of ringed birds being caught again by ringers elsewhere, such recoveries being known as controls.

During the year, over 12,000 passerines were ringed within the county, including 1000 Swallows, 900 Sand Martins and 600 Reed Warblers and House Martins, the latter total being particularly noteworthy and already producing some fascinating recoveries. As always, Norfolk had its fair share of the less common species and those ringed included 11 Cetti's and 6 Grasshopper Warblers, 3 Crossbills, 2 Firecrests and single Red-backed Shrike, Red-breasted Flycatcher, Red-spotted Bluethroat. Barred and Pallas's Warblers.

Once more I am extremely grateful to all those ringers who have submitted details of their ringing recoveries, in particular Dr Nicholas Branson for selecting the more interesting ones notified to the Wash Wader Ringing Group during 1981. I am also pleased to acknowledge permission to use material published in the Annual Reports of the Norfolk Ornithologists Association and Nar Valley Ornithological Society.

Some recoveries only come to light after their appearance in the Annual Ringing Report of the British Trust for Ornithology and many of the belated ones in this report are from that source. It would greatly help in the production of the County Bird Report if the details of any recoveries made by non-ringers could also be submited to the Editor for inclusion.

Moss Taylor

Gannet

The third nestling Gannet ringed on the Bass Rock and recovered in Norfolk. Bass Rock, Lothian (pullus)

28.6.74

Tottenhill GP (dead) 29.4.81

Mute Swan

As a result of the comment in NBR 1980 p.237, details of these belated recoveries were received by the editor.

Oulton Broad, Suffolk 26.6.68 Ware, Hampshire 19.12.70

Hardingham (hit wires) 6.11.68 King's Lynn (dead) 20.3.75

Whooper Swan

The first recoveries of this species affecting Norfolk. Icelandic Whooper Swans are known to winter in Northern England, Scotland and Ireland, while those wintering in SE England were previously suspected of coming from Fenno-Scandinavia.

Ytri-Neslond, Iceland (2 adult females) 25.7.80

Welney (ring numbers read in field) 13.11.80

Wigeon

Five more recoveries, recently reported, following the already well established pattern. Note the early return to USSR in April.

Snettisham 22.2.72

Schleswig-Holstein, FR Germany 15.10.77

Snettisham 6.2.75 Lieksa Kuopio, Finland 21.8.78 Snettisham 22.1.75

Rozhdestvenskiv, Liski, USSR

15.4.79

Snettisham 1.2.73 Starava Russa, USSR 22.4.79 Posnokori, Malyy Atlym, USSR Snettisham 27,10,70

25.5.79

Gadwall

The first recoveries of Slimbridge-ringed Gadwall in Norfolk.

Slimbridge, Glos. 24.9.80 Slimbridge, Glos. 27.1.79 Salthouse 14.10.81 Holme 10.9.79

Teal

De Koog, Texel, Holland 21.9.80

Holme 8.11.81

Pochard

Sandy, Beds, 23,12,80

Shouldham Thorpe 19.12.81

Tufted Duck

Although movements between Finland and England are well documented for this species, this is the first Finnish-ringed Tufted Duck to be found in Norfolk.

Oulu, Finland (pullus) 15.8.80

Brevdon 19.12.81

Marsh Harrier

Late reports of two foreign-ringed birds recovered in Norfolk, only the second and third in Britain from Germany and Holland respectively.

Sieversdorf, Schleswig Holstein,

Litcham Sept. '75

W. Germany (pullus) 24.6.74 Kalenberg, Overijssel, Holland

(pullus) 29.6.76

near Horsey 24.4.79

Hen Harrier

Evidence that our wintering birds come from widely scattered localities. There have been two previous recoveries from Belgium and Orkney.

Orkney, Scotland (pullus) 29.6.78 Postwick Marsh (dead) 15.3.79 Clwyd, Wales (pullus) 20.6.79 Syderstone (dead) 11.11.79 Clwyd, Wales (pullus) 20.6.79 Ameland, Holland (pullus) 5.7.76 Tunstead (dead) 11.3.80

Syderstone (dead) 11.11.79

Oystercatcher

As usual there was a large number of breeding season recoveries of Wash-ringed birds, along the West coast of Norway, in addition to the three given, which include two fairly old Oystercatchers, but by no means a record.

Heacham 17.2.68 Snettisham 13.8.67 Snettisham 15.9.69 Titchwell 20.6.81 Friskney, Lincs 19.9.81 Unst. Shetland 14.7.81

Stone Curlew

near West Tofts (pullus) 25.5.80

Wicken Bonhunt, Essex (dead)

28.7.80

Grey Plover

Further evidence of the stop-over of Grey Ployer in Denmark, on their way between the breeding area in the Yamal area of Siberia and the Wash.

Wolferton 12.8.79

Sjaelland, Denmark 25.8.81

Knot

Note the rapid movement of this bird.

Revtangen, Rogaland, Norway 9.9.79 Wolferton (control) 10.9.79

Dunlin

In addition to the usual large numbers of recoveries along the Baltic coast in autumn, those in Portugal and Morocco provide further evidence of the onward southerly migration of some Northern Dunlin after moulting at the Wash. Also note the rapid movement from East Germany.

Langenwereder, Rostock, East

Germany 21.9.80 Terrington 2.8.81 Terrington 30.8.81 Terrington 25.9.80 Terrington 27.9.80 Terrington (control) 28.9.80 El Jadida, Morocco 31.10.81 El Jadida, Morocco 24.10.81 Beira Litoral, Portugal 25.9.81 Beira Litoral, Portugal 4.11.81

Jack Snipe

Denton, Greater Manchester 24.3.73 Heacham 28.10.80

Woodcock

Skaralid, Sweden (pullus) 22.5.74 Walsingham 17.12.79

Redshank

Redshanks occurring at the Wash come from two breeding populations, one a mainly British population breeding in eastern England and Scotland, and the other a population breeding in Iceland.

Terrington 17.8.74 North Wooton 19.8.78 Wolferton 20.7.74 Wolferton 20.7.74

Glen Esk, Tayside (breeding) 7.5.80 Carbost, Skye 12.8.80

Rekjavik, Iceland 15.6.80 Stadur, Iceland 25.7.80

Turnstone

The recovery given almost certainly involved one of the Finnish breeding population, which passes through the Wash in autumn, on its way to moulting and wintering areas on the west coast of Africa. When the bird was caught it was carrying sufficient fat to enable it to make a direct flight from the Wash to North Africa without stopping.

Snettisham 9.8.75

Black-Headed Gull

Monrovia, Liberia 25.1.81

An interesting series of movements within England, about which we know surprisingly little. Note the 17 year old bird, controlled in Norwich by its original ringer and three birds recovered 11 years after ringing. There have been very few recoveries of Norfolk-ringed Black-headed gulls at the Dutch breeding colonies, while one wonders how many other gulls were victims of the mink on the same mink farm in Finland. The final recovery involved a bird which had reached Norfolk within seven weeks of being ringed as a nestling in Finland.

Norwich 18.2.70 Ketteringham 15.1.77 Thorpe 14.12.81 Norwich 31.12.70 Thorpe 14.2.79

Norwich (first winter) 6.1.64 Ketteringham 19.12.76

Norwich 12.2.78

Breydon 4.4.81 Breydon 10.9.81

Downham Market (control) 19.12.81 Medway, Gillingham, Kent 13.1.81 Enderby, Leics (control) 20.12.81 Norwich (control) 19.1.66 & 23.2.81 De Groede, Terschelling, Holland

(dead at colony) 9.6.81

Pajulahti, Kymi, Finland (killed by

mink at mink farm) 25.9.81

Sheringham 3.1.79

Europoort, Zuid Holland 6.6.70

Wroclaw, Poland (pullus) 27.5.80

Taivassalo, Turku-Pori, Finland (pullus) 21.6.81

mink at mink farm) 25.9.81 Brevdon 10.8.81

Pajulahti, Kymi, Finland (killed by

Diss (trapped by plough and released)

early '81

Sheringham (dead on road) 12.8.81

Common Gull

The majority of Norfolk recoveries for this species involves movements between

Finland and Norway.

Norwich 25,1,79 Sherringham 27.1.79 Korsnas, Vaasan, Finland

Perry Oaks SF, Greater London 6.3.81 Stavanger, Rogaland, Norway 14.7.81 Frettenham (caught by plough and

released) 13.1.81

Common Tern

(pullus) 8.7.80

The first recovery of a nestling ringed on the Breydon tern platform.

Breydon (pullus) 24.6.80 Conakry, Guinea, West Africa 6.2.81

Guillemot

The first Norfolk recovery from an Irish colony.

Great Saltee, Wexford (pullus) 26.6.80

Caister (oiled, cleaned & released)

10.5.81

Swift

Earlham 29.6.80

Diss 28.6.81

Sand Martin

A rekindled interest in the ringing of Sand Martins is once more producing some interesting recoveries.

Saddlebow King's Lynn 20.7.80

Haddiscoe 28.6.80 Rochester, Kent 2.9.78 Kirkby-on-Bain 13.8.80

Lasne, Brabant, Belgium 21.7.79

Thaire d'Aunis, Charente-Maritime,

France (control) 23.4.81 Tinerhir, Morocco 3.5.81 Tottenhill GP (control) 11.7.81 Tottenhill GP (control) 4.9.81

Tottenhill GP 29.6.80

Swallow

West Tofts, nr Swaffham (pullus) 11.7.81 Gillingham (control) 5.9.81 Brough, Humberside 13.8.81 Salthouse (control) 16.9.81

House Martin

Very little is known about the movements of House Martins and so these recoveries are all the more valuable.

Catfield, Great Yarmouth 28.9.81 Brooke, Norwich 19.8.80

Beachy Head, Sussex 23.9.79 Altrincham, Greater Manchester 8.8.81 Happisburgh (control) 3.10.81

Happisburgh (control) 29.9.81 Albi, Tarn, France (dead) 24.2.81 Happisburgh (control) 10.5.81

Wren

Two interesting movements in a normally sedentary species.

Titchwell 1.7.81 Gotham, Nottinghamshire 5.4.81 Sheringham (control) 22.9.81 Sheringham (control) 14.10.81

Dunnock

Sheringham 31.3.79

Great Walsingham 25.3.81

Robin

Two recoveries involving Northern European passage migrants.

Sheringham 3.9.81 Ramsey, Huntingdon, Cambs 29.9.81 Sheringham 15.4.81 Elbe Estuary, FR Germany (control)

29.9.81

Blackbird

Movements were recorded between Fenno-Scandinavia (3) and Holland (2). The recovery in Norway is notable for the late departure from England and apparent wintering in a different area in a subsequent year.

Sheringham 17.3.80 Shotts, Strathclyde, Scotland 2.11.80

Sheringham 22.4.79 Kristiansund, Norway 13.1.81

Fieldfare

The Polish recovery, the first in that country for a Norfolk-ringed Fieldfare, provides dramatic evidence of wintering in different areas in a subsequent year.

Saddlebow, King's Lynn 6.1.79 Wierzba, Poland 12.1.80 Aveyron, France 23.9.80

Song Thrush

Sheringham 8.10.78 Cabeco de Vide, Portugal 5.2.81

Redwing

Sheringham 15.10.80 Libourne, Gironde, France 11.12.81

Sedge Warbler

Weybourne 25.7.81 Dungeness Power Station, Kent 2.8.81

Reed Warbler

The Dutch bird was the first foreign-ringed control to be made in Norfolk and the first movement between the two countries. The increased ringing of the species during the last two years also produced some interesting recoveries within Britain. Weybourne 25.7.81

Rye Meads, Herts (control) 14.8.81

Weybourne 14.8.81 Rye, Sussex (control) 24.8.81 Titchwell 24.4.80 Church Norton, Sussex (control)

6.9.80

Anderby Creek, Lincs 16.8.81 Weybourne (control) 6.9.81
Oowerkerk, Holland 15.9.79 East Walton Common (control)

19.7.80

Lesser Whitethroat

The first foreign-ringed Lesser Whitethroat to be found in Norfolk, and consistent with the known north-west spring passage across Europe and subsequent arrival in eastern England.

Wanze, Leige, Belgium 25.4.81 Salthouse (control) 25.5.81

Whitethroat

Dungeness, Kent 15.9.80 Waxham (control) 6.9.81

Blackcap

The recovery in Cornwall is an interesting example of onward movement of a continental migrant, possibly to its wintering area in the West Country.

Titchwell 23.9.78 Gibraltar Point, Lincs (control)

10.5.80

Sheringham 12.10.81 Hayle, Cornwall 15.11.81

Willow Warbler

Braceborough, Lincs 2.8.80 Happisburgh (control) 28.4.81

Long Tailed Tit

Happisburgh 3.10.79

Blickling 6.2.80

Blue Tit

East Walton (pullus) 24.5.80

Leigh Marsh, Essex (control) 23.1.81

Starling

Apart from the usual pattern of recoveries in Europe, details are given of a 9 year old bird and a recovery on a North Sea oil rig.

Sheringham 21.1.73 Sheringham 28.5.81

Gillingham 13.1.79 Leman Field Gas Rig (25.50°N

02.10°E) 21.11.81

Chaffinch

Kennemerduinen, Holland 9.10.79 South Runcton (control) 19.1.80

Brambling

Orland, Sor-trondelag, Norway Grimston Heath, near Swaffham

23.9.79 (control) 21.2.81

Greenfinch

The first foreign recovery of a Norfolk-ringed Greenfinch, in a country where very

few British-ringed Greenfinches have been recovered.

Hunstanton 13.4.79 Woensdrecht, Noord Brabant,

Holland (control) 22.3.80

Redpoll

Swaffham Heath 6.7.79 Wroxham 29.6.81

Swaffham Heath 9.5.80 Wachtebeke, Oost-Vlaanderen,

Swaffham Heath 8.9.79

Belgium (control) 19.4.81

Den Haan, West-Vlaanderen,

Belgium (control) 7.7.81 Ingatestone, Essex 1.10.79 Sheringham (control) 14.4.81

Esch-sur-Alzette, Luxembourg 2.4.78 Watlington 17.7.80

Reed Bunting

Titchwell 1.10.79 Barnham Broom, Norwich 11.4.81

Charlton-cum-Hardy, Greater Bradwell 2.1.80

Manchester 30.3.74

Offshore Observations

Sparrowhawk: Amoco 49/27E platform 35 miles NE of Yarmouth Oct 21st (PRA). Kestrel: Amoco 49/23AT platform 60 miles NE of Yarmouth July 31st (PRA).

Woodpigeon: Many migrants at offshore platforms June 24th including 2 on 49/27C platform 35 miles NE of Yarmouth and 1 on 49/18A 60 miles NE of Yarmouth (PRA).

Long-eared Owl: One passed over at 1000 feet 17 miles off Yarmouth Nov 7th (PRA).

Fork-tailed Swift: (A. pacificus): Found exhausted on a Shell Bravo platform 35 miles off Happisburgh in late June. Brought to mainland (Ellough, Suffolk) and released. Observed the following day at Shadingfield. Observation subject to official acceptance.

Pallas's Warbler: Dead on Amoco 49/23AT platform 60 miles NE of Yarmouth Oct 23rd (JLG). Now in British Museum.

Starling: Birds of the year on offshore platforms 35 miles NE of Yarmouth as early as June 23rd (PRA).

Further Reading: "North Sea Bird Club Report" for 1979 and 1980.

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. Fuller details of Fens records may be found in the Cambridge Bird Club Report for 1981.

The order used is that of K.H. Voous (1977) List of Recent Holarctic Bird Species. Observations refer to 1981, 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: Recorded to May 17th and from Aug 12th. Peak numbers off Paston in Dec including 315 east (12th) and 328 east (18th). Singles inland at Strumpshaw, Filby Broad, Middleton and King's Lynn BF.

Black Throated Diver: More records than 1980: Hunstanton 2 Sept 1st, 1 Nov 15th and 17th; Brancaster March 14th; Holkham Oct 5th, 3 Nov 9th and 1 Dec 31st; Cley/Salthouse 2 Feb 26th, 1 Sept 19th; 1-4 on 16 dates October 3rd to Nov 24th; Paston Oct 4th and 16th; Winterton Nov 8th and Scratby Feb 8th and Dec 30th.

Great Northern Diver: Coastal records as follows: Southern Wash Nov 15th. Dec 3rd and 10th; Hunstanton Jan 1st, 10th, 18th, Nov 28th, Dec 12, 3 on 22nd and 1 on 27th; Holme Jan 8th and 22nd; Titchwell Oct 2nd (in full summer plumage); Cley Jan 25th, Feb 26th, Oct 12th, Nov 7th and 24th, and Dec 19th; Sheringham March 22nd; Bacton Jan 1st and Winterton Nov 15th.

Little Grebe: Winter peaks of 66 in Jan and 88 in Nov at Snettisham. Unusual records of 3 on sea off Mundesley and Paston on 4 occasions Sept 4th to Oct 16th and one at sea off Salthouse Oct 30th.

Breeding localities included Breydon, Muck Fleet, Strumpshaw, Cantley (5 pairs), Cley (3 pairs Snipe's Marsh), Titchwell (7 pairs), Stratton Strawless, Fowl Mere, Bagmore, Buckenham Tofts, Ickburgh Mill, Weeting, Narford, West Mere, Langford Bridge, Stanford Water, Massingham & Leziate.

Great Crested Grebe: Breeding records included Rockland Broad 9 pairs, River Yare (Buckenham to Surlingham) 6 pairs, Surlingham Broad 6 pairs, Filby Broad 4 pairs, Colney GP 2-3 pairs, Costessey GP, Frettenham Pits and Lenwade Water single pairs, University Broad 2 pairs, Holkham Lake 1 pair and Snettisham 2 pairs — a new site.

Non-breeding assemblies: 24 Filby Broad (Nov), 18 Breydon (Aug), 22 Titchwell (Sept) and 18-103 Snettisham on sea in June.

Red-necked Grebe: Over 60 coastal records up to April 21st and from Aug 25th. Mostly singles, but 3 off Cley Nov 24th and 3 off Sheringham Sept 30th and Dec 27th/28th.

Slavonian Grebe: Coastal records of ones and twos on 12 dates up to Feb 14th and from Oct 5th. In addition 1-4 off Wells/Holkham Oct 3rd-Nov 9th. Broads: Hickling Feb 1st, 7th and May 14th (in summer plumage) and Horsey Dec 6th.

Black-necked Grebe: Recorded Snettisham April 4th, Aug 29th-31st, Holme May 3rd, Mundesley/Paston Nov 15th. Inland: Narford Lake 2 April 7th, Ranworth Sept 30th and Coston GP Dec 12th-15th.

Fulmar: No breeding details available from main area, but single pairs nested at Trimingham and at Happisburgh. Dark phase birds at Scolt Head Jan 7th (dead) and Sheringham March 3rd and 31st. Large-scale movement off Paston April 26th when 420 east and 280 west. Inland: Lying Easthaugh Aug 19th.

Cory's Shearwater: Salthouse 2 May 31st (WEB, MCM, SP)

Sooty Shearwater: Much scarcer than in recent years. Holme Sept 20th and Oct 11th, Blakeney Point Sept 6th; Cley Aug 16th, Oct 11th and 20th; Winterton Oct 11th.

Manx Shearwater: Scarcer than normal. Snettisham 3 Oct 17th; Holme Aug 16th, Sept 9th and 20th; Titchwell Aug 29th, Cley 5 April 24th, one of the Balearic race Sept 7th, Oct 15th; Salthouse Oct 24th; Mundesley 2 Sept 26th, Paston 41 July 25th, 2 Sept 26th and 1 Oct 22nd; Waxham Sept 26th, Winterton Aug 22nd and Scratby 2 Aug 20th.

Gannet: Peak movements: Paston 803 east Oct 11th and Winterton 571 south in 3 hours Oct 11th. 30 driven into Ouse Mouth during storms April 26th were still diving in vicinity of Lynn ferry on 27th.

Inland: Frettenham moving NE and 2 north at Stoke Ferry April 27th.

Cormorant: Roosting assemblies: Welney 62 in Jan and 86 in Dec; Holkham Lake 36 May 17th and 55 in Oct and Ranworth 250-300 in Dec.

Shag: Ones and twos in coastal waters to March 10th and from Sept 28th; also 1 at Breydon June 18th. Inland: Norwich (River Wensum) March 31st-May 5th; Hickling 3 in Jan, 2 in Feb and 1 till April 26th.

Bittern: Only 6 regular boomers in Broads compared with 7 in 1980 and 9 in 1979. North: 5 boomers at 3 sites. Winter observations at Strumpshaw, Buckenham, Filby (3 Feb 12th), Bawburgh, Roydon (near King's Lynn) and Denver Sluice.

Night Heron: Brundall May 19th (BDH).

Little Egret: Holme May 26th (PRC et al), Cley/Salthouse June 2nd to 14th (JBK et al) and Holme July 30th to Aug 3rd (PRC); also Flitcham Aug 22nd (EC).

Grey Heron: The following heronies were counted: Borders of the Wash: Snettisham 17 nests. Brecks; Narford 0, Didlington 2, Sturston Carr 5, Shadwell 3 and Tottington 0. Fens: Islington 88 and Hilgay 42. Broads: Fleggburgh Common 1, Surlingham 2, Strumpshaw 0, Wheatfen 2 and Hickling (Sounds Wood) 17.

Series of observations of migrants in from sea: Gorleston 2 July 18th, Yarmouth 11 Sept 11th, Mundesley 4 Sept 26th, Cley 16 Sept 26th and Brancaster Staithe 15 Sept 27th.

Purple Heron: Horsey Mere May 24th (MC PJ JR).

Spoonbill: One to 4 at Welney, Snettisham, Holme, Brancaster Staithe, Holkham, Cley, Salthouse, Horsey, Hickling, Strumpshaw and Langley between May 8th and Aug 25th.

Bewick's Swan: Recorded to March 15th and from Sept 28th. Largest concentration

at Welney where 1400 Jan/Feb and 3000 by end of year. Elsewhere most impressive winter totals: Breydon 142 Feb 14th; Filby Broad 31 Dec 30th; Hickling 82 Jan 31st and 106 Feb 4th-23rd and Snettisham 50 Feb 1st and 54 in Dec.

Easterly spring exodus most marked March 1st/2nd when 133 Martham, 53, 60 and 123 Hickling, 134 Strumpshaw, 305 Reedham/Stracey Arms/Tunstall, 26 Paston, 13 Holt, 100 Swaffham and 200 Narford. Some flights lingered a few days including 102 Haddiscoe Level March 4th and 417 at Breydon next day.

North coast westerly movements: Paston 13 Nov 7th, Cley 34 on 10th and Blakeney 12 on 15th.

Whooper Swan: Recorded to April 7th and from Oct 4th. Record numbers at Welney where 152 mid-Jan including 4 carrying Icelandic neck-collars attached the previous summer; 107 returned by Dec 30th. Elsewhere, largest assembly in Hickling area where 54 Jan 5th, 41 on 17th, 40 March 1st and 21 Dec 6th.

Bean Goose: In the Yare Valley 164 from beginning of year until March 1st; 30 returned Oct 23rd increasing to 116 by Nov 17th and to 297 by 1st Jan 1982. Elsewhere: Hardley Flood 4 Dec 5th, Horsey 9 Oct 11th/12th and 7 Oct 25th/26th, Holkham 3-5 Jan 11th-Feb 17th and 17 Dec 27th and Holme 4 Jan 8th.

Regular counts of the numbers of Bean Geese wintering in the Yare Valley since the 1939/40 winter have been published in *Birds of Norfolk* (1967 and 1977). Pre-war information, however, is extremely difficult to obtain. There are no references in local literature and ornithologists were apparently unaware of the birds' presence.

Fortunately, R.H. Harrison has kindly made available the undermentioned details supplied to him in 1954 by F. Ward. Mr Ward was a marshman occupying a cottage overlooking the main feeding level until 1950:

In the 1920s many Yare Valley marshes flooded each winter and were undoubtedly highly attractive to wildfowl. The first Bean Goose was shot by Mr. Ward in mid-December 1924 when 200 to 300 were feeding on Claxton and Langley Ham marshes. Similar numbers arrived in 1925 and 1926. In the 1927/28 severe winter the quite exceptional total of over 5,000 was estimated. Brent geese were shot too, 'the only winter I saw them there'. This unique assembly may well have arrived following very severe weather which commenced 15th Dec 1927 'with continuous hard frosts . . . and the year closed with the country under deep snow and with the flooded river valleys vast sheets of ice' (Dr. B. B. Riviere).

1930 was the first year Bean Geese fed regularly on the north side of the Yare; at least 200 arrived each winter throughout that decade. In 1935 a Bean Goose was shot as early as 28th Sept on Strumpshaw Marshes. The remarkable 1927/28 count was never repeated, but in 1936/37 over 1000 Bean and 2,000 to 3,000 White-fronts were present. Subsequently the numbers decreased each year until Mr. Ward's departure. The most favoured marshes at the present time were deserted in 1940/41 when part was ploughed and the geese fed for six winters at Claxton and Langley (now almost entirely arable). In 1946 following re-seeding they returned.

Lesser White-fronts were claimed as regular visitors in the 1930s although never more than five in any one winter. Equally unsubstantiated unfortunately is the intriguing 1937/38 winter observation of five very wary Red-breasted Geese well observed through glasses on more than one occasion.

Pink-footed Goose: Highest totals in Snettisham area including 2100 Jan, 2450 Feb, 200 till March 14th, 5310 Nov and 3000 Dec. Other records from Horsey (7 Feb 4th and 15 March 15th), Winterton (11 Feb 14th) and Cley (60 April 22nd); also at Holkham where 170 Jan 18th, 206 Feb 15th and 120 March 1st.

White-fronted Goose: Largest assembly at Holkham/Wells where peak of 122 Jan

1st-Feb 1st, 145 Feb 15th, 80 March 1st and 170 Dec 27th. Also reported at Hickling (13 Jan 30th), in Yare valley (9 all Feb), Breydon (6 Dec 15th) and at Snettisham (6 Jan 31st and several shot Nov).

Barnacle Goose: Unusual arrival of 116 at Blakeney Eye March 1st, 75 remaining until 4th. In addition at Yare valley (1 Nov), Halvergate (6 Jan), Winterton (1 Feb), Hickling (1 Feb), Wiveton (5 Jan), Holkham (11 Feb), Holme 2 Feb and Dersingham (1 Feb).

Brent Goose: Recorded each month including the unusual total of 16 summering at Scolt Head. Maximum numbers at regular localities: Cley Eye 2500, Blakeney 1000, Wells 2000, Scolt Head 2000, Holme 1500, Hunstanton 400, Terrington 400, Lynn Point 200.

Shelduck: Largest gatherings on Wash at Snettisham where 7150 in Jan and 5150 in Nov. Exceptional June totals at Breydon: 602 on 21st, 809 on 22nd, 1066 on 24th, 1033 on 25th, 900 on 26th and 878 on 28th.

Breeding records away from coast: single pairs at Hoveton Great Broad, Hainford and Flitcham; 2/3 pairs at Pentney and Gillingham, 5 pairs at Wisbech SF, 19 pairs at Cantley BF, 50 pairs at Hardley Flood and several pairs at Hillington.

Moult gatherings again occured off Lynn Point where up to 1200 in July. Moult migrants recorded at Holme: 159 ENE July 25th. Interesting total of 1003 west off Paston Nov 7th.

Wigeon: Highest estimates: Yare Valley 4000 Jan-Feb and 6000 Dec; Breydon 3000 Dec 19th and 4850 on 24th; Welney 15000 early March and again in Dec; Cley 8000 Dec 21st.



Gadwall: Again high autumn numbers at Gunton Park where 630 in Sept. Coastal counts include 100 at Titchwell in Sept and 100 at Snettisham in Jan with 56 there in March and 54 in Dec. In Brecks 50 Cockley Cley in March, 110 Narford in Sept and 200 in Dec, and 290 Stanford in Sept with 230 there in Dec.

Green-winged Teal: Cley/Salthouse drake April 11th/19th (MRA et al).

Pintail: Main localities and largest counts: Breydon 141 Dec 27th; Cley 300-400 Jan 15th and 400-500 Oct 27th; Snettisham 1280 Jan and 380 Nov; Lynn Point 110 Oct 10th and Welney 500 Jan-Feb and 800 by end of year during freeze up.

Garganey: Spring arrival from March 8th (Welney) and subsequently 1-3 at Breydon, Cantley, Strumpshaw, Horsey, Gunton Park, Cley, Salthouse, Holkham Lake and Marshes, Titchwell, Snettisham, Wolferton, Lynn Point and Lyng Easthaugh. No breeding records received.

Red-crested Pochard: Lyng Easthaugh duck Sept 19th (NM).

Pochard: Largest numbers at Welney: 850 in Jan and 2000 in Dec. In Brecks Stanford 120 Feb, Mickle Mere 62 Jan, Narford 150 Feb & Tottenhill 80 Nov. On Wash 79 at Snettisham in Feb and 78 in Dec.

Tufted Duck: Winter counts: Snettisham 142 in Feb and 151 in Dec; Tottenhill GP 300 Sept and Ten Mile Bank to Denver 262 Dec.

Scaup: Recorded monthly including July occurrences at Breydon (2), Aldeby GP (1) and Snettisham (15). Largest winter total 70 off Hunstanton Dec 18th.

Eider: Recorded monthly with largest gatherings at Scolt Head 70, Titchwell 200 Jan, Heacham to Hunstanton 480 April 5th and Snettisham 507 Feb with up to 122 roosting on beach during June.

Long-tailed Duck: Hunstanton/Holme monthly totals; Jan 35, Feb 38, March 25, Oct 4, Nov 12 and Dec 35. In addition coastal records of 1-4 between Gorleston and Snettisham up to April 24th and from Oct 10th. Inland: Colney GP 2 Dec 13th.

Common Scoter: Coastal counts: Scratby 160 north Nov 7th and Paston 420 west same day; Titchwell 400 Aug; Holme 530 April, 350 May and 160 June; Hunstanton-Heacham 1400 Feb, 975 March and 1500 Nov; Snettisham 220 Jan and 110 Nov. Very scarce at Breydon where 1 May 1st and 2 Aug 9th.

Surf Scoter: Heacham/Hunstanton immature duck March 2nd-May 9th (JBK et al). First county record since 1927.

Velvet Scoter: On Wash (Heacham to Hunstanton) observed Jan-May and Oct-Dec; monthly maxima Feb 47, March 100, April 80, May 30, Oct 15, Nov 3 and Dec 1. Few elsewhere and no party exceeded 8 (Cley Nov 8th).

Goldeneye: Peak counts: Snettisham 74 Feb, Hunstanton 53 Dec and Brancaster 80 Dec. Broads (Martham and Ormesby) peak of 34 Feb 14th.

Smew: Recorded to March 15th and from Nov 17th. No party exceeded 3 except 5 at Hickling Feb 22nd. Elsewhere recorded at Wiggenhall St. Mary, Welney and Cley.

Red-breasted Merganser: Snettisham 34 April and 42 Nov; Hunstanton 40 Jan and 35 Nov; Brancaster 20 May and 30 Oct.

Goosander: Wintering birds and passage migrants at 16 localities including Narford (50 Dec), Blickling (19 Jan), Gunton Park and Antingham Pond (13 Jan-March).

Ruddy Duck: Hickling 2 Dec 5th and 30th (SL) and Narford 6 (3 drakes) May 22nd (NARVOS).

Honey Buzzard: Single present at usual site from May 16th until early Aug. Elsewhere: Brancaster/Titchwell June 13th.

Black Kite: Waxham/Hickling/Horsey 1 carrying rings Jan 1st-11th (many observers).

Red Kite: Welney Nov 15th, Cley/High Kelling May 3rd, Sheringham March 27th, Happisburgh May 3rd and Winterton March 6th and 28th.

Marsh Harrier: County total of 15 females and 12 males nested or attempted nesting; 27 young reached flying stage. Failures included disturbance and tidal flooding. Single migrants to sea at Winterton April 12th and at Caister May 17th.

Hen Harrier: Many records mainly at coastal sites up to May 17th and from Oct 2nd. In March 3-4 roosting Scolt Head with 7-8 Titchwell (5 males), 7 at Scolt Head in Nov, but moved to Titchwell in Dec where 8 Dec 31st. Up to 5 roosting at Roydon Common until mid-March and 4 there in Dec. 9 at Wolferton in Jan but only 4 in Nov. Up to 8 (4 males) roosting at Strumpshaw Jan-Feb with 5 (1 male) at year end.

At Winterton 1 out to sea April 12th (see Marsh Harrier) where one coasting

north-west 1/2 mile offshore Nov 9th.

Montagu's Harrier: One pair displaying and nest building at one locality, but then disappeared. Elsewhere: Snettisham May 4th, Holme July 27th, Cley May 30th and Strumpshaw April 27th.

Goshawk: Recorded again at 1980 breeding site. Elsewhere: Sandringham Jan 3rd, Weeting April 24th, and Cley Dec 5th.

Sparrowhawk: Recorded at 77 sites, but only two breeding records. Interesting total of 8 east at Paston March 29th-April 17th and 7 west May 3rd; also 8 south at Winterton April 12th and 13 at Winterton May 3rd (11 drifted north and 2 south).

Buzzard: Singles at Snettisham, Dersingham, Massingham, Fakenham, Hunstanton, Holme, Brancaster, Burnham Overy, Blakeney Point, Sheringham, Swafield, Breydon and Fritton. Majority of observations April/May, Aug/Sept and Dec.

Rough-legged Buzzard: Holme Oct 28th-Nov 13th, Holkham/Burnham Overy Nov 9th, 14th and Dec 13th Wells Nov 28th, Cley/Blakeney Dec 5th/6th, Sheringham end Dec, Trimingham in from sea Oct 6th, Happisburgh May 5th, Winter ton/Horsey Feb 14th, Reedham (broken wing) Feb 12th and Brettenham Heath Jan 22nd.

Osprey: Extreme dates April 12th to Oct 11th. Recorded at Alderfen Broad, Blakeney Point, Cley, Coston, Hickling, How Hill, Newton Flotman, Paston, Reedham, Shotesham Park, Snettisham, Strumpshaw, West Acre and Wiveton. All singles except 2 at Alderfen Sept 27th.

Kestrel: Total of 23 south at Winterton April 12th.

Red-footed Falcon: Bacton female May 24th/25th (MJP) and Wells male August 12th (PDK).

Merlin: Noted at 30 localities to May 3rd and from Sept 27th. Majority singles, but 3 at Roydon Common in first winter period.

Hobby: Three together at one site in July. Elsewhere singles at Bacton, Cley, Docking, Holme, Kelling, Leziate, Martham, Pott Row, Scolt Head, Snettisham, Stiffkey, Weeting, Winterton and Wiveton. Recorded May 10th to Sept 29th.

Peregrine: Lynn Point Sept 19th, Snettisham Feb and Nov, Cley April 4th and Breydon Nov 4th.

Quail: In the vicinity of Docking 6 calling during summer. Single males also heard on coast at Winterton and Weybourne and in Brecks at Weeting, Frog Hill (Sturston), Bagmore Farm (Stanford) and Robin's Lodge.

Golden Pheasant: Recorded at Cockley Cley, East Wretham, Heydon, Hockham

Belt (15 together), Narford, Sandringham, St. Helens Well, Thetford Warren, Weeting and Wolterton.

Spotted Crake: Holme Sept 15th-Oct 14th; Cley at least 3 Sept 6th-Oct 4th; Hickling Sept 25th, Oct 2nd-24th; Strumpshaw Nov 1st and Hillington Nov 29th-Dec 31st.

Crane: Two which first arrived in the autumn of 1979 remained in the county the whole year.

Oystercatcher: 300 pairs breeding along the coast had only limited success. Inland breeding reported around Breydon (8-10 pairs), Hillington, Narborough, Flitcham, Stanhoe, Sculthorpe and Gillingham. Winter concentrations as usual on north coast and Wash including 12,000 at Snettisham in Nov.

Avocet: At Cley 26 pairs summered and 30-35 young reared. Another pair raised 3 young at Salthouse. Also seen at Breydon, Hickling, Horsey, Gunton Park (up to 8 early Sept), Sheringham, Blakeney, Overy Staithe, Titchwell, Holme and Snettisham. Extreme dates March 8th (Breydon) and Dec 7th (Cley).

Stone Curlew: Thirty nesting sites reported in Brecks. Observations from March 22nd until Aug 31st.

Little Ringed Plover: Twenty-four breeding pairs at 13 localities. Observed from March 25th (Leziate) until Aug 28th (Holme and King's Lynn BF).

Kentish Plover: Total of 10 birds at Breydon between April 19th and Aug 12th including 5 there May 8th. Singles at Cley/Salthouse on 9 dates April 10th to June 30th and at Blakeney Point April 11th.

Greater Sand Plover: The first county occurrence, at Breydon April 17th (PRA ADB GED TWF). This oddly shaped plover breeds in Southern Russia east to Mongolia.

Dotterel: Spring passage at Hunstanton GC April 23rd/24th, 10 at Happisburgh May 2nd and 3 there next day, 5 at Ten Mile Bank May 9th when one at Caister, 5 at 'Vells May 11th, 5 at Holme May 12th/13th, 2 at Weybourne cliffs May 17th-21st and 1 at Sheringham May 19th.

Autumn passage at Blakeney Point Aug 9th, Lynn Point Aug 14th, 2 at Winterton Sept 4th, Sidestrand Sept 13th, Clev Sept 15th and Paston Sept 19th.

Grey Plover: Spring (May) concentrations: Snettisham 1200 on 1st, Blakeney Point 1000 all in breeding array on 4th, Breydon 59 on 8th and Lynn Point 160 on 25th.

Knot: Autumn/Winter roosts at Titchwell totalled 10,000-20,000 and at Snettisham 30,700 in Jan and 32,720 in Dec. Inland: King's Lynn BF 4 Sept 19th-27th and 1 Nov 22nd; Tottenhill GP 5 Nov 22nd.

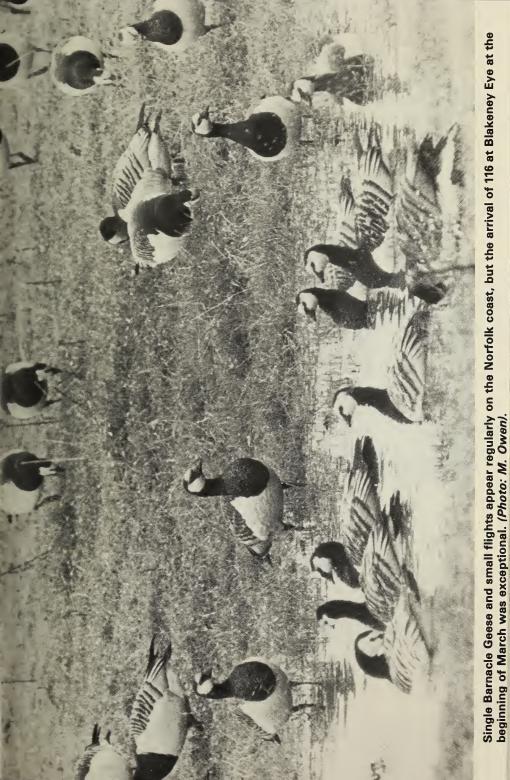
Sanderling: Peaks include 400 at Titchwell May 26th where 200 Aug 1st, 200 at Hunstanton Feb 11th and 500 Snettisham Jan 2nd where 430 Aug.

Little Stint: Spring: Cley 20 May 8th then ones and twos until June 23rd; Breydon 1-2 on 7 dates May 2nd to June 22nd.

Autumn: Many records from July 23rd until late birds at Snettisham Nov 22nd and at Wisbech SF Dec 6th with observations at Breydon, Hickling, Cantley, Cley, Salthouse, Titchwell, Holme, Snettisham, Lynn Point, King's Lynn BF and Pentney GP. Largest numbers: Hickling, 46 Sept 11th, 80 on 12th and 43 on 20th. Cley, 35 Sept 11th, 20 on 12th. Titchwell, 10 Sept 21st and 16 Oct 11th. Holme 22 Sept 19th.

Temminck's Stint: Spring: Cley May 8th-16th (daily) and 2 May 22nd-24th. Hickling May 15th, 17th and 25th with 2 May 19th. Wells 2 May 8th. Holme May 27th. Snettisham May 12th. Lyng Easthaugh GP June 6th.

Autumn: Cley Sept 5th. Hickling 2 July 2nd and 1 July 6th, Sept 11th/12th and 2 Sept 17th. Holme Oct 5th. King's Lynn BF Aug 9th-11th. Wisbech SF Aug 18th.





The first party of nine Bean Geese arrived at Horsey October 11th; an early date. By the end of the year 297 had assembled in the Yare marshes. (Photo: P. Munsterman).





Autumn 1981 passage migrants visiting the north Norfolk coast included this Wryneck at Holme, White-rumped Sandpiper at Cley/Salthouse, Purple Sandpiper at Cley beach and Red-necked Phalarope at Titchwell. (Photos: R. Tidman).





White-rumped Sandpiper: Cley, Salthouse and Kelling Quags July 22nd to Aug 30th (many observers). Holme Aug 28th to Sept 4th (RLKJ et al) and a second bird Oct 7th to 26th. Breydon July 19th (PRA ADB).

Additional 1980 record at Snettisham Aug 3rd (PG et al).

Pectoral Sandpiper: Cley adult July 25th to 29th and a juvenile Sept 11th to 23rd. Holme Aug 29th to Sept 16th. Hickling July 11th to 15th and Sept 7th to 19th. Wisbech SF Aug 7th to 18th.

Curlew Sandpiper: Spring: Breydon May 7th to 9th with 2 on 8th and another May 19th/20th; Wells May 8th and King's Lynn BF May 29th.

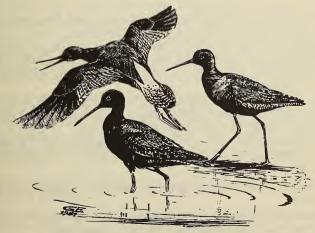
Autumn: Recorded at usual localities from July 18th (Breydon) until Oct 27th (Holme). Peak of 25 red adults at Breydon Aug 8th. No party of juveniles exceeded 30.

Purple Sandpiper: Reported at Gorleston, Yarmouth, Breydon, Winterton, Happisburgh, Paston, Bacton, West Runton, Sheringham, Weybourne, Salthouse, Cley, Blakeney Point, Brancaster Staithe, Titchwell, Hunstanton, Heacham and Snettisham. Extreme dates May 3rd (when maximum of 24 at Hunstanton) and Aug 2nd (Cley).

Buff-breasted Sandpiper: Cley Sept 5th/6th (B. Bishop et al).

Ruff: Jan counts included 44 at Hickling and 50 at Welney. In spring 40 at Hickling April 26th and 28 May 11th, 20 males at Welney, 35 at Cley April 7th and 30 at Horsey April 14th. Autumn peaks: Welney 300 to 400 Oct-Nov, Wisbech SF 80 Aug 18th, Titchwell 50 Sept 19th, Cley 75 Aug 25th, Hickling 30 Aug 24th and Cantley 20 Aug 12th.

Jack Snipe: Last in spring April 8th (Leziate). First in autumn Sept 14th (Holme). Black-tailed Godwit: Two on the early date of Jan 25th at Welney. 293 (mostly considered Icelandic) on Ouse Washes including Norfolk section April 12th. A few pairs at Welney left normal breeding area and unsuccessfully attempted to breed on surrounding wheatfields. Four pairs nested on higher ground on Washes each raising young. On Wash 56 off Wolferton/Snettisham during July; at Lynn Point counts included 54 Aug 3rd and 40 on 10th. Elsewhere largest count 24 at Cley April 28th.



A trio of Spotted Redshanks

Bar-tailed Godwit: Bird in full red breeding plumage at Breydon Dec 19th and 2 in red there Dec 24th-31st. High tide Snettisham counts included 6000 in Jan and 4872 in Sept.

Wimbrel: An early bird at Winterton March 19th. Largest assemblies included 180 at high-water roost Blakeney July 22nd where 250 Aug 3rd; also 118 at Wells Aug 16th. Latest record Oct 11th.

Curlew: Bred at Bodney Lodge, Stanford Heath, Tommy's Belt, Broom Covert and Grimes Graves and over 15 young recorded. Two broods lost in heath fire at Roydon Common May 16th. Peak count of 3000 off Snettisham in Oct.

Spotted Redshank: In winter at Cley Jan 1st to end of Feb. In autumn maximum of 30 at Cley (Aug 5th and Sept 5th) following arrival of 17 June 23rd; 48 at Snettisham in July, 60 in Aug and 70 in Sept; 19 at Lynn Point Oct 14th.

Marsh Sandpiper: One at Hickling Sept 6th 1979 (SEL). An additional record to the first for the county seen only three weeks previously at Cley.

Greenshank: Again 1-2 birds at Titchwell/Thornham in Jan-Feb and Dec; also 1-2 at Cley until Feb 15th. Autumn peaks: Breydon 24 July 23rd, Hickling 28 Sept 11th, Cley 35 Aug 16th, Blakeney 27 in Sept, Scolt Head 20 Sept 22nd, Hunstanton 26 Sept 9th and Snettisham 42 Aug 2nd.

Green Sandpiper: In winter at Breydon, Caister, Colney GP and Hunstanton. Autumn maxima of 12 at Pentney and 10 at Wissington BF.

Wood Sandpiper: Only 4 spring sightings reported: Cley May 9th, Winterton May 10th, Holme June 1st and Wells June 13th. In autumn at Breydon, Cantley 9 Aug 9th, Hickling 5 Aug 24th, Cley, Titchwell 5 in Aug, Holme, Snettisham, Leziate, Lynn Point and King's Lynn BF.

Turnstone: Interesting record of 60 to 70 roosting on a Lynn Channel buoy Nov 15th; groups also on other buoys. Snettisham peaks of 792 in Jan and 894 in Sept.

Red-necked Phalarope: Singly at Cley Aug 4th to 9th, Hickling Aug 27th, Titchwell Sept 27th to Oct 6th and same bird at Holme Oct 8th to 13th.

Grey Phalarope: Cley Sept 28th, Oct 22nd and Oct 24th; Yarmouth harbour entrance Oct 4th.

Pomarine Skua: Spring records: Paston/Mundesley 2 April 26th and one next day, Hunstanton April 26th and 2 next day and Cley June 6th.

Autumn: Paston Oct 22nd and Nov 13th. Cley Sept 6th/7th and 9th, Oct 11th, 2 Oct 20th and 1 Nov 11th. Sheringham July 26th, 5 Oct 11th, 1 Oct 12th and 4 Oct 13th. Holme 5 Aug 22nd, singles Oct 11th and 22nd. Hunstanton Oct 11th and 2 Oct 22nd. Lynn Point July 24th.

Arctic Skua: More spring records than usual: Paston 2 April 26th. Sheringham May 2nd. Blakeney May 5th and June 27th. Holme 4 May 4th and 2 June 21st. Hunstanton March 22nd, 5 April 26th and 1 April 27th.

In autumn from July 8th to Nov 6th with largest numbers off the east coast Oct 11th when 129 south in 5 hours off Winterton and 112 east off Paston. In Wash over 30 off North Wootton Aug 20th.

Long-tailed Skua: Singles off Cley Aug 18th, Blakeney Point Aug 26th and Lynn Point Aug 22nd.

Great Skua: Unusual records in Jan (Scolt Head on 2nd and Paston on 10th), in May (Cley on 13th) and in June (Paston on 27th and at Snettisham).

Largest movement in autumn Oct 11th when 51 south in 5 hours at Winterton, 21

at Paston, 49 at Sheringham, 23 at Blakeney Point, 15 at Holme and 12 at Hunstanton. Further movement Oct 22nd when Cley recorded 32, Holme 10 and Lynn Point 6.

Mediterranean Gull: Recorded monthly April to Dec as follows: Sheringham 2 in breeding plumage April 10th and 1 April 18th, Paston April 20th, May 16th, Breydon May 29th, Titchwell 2 June 24th, Bacton July 20th, Yarmouth July 16th, Scolt Head Aug 29th, Lynn Point Sept 6th, Holme Sept 24th, Paston Oct 6th to Nov 7th, Mundesley Oct 8th, Yarmouth Oct 11th (adult) & Oct 12th to 25th (first winter) and Nov 15th, Winterton Oct 11th, Salthouse Nov 8th, Waxham Dec 6th and Hunstanton Dec 9th.

Little Gull: Observed monthly except in March. Localities included Gorleston, Breydon, Hardley Flood, Hickling, Filby, Winterton, Waxham, Paston, Sheringham, Kelling, Cley, Blakeney Point, Wells, Holkham, Scolt Head, Titchwell, Holme, Hunstanton, Snettisham, Lynn Point, Welney and Santon Downham at which inland locality 80 flew east in a tight flock April 29th. Interesting series of records at Titchwell where present April 20th to June 18th with a maximum of 23 including 3 black-headed adults. Also up to 13 at Cley May 8th to June 14th.

Autumn counts included: Winterton 13 Sept 16th, 11 Sept 27th & 16 Oct 11th; Cley 17 Oct 18th, 11 Oct 20th, 13 Oct 21st, 33 Oct 26th and 62 Nov 1st; Scolt 12 Oct 23rd; Paston 13 Nov 5th and 14 on 8th; Holkham 17 Oct 25th; Holme 98 Oct 23rd;

Lynn Point 13 Oct 14th.

Sabine's Gull: Two observations: An adult Thornham Point Sept 15th (HBO) and a first-winter bird to the east at Cley Oct 18th (JDG JEG). Additional 1980 record: Blakeney harbour an adult July 13th.

Black-headed Gull: Breeding totals: Cantley 560 sitting birds, Blakeney Point 500 pairs, Scolt Head 120 pairs, Titchwell 1100 pairs, Snettisham 300 pairs and How Hill 100 pairs.

Lesser Black-backed Gull: Two or 3 pairs bred Blakeney Point and 1 pair at Titchwell.

Herring Gull: Cantley BF, a pair attempted nesting on artificial cliff at edge of rubbish tip but nest later found empty. 2-3 pairs bred Blakeney Point and 2 chicks with parents June 14th.

Iceland Gull: Cley adult Feb 26th (BCS) and Paston May 2nd (MF).

Glaucous Gull: Apart from unusual mid-summer sighting at Hunstanton July 1st, recorded to May 10th and from Sept 1st in ones and twos at Gorleston, Breydon, Caister, Scratby, Hemsby, Winterton, Waxham, Bacton, Happisburgh, North Walsham, Paston, Sheringham, Weybourne, Salthouse, Cley, Blakeney Point, Holkham, Holme, Hunstanton, Heacham and inland at Attlebridge.

Sandwich Tern: Very early bird Feb 24th at Hunstanton, but no others until March 23rd. Latest Nov 7th (4 off Scratby). Breeding: Scolt Head 300 pairs and Blakeney Point 3800-3900 pairs. Inland at Tottenhill GP April 27th, Narborough (1 with broken wing) April 28th and Narford 2 May 19th. Peak at Breydon 230 July 21st. At Lynn Point migrants moving inland high along River Ouse: 63 Aug 28th, 109 Sept 14th and 29 on 19th.

Roseate Tern: Hunstanton 2 April 26th, Sheringham May 19th, Titchwell May 24th, Breydon July 23rd to 31st.

Common Tern: Recorded March 31st (Blakeney) to Oct 3rd (Hunstanton): Breeding pairs (young raised in brackets): Breydon 34 (34), Hardley Flood 32 (40), Hoveton Great Broad 3 (3), Ranworth 36 (60), Martham 1, Ormesby 4 (5), Crome's Broad 1, Blakeney Point 175 (poor), Bob Hall Sands 70, Scolt Head 250 (75), Titchwell 118,

Snettisham 65 and Lyng Easthaugh GP 9 (18).

Arctic Tern: A great number of migratory birds feeding over and sheltering in coastal fields after gales April 26th/27th: 70 to east at Paston in addition to 100-200 sheltering in cliff-top fields there, 147 Salthouse, 100 Arnold's Marsh Cley, 54 Wells, 16 Holkham, 12 Snettisham and 6 King's Lynn.

Breeding: Scolt Head 1 pair; Blakeney Point 3-5 pairs (none fledged) although 30 there following storms at end of April.

Little Tern: Observed from April 10th (Stiffkey) to Oct 4th (Snettisham). Breeding pairs (fledged young totals in brackets): Winterton 12 (12), Blakeney Point 45 (very limited success), Stiffkey Freshes 12, Bob Hall Sands 45, Burnham Overy Staithe to Wells 55, Scolt Head 62 (30), Brancaster (approx. 20 flying young), Titchwell 51, Thornham 30 and Holme 1.

Black Tern: First April 25th; last Oct 10th. Heaviest spring movement May 6th-13th with birds at Breydon, Caister (14 east on 9th), Hickling (6 on 8th and 5 on 10th), Happisburgh, Cley (6 on 8th), Hardley Flood, Ranworth, Titchwell, Snettisham and Welney where numbers exceeded 100 on 7th/8th. Autumn peaks included: Lynn Point 30 Aug 1st and 45 Aug 9th; Cley 40 east and Holme 46 both on Sept 11th.

White-winged Black Tern: Cley, in full plumage July 27th (JBK et al). Additional 1980 record: Cley Sept 18th (DER et al).

Black Guillemot: Cley/Salthouse Aug 25th-Nov 17th.

Little Auk: Snettisham Jan 11th, Cley 6 Nov 7th, Weybourne 3 Oct 28th, Paston dead Jan 25th, Winterton 2 Nov 5th and Yarmouth Dec 1st. Inland Wroxham Feb 10th.

Puffin: Sixteen coastal records March-June and Sept onwards. Mostly singles but 6 casualties between Winterton and Yarmouth March 3rd-5th.

Turtle Dove: Very early migrant at Paston March 28th; late birds at Holt Oct 23rd and Hickling next day. Winter bird at Buckenham Dec 5th.

Ring necked Parakeet: Singles at Yarmouth, Caister on Sea, Holme and Tottington.

Cuckoo: Extreme dates April 8th at Wells and Oct 1st at Felthorpe.

Barn Owl: Recorded at 92 localities.

Little Owl: Recorded at 48 localities.

Long eared Owl: Total of 33 sites with young calling in West Norfolk (JBK). Also bred Tottington, Fritton and Salthouse Heath. 1-3 spring migrants at Winterton April 8th-21st. Autumn migrants at Wells Oct 18th, Scolt Head 22nd, and Paston in off sea Oct 10th (1) and Nov 7th (2).

Three small winter roosts (maximum 9 birds in NW Norfolk in first winter period and maximum of 4 birds in second winter period).

Short-eared Owl: Bred successfully at two sites in NW Norfolk. 1-2 spring migrants at Winterton and Caister till April 19th and at Paston April 12th. Oct migrants at Paston and Mundesley on 22nd, and at Yarmouth, Caister and Winterton on 25th. No winter concentrations in SE Norfolk, but 9 on Breydon marshes Jan 17th. In NW 4 roosts with maximum 14 birds in total in first period and maximum of 11 in second period.

Nightjar: A BTO survey in E. Norfolk produced the following number of churring birds: Fritton Woods 4-5, Winterton 2, Sheringham 1, Kelling Heath 3, Salthouse Heath 3, Holt Lowes 2 and Horsford 1. In W. Norfolk the survey revealed a total of 145 churring birds, the majority in the Sandringham area and the Brecks (where 201 in total including Suffolk). Greatest concentration of 62 singing males in TL 88,

situated in both counties, was the most densely populated area in the country.

Swift: An early individual West Acre April 17th. Large coastal movements at Sheringham July 7th (5000 west) and Winterton and Snettisham July 11th. At Hunstanton a young bird did not leave nest in cliff fissure until Oct 1st, using nesting hole until Oct 5th. Subsequent Oct. birds Cley and Blakeney Point on 9th, Winterton on 11th and Yarmouth on 21st.

Alpine Swift: Cley May 29th/30th (BB SBE ETM et al), Sheringham May 30th (RHC) and Gorleston June 10th (BAC).

Hoopoe: In spring singles at Holme April 9th, Cley April 12th, Horsey April 27th and Ellingham May 2nd. One autumn record: Strumpshaw Sept 14th. 1980: Weybourne May 10th.

Wryneck: Recorded in spring as follows: 2 Cley, 2 Weybourne, Morston and Holkham all April 27th, Hempstead April 28th, 2 Cromer May 1st/2nd, Holme May 5th, Yarmouth and Paston (dead) May 10th. An unusual record of one at N. Walsham July 13th & 26th. In autumn numerous coastal records from end Aug. to mid-Sept. with maximum of 4 Caister Sept 1st. Inland records in this period from Acle, Beechamwell, Dereham, Docking, Hethersett (present for 10 days), Hickling, N. Walsham, Norwich, Tacolneston (dead) and Yaxham.

Short-toed Lark: Holme Oct. 23rd (RLKJ).



Woodlark: Records received from 10 sites in Brecks. Elsewhere Holkham April 16th (in song) and Happisburgh Nov 15th.

Shorelark: Regularly recorded on Blakeney Point-Salthouse coastline up to May 3rd and from Oct 17th with maximum of 35 Blakeney Point Dec 27th. Elsewhere Hickling Jan 19th, Titchwell Oct 16th, Snettisham Oct 18th & 24th, Scolt Head Oct 23rd, Holme 3 Oct 29th-31st and 3 Nov 8th, Winterton Nov. 5th and Breydon Nov. 15th and Dec 19th.

Sand Martin: Extreme dates March 12th (Paston) and Oct 29th (Salthouse).

Swallow: First spring record Sheringham March 26th. At Marlingford Hall a normal pair of birds reared a brood of white young for second year running. A noticeable number of birds still present in second half of November including 4 at Snettisham on 21st, the latest individuals at Paston and Horsey on 25th.

Red-rumped Swallow: 1980: Cley May 17th (RB HN)

House Martin: An albino/leucistic bird at Cley Sept 19th. Latest: 2 Horsey Nov 25th.

Richard's Pipit: Two in Salthouse/Kelling area Sept 26th-Oct 27th, one remaining unti Nov. 8th. At Winterton one Oct 23rd, at least 4 Oct 25th, 3 remaining until Nov 1st. Elsewhere singles at Sheringham Oct 6th, Holme Oct 12th-31st, Holkham Oct 15th & 25th (different individuals) and Waxham Oct 16th. Additional 1980 record: Titchwell Sept 27th/28th.

Additional 1979 record: Sheringham Sept 28th-Oct 2nd.

Tawny Pipit: Blakeney Point May 13th (HN).

Olive-backed Pipit: Wells Oct 25th (ETM JBK *et al*). The third county record of this strangely elusive pipit.

Red-throated Pipit: Salthouse May 13th/14th (PB MC RG et al) Additional 1976 record: Blakeney Point Aug 28th (PF SCJ NW).

Rock Pipit: Birds showing the characteristics of the Scandinavian race at Breydon March 8th, 3 March 18th and 2 March 20th; one also at Weybourne April 7th-9th.

Water Pipit: Hickling and Cantley BF remain the only localities in the county where this bird can be regularly seen with maxima of 3 in Jan. and April respectively. Elsewhere Breydon March 8th, Cley March 28th, Winterton April 27th, Oct 25th and Nov 5th, Titchwell Nov 6th, Martham Broad Nov 28th and Hassingham Dec 2nd.

Yellow Wagtail: First recorded March 28th at Holme. The now annual autumn roost at Stow Bridge commenced July 29th, peaked at 300 birds August 17th-23rd and then declined rapidly to 100 August 26th with a slower decline until last Sept. 15th. An extremely late individual Wisbech SF Dec. 6th.



Blue-headed Wagtail: Snettisham April 11th, 17th & 23rd, Welney April 26th, Potter Heigham (pair) May 4th-6th, Strumpshaw May 6th, Titchwell May 9th-11th, Breydon May 10th, Holme May 19th, Burnham Deepdale July 19th, Scratby Aug. 21st, Stow Bridge (ringed) Aug. 22nd and Cley (pair) Sept. 26th/27th.

Grey-headed Wagtail: Males at Cley May 9th/10th and Salthouse May 19th.

Ashy-headed Wagtail: 1980: A male showing the characteristics of this race Cley May 4th (RGM).

Grey Wagtail: Breeding records from water-mills at Buckenham, Ebridge, Ellingham and Lyng, and also Buckenham Tofts, River Nar (4 pairs), and West Acre.

Pied Wagtail: Roosts included 400 Bacton Gas site in February with 125 there in October and 300-500 at Little Fen, Redgrave end September.

Waxwing: A lone bird flying west at Wells Oct. 24th heralded a minor influx in Nov & Dec with records from the following localities (number of birds in brackets): Bodham (5), Bradwell (1), Brancaster Staithe (1), Costessey (3), Gorleston (1), Great Yarmouth (1), Heacham/Hunstanton (up to 10), Hickling (1), King's Lynn (2), North Walsham (2), Norwich (4), Rockland (a few), Swaffham (6), Taverham (5) and Walton(4).

Black-bellied Dipper: Bawburgh Mill Oct 23rd staying until 1982. The same bird or another at Honingham Nov 13th.

Nightingale: Coastal migrants at Happisburgh May 7th (ringed), Holkham May 8th, Holme May 9th, Cley Aug 30th and Holme again Sept 3rd.

Bluethroat: A male ringed at Happisburgh May 11th, only 50 yards from site where one trapped two days earlier in 1979. One also at Cley May 11th/12th. No autumn records for second year running.

Black Redstart: Breeding: Four pairs at Yarmouth, at least two successful; one pair remained to winter at one site and present throughout hard spell in late December. Also one pair in Norwich but no evidence of successful breeding. Considerable number of spring coastal migrants March 15th-May 12th with maximum of 5 Holme March 26th-28th. One inland at Strumpshaw March 21st-23rd. A smaller number of autumn migrants: Burnham Norton Oct 18th, Paston Oct 25th, two Oct 28th and Nov 28th-Dec 9th, Costessey Pits Oct 29th, Snettisham Nov. 8th, Holme Nov 9th, Wells Nov 16th, Strumpshaw Nov. 26th and Cromer Dec. 10th.

1980: Additional breeding site at Weybourne where pair successful.

Redstart: Extreme dates April 5th (Winterton) and Oct 27th (Yarmouth). Breeding: Records from at least 9 Brecks localities including six pairs Weeting Heath. Elsewhere single pairs at Felthorpe and Holkham Park together with six males holding territory along Cromer ridge inland from Sheringham.

Whinchat: Breeding only noted in Brecks at Bridgham Heath, Frog Hill and Thorpe Great Heath. A late migrant at Holme Nov 1st.

Stonechat: Breeding: Successful pair Salthouse Heath. Seven pairs present along coastal strip Winterton to Horsey Gap, but success poor and scarce in autumn.

Wheatear: A noticeable arrival March 12th-14th with records from Cley, Happisburgh, Hunstanton, Snettisham and Wells. Latest record Winterton Nov 9th. Breeding records from Weeting Heath (37 pairs) and Snettisham (2 pairs). Additional 1980 record; successful pair at Salhouse on edge of Rackheath airfield.

Ring Ouzel: A considerable number of spring migrants reported March 27th-May 15th including several flocks, the largest being 10 at Holkham on April 13th. Marked contrast in autumn when only three individual migrants: Hunstanton Oct 8th, Cley

Oct 15th and Holkham Oct 24th.

Fieldfare: Individuals still present last week of May at Caister, Cranworth, Welney and West Walton. A scattering of early migrants end of August, the first being 2 at Winterton on 22nd.

Redwing: Two late spring migrants still at Caister May 28th. In December a large cold-weather movement of 2,600 west at Paston on 13th; later in month many found dead as a result of adverse weather conditions. One in a greengrocer's shop in Wells on 24th had been 'adopted' by owner and was feeding on cranberries and grapes.

Mistle Thrush: Flock of 54 at Cockley Cley Aug 30th.

Cetti's Warbler: A noticable increase in the distribution of records. Singing males noted as follows: Acle (Damgate), Buckenham Carr (2, one of which and 3 juveniles ringed), Cantley BF, Fritton Lake, Gillingham, Hardley Flood (2), Hickling (2), Ranworth (6), Redgrave and Rockland/Strumpshaw (14). On north coast adult male trapped Aug 29th Weybourne, re-trapped Sept 6th and one Cley Nov 15th. Elsewhere, UEA Broad March 22nd and one singing at a West Norfolk locality in Jan.

River Warbler: One in song near Roydon Common May 29th-June 6th (PP JBK et al). The first county record and certainly a most unusual occurrence.

Savi's Warbler: A decrease compared with previous year. At Hickling first noted April 12th; two pairs nested with an additional male also present. Also noted singing at Horsey in June.

Sedge Warbler: An early arrival at Cley March 29th.

Reed Warbler: A late individual at Titchwell Oct 26th.

Iceterine Warbler: A typical autumn passage, Caister Aug 11th-14th, Wells/Holkham Aug 7th-10th, Aug 27th, Aug 31st (2), one remaining until Sept 5th and Holme Aug 8th (2), Aug 10th and Sept 1st/2nd.

Orphean Warbler: Stiffkey Aug 17th (TJJ CMJ BLS). The first county record.

Barred Warbler: An above-average number of Autumn coastal migrants: Winterton 2 Sept 7th, Caister Aug 27th-30th, Waxham Sept 6th and 12th, Beeston 2 Aug 27th-31st, Wiveton Aug 29th, Blakeney Point Aug 28th and Sept 3rd, Wells/Holkham Aug 29th-Sept 9th with maximum of 4 Sept 3rd/4th and a late bird Oct 23rd, Holme Aug 25th & 29th and Sept 1st/2nd & 15th with another late individual Oct 23rd-31st and Hunstanton GC 2 Sept 4th-6th.

Lesser Whitethroat: Late migrants at Wells and Holme Oct 25th.

Garden Warbler: Latest record Wells Oct 24th.

Blackcap: Wintering birds at Yarmouth Jan 6th, Salhouse Jan 11th, Reepham Jan 12th, Wells Jan 16th, North Walsham Feb 1st, Hellesdon Feb 23rd, Sprowston Dec 15th and Horsham St. Faith Dec 23rd.

Arctic Warbler: A previously unpublished record: 1978, Blakeney Point Sept 8th (NB).

Pallas's Warbler: An unprecedented number of records. At Wells/Holkham 2 Oct 18th, then one until further influx of 2 on 23rd; at least 3 birds present on 24th, decreasing to one by 26th (many observers). At least 5 individuals involved, probably more. Elsewhere singles at Holme Oct 18th-21st (HBO), Winterton Oct 23rd (UEA) and Stiffkey Oct 25th (DF MO).

Yellow Browed Warbler: Wells Oct 4th. A simultaneous arrival on north and east coasts Oct 18th with birds at Yarmouth, Hickling, Wells/Holkham (2) and Titchwell. One or more individuals remained at Wells/Holkham until Oct 24th, when

one also at Winterton.

Wood Warbler: Spring migrants at Blakeney Point April 27th, Holkham 2 May 8th and Horsey May 10th. During May singing males on territory at West Runton (3), Beeston Regis, Sheringham, Kelling (3), Weybourne, Holt, Snettisham (3), Wolferton, Horsford and Felthorpe (3 successful breeding proved with one pair). Autumn records at Holme Aug 10th, Sandringham 2 Aug 25th, Paston Aug 31st and Wells Sept 13th.

Chiffchaff: Wintering individuals in Norwich gardens Jan 15th and Feb 20th. As in previous year a late autumn influx 'Siberian type' individuals (tristis) particularly at Wells/Holkham with singles on several dates from Oct 18th increasing to 5 Nov 14th then reducing to one Dec 7th; elsewhere 2 Caister Nov 8th and one Cley Nov 15th. Other 'Northern' birds at Caister until Nov 29th and a late individual also at UEA Broad, Norwich Dec 4th.

Willow Warbler: Extreme dates March 26th (Narborough) and Oct 24th (Wells). 3 at Wells April 29th of larger grey Northern race.

Firecrest: An unusual number of winter records: Leziate Jan 25th, Holkham 2 Jan 27th and one still present Feb 27th and Buxton Heath Feb 15th. Only a small scale spring passage with singles at Holme March 27th, Winterton March 29th-April 4th, Wells April 5th and May 3rd, Gillingham April 8th (trapped), Weybourne April 11th, Cley April 12th and Blakeney Point April 29th. In breeding season singing males at Sheringham and two sites in Brecks but as in previous year no evidence of breeding. Autumn passage also small with individuals at Wells/Holkham Sept 2nd, Oct 23rd & 27th and Nov 14th, Cley Oct 13th, Sheringham (trapped) Oct 16th, Yarmouth Nov 5th and Caister Nov 6th.

Spotted Flycatcher: Latest record: Caister Oct 16th.

Red-breasted Flycatcher: In autumn at Caister and Yarmouth Sept 2nd, Holme Oct 18th-20th and Blakeney Point Oct 24th.

Pied Flycatcher: Early migrants at Strumpshaw April 15th and Holkham April 19th and 26th. Main spring passage May 3rd-17th with singles at nine coastal localities, up to 2 at Horsey and 3 at Yarmouth. One at East Walton Common May 24th. In late May a single male on territory at Sheringham.

Bearded Tit: Breeding records (in pairs) include 10 Cantley BF, 2 Strumpshaw, a few at Burnham Norton, 20 Titchwell and singles at Heacham and King's Lynn BF. Autumn records away from breeding areas include 4 at Snettisham Oct 3rd with 2 Nov 1st and Nov 18th-21st, pair in buckthorn Hunstanton GC Oct 16th, one Wells Oct 26th, 15 Redgrave/Lopham Oct 30th with 6 until mid Dec and up to 10 UEA Broad, Norwich Nov 9th-Dec 4th. Winter influxes also of up to 50 at Strumpshaw and 60 at King's Lynn BF.

Long-tailed Tit: Flock of 14 in off sea at Salthouse. Oct 24th.

Golden Oriole: Winterton May 27th, Cley May 29th, Horsey May 31st, Fritton male photographed June 6th and Hilgay June 14th. A pair also present May-July at a West Norfolk locality.

Red-backed Shrike: Only one spring migrant: Winterton May 16th. Breeding records from Brecks and one north Norfolk locality where successful breeding also in 1980. Autumn passage Aug 14th-Oct 11th with scattered records of individuals at Winterton, Paston, Beeston, Sheringham, Weybourne, Cley, Wells/Holkham and Holme (2 Sept 3rd). Also one inland at Strumpshaw Aug 20th-Sept 4th.

Great Grey Shrike: In early part of year wintering birds at Brandon, Weeting, Roydon,

Wells/Holkham and Strumpshaw, the last three all departing within a three-day period March 26th-28th. Isolated records from Snettisham Feb 8th, Dersingham Feb 11th and April 27th and Bridgham Heath March 20th. Autumn migrants Blakeney Point Oct 13th, Holme Oct 18th, Hickling Oct 20th, Hunstanton Oct 23rd, Wells Oct 29th, Waxham Nov 8th and Snettisham Nov 9th. Wintering birds at Roydon from Oct 22nd and Strumpshaw from Nov 1st. One St. Helens Well Dec 19th.

Magpie: Flocks of 14 Stoke Ferry Feb 5th and 20 Horsford Nov 3rd.

Carrion Crow: At Roydon Common the roost contained a maxima of 200 birds March 1st and Oct 29th.

Hooded Crow: Only regularly recorded at the Roydon Common roost where maxima of 8 Feb 8th and 6 Dec 27th. Occasional small flocks of migrants (up to 5) on north and east coasts March-May. Singles Horsey June 14th, Winterton Aug 7th & 14th, Kelling Aug 18th, Breydon Sept 13th but then no further records until November.



Rock Sparrow: Cley near the north hides June 14th (RGM SJMG)

This record has been accepted by the British Birds Rarities Committee but is still subject to ratification by the British Ornithologists Union. If accepted it will be the first British record of this Mediterranean species.

Serin: Female or immature Holme April 18th (VE). Additional 1979 record, a male at Brundall several dates May/June (BDH).

Goldfinch: A large concentration of 1,000 birds Crostwick Old Hall Sept 21st.

Siskin: Recorded up to May 17th and from Sept 27th with largest concentration 200 at Bodney in February. No breeding records received.

Linnet: At Paston counts of coastal movements as follows — 1,000 east April 10th, 1,400 east April 12th, 1,100 east April 17th, 1,000 west May 2nd & 3rd.

Twite: Coastal flocks included 300 Snettisham Jan, 200 Titchwell Feb, 600 Wells Nov, 900-1,000 Scolt Head and Burnham Norton Nov/Dec and 100 Breydon end Dec. Inland records at East Tuddenham March 20th, Fleggburgh Common 8 March 27th and Massingham Heath 2 Oct 16th.

Crossbill: Recorded from many Breck (including over 100 Santon Warren April 22nd) and other west Norfolk localities, but elsewhere only regularly seen at Wells/Holkham where successful breeding occurred. One over Hunstanton cliffs May 2nd, one Lound July 13th and at Holme on Nov 8th 4 west and 2 east.

Scarlet Rosefinch: Immature male in song at Holme May 30th (HBO). Only the sixth county record.

Bullfinch: An unusually large flock of 49 (only 5 females) at Ringstead Dec. 8th.

Hawfinch: Brecks records include: East Wretham (28 Jan, 15 Feb, 20 March and 2 June 14th), Buckenham Tofts (bred), Lynford, Santon Downham and Weeting. Elsewhere, Alderford Common (bred), East Tuddenham (pair in June), Fincham (pair bred), Holme (Dec 31st), Redgrave, Ringland, Shropham, Weybourne (May 8th-19th) and Kelling (pair June 9th).

Lapland Bunting: In first winter period only regularly recorded at Burnham Norton (40-50) and Wells (up to 5). Elsewhere Winterton March 15th, Brancaster March 28th and 2 Sheringham April 7th. Two very late Spring records: male at Weybourne May 29th and female Salthouse June 21st. First autumn record, 2 Cley Sept 18th. Subsequently reported from many coastal localities including 12 Holme Nov 8th, 9 Happisburgh Nov 17th and 15-20 Burnham Norton Nov/Dec.

Snow Bunting: Coastal flocks included 270 Blakeney Point Jan, 200 Holme Nov, 210 Cley Nov and 150 Brancaster Dec.

Ortolan Bunting: In contrast to previous three years only recorded in the autumn—at Holme immatures Sept 11th-14th, another Sept 26th and a third Oct 25th.

Corn Bunting: Flocks of 65 Burnham Deepdale and Burnham Norton Jan, 70 Waxham Feb 14th, 55 Brancaster Dec 24th and 100 Lynn Point Dec 28th.

The following, not mentioned in the Classified Notes, were recorded in 1981 (breeding species in italics): Mute Swan, Canada Goose, Egyptian Goose, Teal, Mallard, Shoveler, Red-legged Partridge, Grey Partridge, Pheasant, Water Rail, Moorhen, Coot, Ringed Plover, Golden Plover, Lapwing. Dunlin, Snipe, Woodcock, Redshank, Common Sandpiper, Common Gull, Great Black-backed Gull, Kittiwake, Guillemot, Razorbill, Stock Dove, Woodpigeon, Collared Dove, Tawny Owl, Kingfisher, Green Woodpecker, Great Spotted Woodpecker, Lesser Spotted Woodpecker, Skylark, Tree Pipit, Meadow Pipit, Wren, Dunnock, Robin, Blackbird, Song Thrush, Grasshopper Warbler, Whitethroat, Goldcrest, Willow Tit, Coal Tit, Blue Tit, Great Tit, Nuthatch, Treecreeper, Jay, Jackdaw, Rook, Starling, House Sparrow, Tree Sparrow, Chaffinch, Brambling, Greenfinch, Redpoll, Yellowhammer, Reed Bunting and Corn Bunting.

Fieldfare and Redwing Migration as shown by Norfolk Ringing Recoveries

WHILST a few early Fieldfares are recorded annually on the North Norfolk coast in late August, the main arrival does not occur until well into October. From then until the end of November, a steady passage of migrants arriving from the east continues both by day and night. Attention is often drawn to the flocks by their distinctive contact notes.

The number remaining to feed while on passage or for more prolonged periods in winter, varies from year to year as does the number ringed. The majority are caught in orchards, gardens or at roost and have resulted in 26 foreign recoveries, 5 foreign-ringed controls and six movements within eastern England.

Breeding season recoveries of Norfolk-ringed Fieldfares and the five found within the County which had been ringed as nestlings or breeding adults in Fenno-Scandinavia, are shown on the map as open circles. Apart from the single recovery in the far North, which had penetrated the Arctic Circle, they all fall within a comparatively narrow band across Norway, Sweden and Finland, which comprises only a part of their much wider European breeding range.

Recoveries in the same winter period as ringing, have all involved movements within the County or to and from neighbouring Cambridgeshire and Lincolnshire, in addition to two hard-weather movements, south to France, indicated by the letter 's' on the map.

The remaining foreign recoveries made during the winter, shown as closed circles, indicate a tendancy for birds to winter further south in subsequent years. The majority are in France, with the bird in the Camargue being in at least its 9th year and the oldest BTO-ringed Fieldfare to date. Of the three recoveries in Italy two were reported in December 1966, a year in which Fieldfares ringed in Britain were found further afield than previously. The lone recovery in the east was in Poland, a country in which few British-ringed Fieldfares have been found and provides dramatic evidence of a Fieldfare spending successive winters in areas 800 miles apart.



Fieldfare recoveries affecting Norfolk (for explanation of symbols see text) Finally the recovery in Holland, marked by the letter 'p', was made in spring and possibly indicates the route by which at least some of our winter visitors return to Scandinavia.

Although Redwings and Fieldfares are often seen together both on passage and during the winter months, the pattern of Redwing recoveries is strikingly different.

Unlike those for the Fieldfare, over half the Redwing recoveries are the result of ringing October immigrants and the number caught each year is less variable. To date, there have been 20 foreign recoveries of Norfolk-ringed Redwings and four movements to other counties (Cambridgeshire, Hertfordshire, Kent and Hampshire) all of which lie in a south to south-westerly direction.

The Norwegian recovery is the only one from Norfolk in the species breeding range. This was found in October and so may well have been on passage already. Recoveries of ringed Norwegian pulli indicate that the main movement is through Denmark and Belgium, with France being the main wintering area. Radar studies in Sweden indicate that many Redwings leaving southern Scandinavia initially fly SSE. Recoveries from other parts of Britain suggest that the majority of our winter Redwings in fact originate in Finland and USSR.

Although there have been several instances of Norfolk-ringed Redwings returning to the same general area in subsequent winters (unlike Fieldfares), recoveries indicate that different wintering areas may be used from year to year, with a tendancy for Redwings to move further south than Fieldfares, reaching as far as Spain or Portugal. This is also in contrast to Norwegian Redwing pulli, few of which have been recovered in Iberia, once again suggesting that those Redwings ringed in Britain belong to more northern, mobile populations.

Recoveries made in the same winter period, shown by an open circle on the map, included some of the characteristic hard weather movements so typical of the species, while those in subsequent winters are indicated by a closed circle. Finally the recovery on Heligoland of a bird on autumn passage was made on exactly the same date one year after it had been ringed on the East Norfolk coast.

For allowing me access to all the Fieldfare and Redwing recoveries in their files, I am most grateful to the British Trust for Ornithology.

Moss Taylor



Redwing recoveries affecting Norfolk (for explanation of symbols see text)

The Importance of Disused Railways (and other scrub) to Farmland Breeding Birds

Dr. R. Leaney

THE FACT that we have lost at least 20% of our hedgerows in the United Kingdom, and around 30% in East Anglia, is a familiar enough statistic. However, it is undoubtedly the attenuation of the hedgerows remaining that has had the great effect on farmland breeding bird populations.

The effect of hedge attenuation was shown by work on farmland at Cranworth in Norfolk for the B.T.O. Common Bird Census. Between 1965 and 1974 a 30% loss of hedgerows had little effect on the overall population, birds plainly being able to nest in greater density in the remaining hedges. In 1975, however, these remaining hedges were mostly reduced from a height of 5-6 feet to about 3 feet and this change coincided with a 'disasterous crash' in the breeding population of most hedge nesting species. There is no reason, unfortunately, to believe that the same loss has not happened over much of Norfolk for such hedge management has now become widespread.

This being the case it is obviously important to consider the extent to which scrub could compensate for losses of hedge breeding birds. There is not a lot of room on most farms where scrub could be allowed to develop, and a resistance to this idea on the part of farmers because of the pest problem associated, but the statistics available would suggest that scrub can hold such densities and diversity of breeding birds that even small changes along these lines could considerably compensate for hedgerow loss. Some idea of this potential of scrub was also gained during the N&NNS Disused Railway Survey.

It seems certain that attenuated hedges support much the same population as unhedged boundaries, that is around 3 nests per 1,000 yards of 3 species. An 'old fashioned' trimmed hedge about 5-6 foot high with a wide base supports around 8 nests per 1,000 yards of 10 species, whereas an overgrown hedge with outgrowths from the bottom supports about 40 nests of 20 species. Chalk scrub studied by Kenneth Williamson in Buckinghamshire supported amazing densities such as 90 Whitethroat, 154 Linnet and 194 Willow Warbler nests per 1,000 acres. One would not expect such figures on Norfolk farmland, but they do demonstrate the extraordinary predilection of a wide variety of birds for scrub nest sites.

It is useful to consider a hypothetical Norfolk farm consisting of nine large fields each about 300 yards square, one of them grass, the rest arable, with a track running through it, in which all hedges have been reduced to three foot high. Such a farm would support about 27 nests of 3 species. If, however, the hedge growing on the track and to the north of arable land was allowed to become overgrown and sucker from the bottom across the track verge, this could support up to 40 nests of up to 20 species. There would be a tendency for Rabbits to increase along the hedge but if Rabbit shooting was organised and the Rabbits viewed as a crop rather than a pest

there would not necessarily be any great change in productivity. For the effort of controlling pests the farmer would have the satisfaction of increasing his bird population by up to $2\frac{1}{2}$ times, with up to 7 times the species breeding.

If a farmer was not prepared to allow a hedge to overgrow in this way an alternative would be to allow selected hedges to grow once more to 5-6 foot high, and combine this with allowing more limited scrub growth. It is striking that hedges are cut to even heights on virtually all farms; something that is not strictly necessary. It is possible to allow hedges to the north of arable land, but with tracks, roads, waste ground, grass, or other non-arable land to the north, to grow up considerably and to widen a little at the base without any loss of productivity from shading or encroachment. This alone would result in our hypothetical farm supporting around 40 nests of 10 species. Further increases could be gained by allowing hedges in field corners to grow up more, and if a few hawthorns right at each field corner were allowed to grow up indefinitely, this would allow further species such as Long-tailed Tit, Turtle Dove and Lesser Whitethroat, which require especially high bushes, to breed.

Such patches of more luxuriant hedge growth should, if possible, be sited where hedgerow trees grow for these are essential for song posts if some species such as Yellowhammer, Chaffinch and Lesser Whitethroat are to breed. If one or two narrow unproductive field corners were also allowed to scrub over and scrub species such as Hawthorn, Blackthorn and Sallow planted, possibly in small groups to facilitate pest control, on waste ground or along the edge of commercial plantations, it could once again be possible to double the breeding population of the farm and bring the species total up to around 20.

Getting back to disused railways, if one of these was crossing the hypothetical farm, considered as a double overgrown hedge, it would support up to 80 nests of around 20 species, thus trebling the farm's breeding birds. Although disused railways are fairly sparsely distributed their potential for re-colonisation of farmland in the future is therefore considerable. The Disused Railway Survey showed Bramble and Hawthorn to be the commonest colonisers and these are the first and second choice nest sites for all the *Sylvia* warblers considered as a whole, while young oaks and other trees are common for song posts. The presence of unimproved grass with its invertebrate fauna is also significant, especially for species such as the Whitethroat and Willow Warbler which partly depend on grass and small herbage for nestling food supplies.

The Survey was primarily botanical, but all birds seen were recorded and it is noteworthy that Lesser Whitethroats and Turtle Doves, two of the most sensitive species to hedge attenuation, were common in the breeding season, and other scrub species such as Yellowhammer and Dunnock were also frequently seen. Noisy family parties of Lesser Whitethroats were often noted, and a flock of 90 Turtle Doves (probably the result of local breeding) was seen at Little Downham (15/8/81). It is likely that other less conspicuous species would be found to be equally common with more diligent searching.

The importance of disused railways lies mainly in the flora of the track ballast and unimproved grass banks and it is hoped that one or two stretches may be managed to preserve this, but most are bound to revert to scrub or be 'reclaimed' for agriculture. It is to be hoped that a lot can be saved both as refuges for farmland birds and as models for the study of scrub generally.

The present absence of overgrown hedges and scrub from our farmland is not just due to economic reasons, but also in large part — as shown above — the farmer's pride in having a uniformly tidy and efficient-looking farm. It is hoped that more

farmers will soon take advantage of 'on the farm' advice from the Farming and Wildlife Advisory Group at the MAFF offices in Norwich. If they can be encouraged to take an equal pride in the wild-life of their farms, there could once again be a limited place for scrub and overgrown hedges in our landscape, whithout detriment to output.

In the future new crop strains or changes in eating habits could remove the pressure on our productive land. For the present, the fate of farmland wildlife depends on the most efficient use of the unproductive land, that is of hedges, banks, tracks, waste and rough or marshy patches. In some cases these may already support herbs or insect life of interest and the farmer may be best advised on the cutting regime to conserve this interest, but in other cases allowing scrub to develop by removing grazing pressure, cutting or cultivation, may be more productive. In order to make these sorts of decisions it would be very useful for advisers to know more about the potential of scrub in the Norfolk setting, and in particular what species should be incouraged or planted. Disused railways make ideal places for such studies.

An April Storm

RAIN, torrential at times, accompanied by north-east to north gales fell continuously in Norfolk between the afternoon of 24th April and the early hours of 27th April 1981. The worst of the weather occurred overnight 25th/26th and again overnight 26th/27th with winds reaching severe gale force 9 or even storm force 10 at times over the Norfolk coast and adjoining sea areas.

Many birds were affected by these conditions. At Happisburgh a large beet field turned into a vast lake. For two weeks it echoed to the calls of four species of gulls (including 2 Little Gulls), 3 Dotterel, Redshank, over 60 Ringed Plovers, 4 Fulmars, Dunlin and Shelduck.

Off Paston on 26th, 420 Fulmars headed east and 280 west; also moving east there were 3 Pomarine and 2 Arctic Skuas, whilst on 27th hundreds of Sandwich Terns and between 100 and 200 Arctic Terns sheltered in coastal fields. A two hour sea watch at Mundesley on 27th produced totals of 300 Fulmars, 2500 Kittiwakes and 70 Arctic Terns all moving east. Many Arctic Terns were feeding over fields in north Norfolk on 27th, including 147 at Salthouse.

Kittiwakes were the main feature at Hunstanton on 27th with 2000 an hour for four hours followed by smaller numbers for a further three hours.

A drake Eider was discovered on a flooded field at Massingham Heath. Up to 30 Gannets, storm-driven into the Ouse Mouth on the evening of 26th, remained until 29th. Another Gannet found dead on 29th at Tottenhill G.P. had been ringed as a nestling 28th June 1974 on the Bass Rock.

Away from the coast unusual observations included 6 Arctic Terns north-east at Welney (26th), an adult Kittiwake on Hardley Flood (27th) and a remarkable assembly of 80 Little Gulls travelling east over Santon Downham (29th). Several Cormorants, too, appeared inland.

The heavy rains caused extensive flooding. As flood water receded at Gillingham over 1000 Snipe (in flocks up to 200 strong) appeared. Rush Hills wader ground at Hickling Broad was deeply flooded and failed to attract nesting Little Terns in 1981.



Gannets storm-driven in the River Ouse at King's Lynn. (Photos: Eastern Counties Newspapers).





Greater Sandplover at Breydon Water

A GREATER SANDPLOVER, only the fourth occurrence in this country, was added to the county list 17th April 1981 when one appeared briefly at Breydon. When first discovered on the mudflats in a heat haze it was feeding by itself and was initially considered to be a Kentish Plover. It was not until early afternoon that this stranger was identified as a Sandplover. The leg length, massive bill and bulky body confirmed a Greater Sandplover. Close views were obtained from the estuary wall for considerable periods of time as it fed on drier mudflats in company with Dunlin and Ringed Plovers thought to be of the darker mantled tundra race all of which it dwarfed in size. The combination of bulky size, very long legs, deep chest and high domed crown gave it a distinctive appearance. The heavy bill was large, blunt ended and considerably thicker than a Ringed Plover's. Pale sandy in colour the bird showed traces of changing to summer attire with sandy-chestnut markings on each side of the breast and a suggestion of a breast band of paler colouration.

The underparts were white and it showed a noticeable white throat, chin and cheeks with sandy-brown crown and forehead and traces of white just above the lores. A narrow white streak showed above brown ear-coverts and a darker thin line appeared between the base of the bill and eye. The nape and rear part of the neck were pale sandy extending to the mantle. The primaries were dark brown or black and the tail and rump sandy with whitish tail-feathers.

This great traveller (nearest wintering area is the coast of east Africa south to the Cape) fed in the manner of a Grey Plover on very long legs. In flight a whitish wingbar was revealed, but extending only to the base of the primaries. It was not heard to call. It continued feeding close to the estuary wall with a group of Ringed Plovers until dusk. Night brought clear skies and light winds and an extensive search for this vagrant from the deserts and steppes the following day was unsuccessful. The occurrence coincided with a spell of easterly winds.

P. R. Allard

The First River Warbler in Mainland Britain.

WHILST taking part in the B.T.O. Nightjar survey on the evening of 29th May I heard an unfamiliar song resembling a cricket at Roydon Common. I soon observed a bird about the size of a Reed Warbler with a continual buzzing song. Unfortunately, it was not until late the following day that I obtained confirmation of my observation and the stranger was identified as a River Warbler. Over a series of visits detailed field descriptions were obtained.

The most noticeable features included uniform dull brown upperparts although a rufous tinge was seen on the rump in good light. A creamy orbital ring extended into a fine whitish supercilium running a short distance each side of the eye. From a distance the underparts appeared uniform grey, but with good views the finely streaked breast was much greyer than the belly.

Probably hundreds of ardent watchers sought this River Warbler, whilst thousands viewed it on television. It sang mostly either from a hedge (of hawthorn and elder) or from a nearby rye field, often skulking high up in the hedge and some distance from any standing or running water. Disturbed, it often flew with noticeable undulating flight, the long wings and tail suggesting a small Cuckoo.

The very distinctive song was described as an extended ziz ziz ziz slower than a Grasshopper Warbler and containing two notes repeated very quickly. Often continuing up to a minute, at other times it lasted only one or two seconds. The song contained a metallic note interspersed with ziz ziz notes. At close quarters a prrr was often heard prior to the commencement of the song.

This occurrence was only the fifth for Britain and the first on the mainland. Previous records are from Fair Isle on 24th/25th Sept 1961, 16th Sept 1969 and

23rd/25th May 1981 (died) and also Bardsey on 17th Sept 1969.

Most of the River Warblers in the world breed in Russia where they are known as river crickets. The species also breeds in Poland, Hungary, East Germany and Austria. They occur in riverside meadows with long grass and some bushes. During migration River Warblers may be found in cornfields and other dry areas for they have to cross much arid country to reach wintering grounds in south-east Africa. In winter quarters they are most often found in reedbeds and in bushes beside rivers and lakes.

P. Pratley

WEST NORFOLK LONG-EARED OWL SURVEY

DESPITE a confident start the final total of thirty-three sites was one less than in 1980. Nevertheless some new facts emerged and observations made in the previous year were confirmed.

Although six completely new sites were found, seven sites were lost. A further five sites had moved position by up to 1.0 km. Lack of breeding at 1980 sites could usually be attributed to forestry activity, either commercial wholesale felling or small scale thinning in private woods. At some other sites Tawny Owls had arrived and may have been responsible for ousting the Long-eared Owls.

First young were very late calling in the more northerly populations which breed on higher ground in rather exposed shelter belts. Despite weekly checks at some sites, young were not heard until late July. It is assumed that the freak gales and torrential rain of 25th./26th April forced incubating birds to desert their nests and re-lay a few weeks later. The more southern populations appear generally to have been unaffected. As they breed within the microclimate and protection of vast areas of trees, these birds were presumably able to withstand freak weather. This is shown by the fact that first young were calling as usual by late May.

Once again it became obvious that over-recording of broods was a strong possibility for the unwary. On still evenings at some sites the calls of young, over half a kilometer away, could be clearly heard echoing off walls of trees from other directions, suggesting another brood elsewhere. Only by careful checking and pinpointing the sources of calls can this be eliminated. In practice it was found that even in 'densely' populated areas most broods were at least 2.0 km apart, the closest noted being 1.5 km. This rather wide territory spacing may be because Long-eared Owls

need a fairly large hunting range. At one site an adult hunting roadside verges prior to dusk was 1.75 km from the nearest young.

While it was suggested in last year's article that families split up in autumn, evidence since then shows that some families may in fact form communal winter roosts close to the breeding sites. These roosts may not completely break up until early April.

The future could bring some problems for at least part of the Long-eared Owl population. As much of the Breckland woods mature, temporary loss of habitat will occur as whole-sale felling commences. Tawny Owls also displaced by felling activities will no doubt move into remaining suitable woodland, again forcing out or at least putting the pressure on Long-eared Owls already present.

This survey will continue in 1982 and records of breeding birds or winter roosts will be welcomed. Thanks are again due to N. Williams, P. Feakes and B. Pleasance for assistance.

J. B. Kemp: 1 College Farm, Gt. Massingham, King's Lynn

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THE NORFOLK MAMMAL REPORT 1981

Editorial

The Editor is pleased to present the 26th Norfolk Mammal Report.

The new and very complicated Wildlife and Countryside Act is causing many a wise man to shake his head in wonder. It will take some time to come to terms with this massive new legislation and to assess its likely effect upon wildlife studies in general and our mammals in particular. The function of this annual report has always been to encourage the collection of data so that judgements can be based upon knowledge. For many years this information has been deposited in the data bank at Norwich Castle Museum. Some of this basic information on distribution of very common species may appear to have very little significance at the moment but may well be of vital importance at some time in the future. We have the recent example of the difficulties experienced by those who tried to point out the desperate plight of the Otter in this county. Full information going back to pre-war days may well have made their task much easier.

We are witnessing the rapid decline of our Red Squirrel and the rise of its American relative, the Grey. Both are much more easily observed, especially the latter, and so are better recorded. On the other hand, all the bat species are in danger but we have little or no information in county-wide terms, only a few notes from isolated sites. We welcome the appointment of Dr. Bob Stebbings to national office to promote the cause of these mammals and express our support for him in his uphill task. Dr. Stebbings has skillfully used the media to present the idea that there has been a decline in many bat species. It would be very difficult for us in Norfolk to prove the case, even though we are convinced it is correct.

The Act sets out many restrictions in our relationship with the Chiroptera and this has precipitated the suggestion that a local, informal group should undertake the task of checking out sites, advising worried householders and so on. Any interested readers should contact either the Editor or John Goldsmith, as below, with a view to meeting together during this coming winter to become familiar with the bats, the Act and the problems.

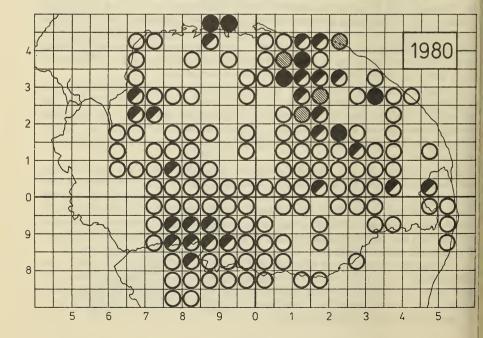
During the year Dr. I. F. Keymer examined two hedgehogs and found that they had died from metaldehyde poisoning. We are so used to dead hedgehogs on our roads that we may become careless and overlook the consequences of our actions. The R.S.P.B. tell us that hollowed out halves of oranges and grapefruit left like coloured igloos in the garden attract slugs which can then be easily removed. How much poison from slug bait do hedgehogs take in and how much is necessary to kill them? Is it possible that although they do not die they are less able to avoid accidents?

In complete contrast is the story of the Norfolk walrus whose rather more spectacular plight brought about an international response and the expenditure of time and money to return it to more suitable waters. It is always cheering to see such a reaction to an unfortunate individual but at the same time sad when you know that a whole, local, species is largely ignored.

Our article this year, complete with distribution maps, has been prepared by a team of three, Dr. I Keymer, Dr. J. Reynolds and Mr. J. Goldsmith. Ian Keymer is well-known to members for his research into the Red Squirrel virus and many other pathological notes found in these reports in recent years. We are fortunate to have this skillful investigative officer working in our local M.A.F.F. laboratories who is also such a keen and knowledgeable naturalist. Jonathon Reynolds wrote his thesis on Squirrel behaviour at U.E.A. Quite naturally, his researches brought him into close contact with another stalwart, Rex Whitta, Wildlife Ranger in Thetford Forest. Jonathan has recently been continuing his studies in Finland. John Goldsmith collated records and was able to make use of material contributed in the past and stored by his desk in the Castle Museum.

We thank the team of main contributors and thank all those whose names appear in the appended list. The Editor apologises to anyone whose name has inadvertently been omitted. It is regretted that time and postage rates mitigate against personal acknowlegements. The help of other specialists not already mentioned is gratefully acknowledged: Dr. L.M. Gosling, Coypu Research Laboratories and Percy Trett for his help with North Sea mammals.

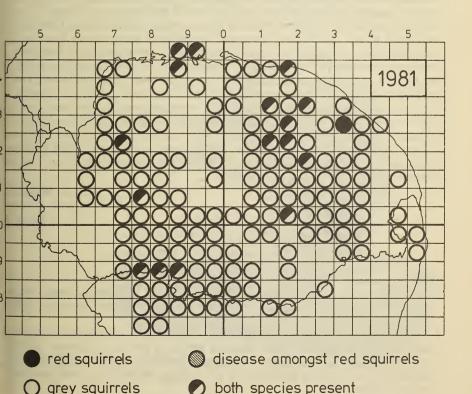
Please send notes for the 1982 Report as early as possible in the New Year, preferably by the end of January 1983. They should be addressed to R. C Hancy, 124 Fakenham Road, Taverham, Norwich. NR8 6QH. If you wish to discuss any ovservations on mammals please ring Norwich 860042. John Goldsmith will continue to answer queries on all vertebrates directed to him at the Castle Museum. His new number is Norwich 611277 ext. 287.



Red and Grey Squirrels

SINCE the early 1960's, Mammal Reports have been preoccupied with the spread of the Grey Squirrel through Norfolk and the simultaneous decrease of the Red Squirrel: a somewhat gloomy tale. Yet the relatively recent occurrence of these events in Norfolk compared with other parts of Britain has at least allowed somewhat more organised observation of the process of replacement. This investigation has advanced on three inter-related fronts.

First, it has been possible to map the changes in geographical distribution of the two species within Norfolk on a yearly basis for the periods 1960-1981 (JCR, JGG). The maps accompanying this article represent the final pair of this series. The database for this exercise derives from a variety of sources, but principally from records accumulated at the Castle Museum (JGG) from individuals volunteering reports of either species for particular localities: many of these were originally contributed as information towards the Mammal Report. As a whole, the series of maps requires careful interpretation, and there is not space here to indicate conclusions together with the necessary cautions, these must await publication in full. However, we do anticipate that other extant populations of Red Squirrels, and further range expansion



of the Grey Squirrel, may be revealed by further information and we are very eager to receive records of either species for 1982 (even if previously recorded for the same area in 1981).

Secondly, a period of intensive field research, from 1976 to 1980, based at the University of East Anglia (JCR), was supported by the Nature Conservancy Council and subsequently by the Forestry Commission, to investigate the supposed interaction of the two species. This study centred on the populations of Red Squirrels at Thetford Forest, with Grey Squirrels adjacent. Again, the results of this research provoke lengthy discussion, and will be published in full elsewhere. Briefly, however, we still have no concrete evidence for any form of interaction of the two species; certainly physical, aggressive interaction seems to be quite absent. Decline of the Red Squirrel is likely to have been caused by a complex of factors acting cooperatively but intermittently, and competition for food with the Grey Squirrel (i.e. another form of interaction) could take an occasional role amongst them. In these circumstances one would require ecological techniques of unheard-of sensitivity to detect the interaction. An alternative modelling approach has been proposed, and the Royal Society has provided a fellowship for one of us (JCR) to study Red Squirrel on the Continent in pursuit of these ideas. We are therefore still hopeful of a solution.

The third line of interest (IFK) has been in the rather frequent occurrence of unidentified epidemic disease in Red Squirrel populations. It has proved difficult to acquire diseased animals for pathological examination; the supply of such material inevitably depends on the interest and goodwill of the public. There have certainly been two causes of high death-rates amongst British Red Squirrels; coccidiosis, caused by the unicellular organism known as Eimeria which can also affect Grey Squirrels; and a second disease state, apparently caused by a parapoxyirus found in affected squirrels, and probably of greater importance. The latter closely resembles a virus that is responsible for a disease of sheep known as orf or contagious pustular dermatitis. Unfortunately, although the virus has now been indentified we still know nothing of its biology, means of infection, or if Grey Squirrels are also involved. Typically, the symptoms somewhat resemble myxomatosis of Rabbits with swollen eyelids and scabby sores around the eyes and mouth. Affected animals are weak and lethargic, often blind, and rather easy to capture. The pace of further research is dictated by the availability of material, and here again we must end with an appeal for help: would anyone finding sick or dead squirrels, whether Red or Grey, please contact IFK (see below).

J. C. Reynolds
I. F. Keymer
J. G. Goldsmith

People to contact:

- 1. Records of occurence (state exact locality by name and grid-reference where possible) to R. C. Hancy, 124, Fakenham Road, Taverham, Norwich. (0603) 860042.
- Sick or dead animals, or records of disease (dead animals should be kept cool but not frozen); please give fullest possible details to Dr. I. F. Keymer, MAFF, Veterinary Investigation Centre, Government Buildings, Jupiter Road, Norwich, NR6 6ST. Tel. Norwich (0603) 46278, or evenings, weekends and holidays Sax thorpe (026387) 365.

Classified Notes

INSECTIVORA

A number of family groups seen in late May suggest that at least in some parts of the county the Hedgehog (*Erinaceus europaeus*) made a very early start to its year. This was in spite of the severity of the weather during much of the spring. We would normally not expect to see the spring young out and about till a month later. These youngsters were fortunate to have the extra time to develop and lay on their prehibernation fat before the disasterous end of the year. Few hedgehogs born late in the season have time to build up size and reserves to enable them to survive their first winter and this year winter came early with unusual severity. Fresh droppings were seen in Swaffham after the temperature had fallen to minus 4°C on December 8th.

66 road casualties were recorded by J.E.G. on Jan 4th and 5th and then from April 2nd to Dec 6th. On the B1149 from Holt to Norwich there were at least 35 dead

between April 24th and December 2nd.

'Widespread and numerous' is the ultimate condensation of the superlatives contributed on the Mole (*Talpa europaea*) distribution and numbers. Most records naturally come from the appearance of mole-hills in fields and gardens but this year



many were seen above ground. One dead specimen found near Watton caused surprise by its condition and physical length — up to 5½ inches. The 'Handbook of British Mammals' quotes body-length between 110 mm and 160 mm which is just over 6¼ inches. This may be a good example of the fact that we rarely see small mammals at the peak of their size range. Many of the living specimens seen came to a swift end. Cats are erratic catchers of moles and do not eat them but some do appear to regard the speedy tunnellers as challenges to their own hunting skills. A regular walker by the river at Norwich reports frequent mole kills by one of his dogs. One mole seen scurrying across the road near Melton Constable was hit by a car approaching the observer's vehicle. The dry weather in September proved the undoing of several young in East Tuddenham, where, having surfaced, they were unable to return underground.

The Common Shrew (Sorex araneus) is of necessity busily active and can occasionally be seen foraging. One pair in Corpusty nested under a sheet of corrugated iron left in the garden. This is always a site worth investigating. More frequently they are found dead, as was the individual in the bus shelter in the centre of Itteringham. Very much alive was the shrew found in a bee feeder at East Harling!

Reports suggest a good year for the Pigmy Shrew (Sorex minutus) but this may reflect the increasing number of contributors who are able to make the positive identification. Cats are useful allies in that they catch both species but decline to eat them. The Water Shrew (Neomys fodiens), whilst easily identified, is less frequently seen. When watched going about its business swimming under water with its coat covered by extremely tiny air bubbles it is one of our most attractive mammals. This year we have reports from 4 West Norfolk sites, from South Lopham Fen, Scarning Fen, Catfield Fen and Saxthorpe.

CHIROPTERA

As usual, Pipistrelles (Pipistrellus pipistrellus) provide the majority of definite bat identifications, though fewer of the large summer colonies of females. Dr. R. Stebbings has spoken nationally of the decline in numbers of bats that make use of houses during some part of their yearly routine. There is further reference to the problems of bats in the editorial. The Warden of the Trust reserve at Weeting was able to sit in his car and watch a pipistrelle hawking moths that had been attracted by the headlights of his car. At Attlebridge, pipistrelles were seen from March 26th through to Nov 21st, a long season. (M.S.)

Among other references, Long-eared bats (*Plecotus auritus*) were reported from Hillside Avenue School, Thorpe and were also found roosting in a barn at Hardingham by a member of the Y.O.C.

A lesser known bat, the Barbastelle (*Barbastella barbastellus*) is again reported from West Norfolk by Dick Jones. He also found what was probably a female Whiskered bat (*Myotis mystacinus*) as a male was found at the same site early in 1982.

LAGOMORPHA

The Rabbit (Oryctolagus cuniculus) continues to strengthen its place on our mammal list in spite of myxomatosis taking its heavy toll. Young were again seen very early in the year. They are described as quite common in the Attlebridge area, abundant round Bacton and Winterton and again at Weeting. The East Tuddenham cat mentioned

in previous reports did its best to keep numbers down but it obviously needs a great deal of help. The U.E.A. Bird Society report one on their car park at 3.30 a.m. on Nov 5th, Black colour variants have been seen at East Wretham.

It is still very difficult to gain a clear picture of the present status of the Brown Hare (Lepus capensis). Many reports have come in of occasional singles but too many others speak of a decline in numbers. Particularly notable is the report from a large North-West Norfolk estate where hare shooting has been stopped as a consequence of this decline. On the other hand we have accounts of very large totals in restricted localities. More information is required. A most unusual discovery was made when dogs killed a female hare at Wortwell. She was carrying four well-formed embryos, in graduating sizes, 1½ inches, 2½ inches, 4 inches and 6 inches long. At Mundford, a hare was seen to run from a stoat, the hare loping along with the stoat just a few yards behind. They crossed the track three times in a period of five minutes before disappearing into the trees. Such an incident raised many interesting speculations. Why didn't the hare use its superior speed? What is the endurance of the short-legged predator? Were there periods when both were resting?

RODENTIA

Sourcels are dealt with elsewhere and the distribution maps are up-to-date to the end of the year so there is little or no factual matter to add. It is worth noting that contributors made determined efforts to locate Red Squirrels (Sciurius vulgaris) and in most cases had to send in nil returns. The only stable, significant, population remains in Thetford Forest but as Rex Whitta points out, the next cyclic decline in numbers there may see them depleted below the level of possible recovery. On the other hand, the Grey Squirrel (Sciurus carolinensis) has more entries on the species index for the year then any other mammal. In situations favourable to this animal and where strict control measures have been attempted, it has seemed that an endless supply of replacements has been waiting just over the horizon. Four were seen on one occasion under a blackthorn bush at Thompson. At Thorpe Hamlet, Norwich, a noisy altercation in the flower border between the family cat and an unseen opponent resulted in the cat fleeing indoors with a bleeding paw and a victorious grey squirrel emerging and running down the street into the woods. Early in October, some of the shoppers in St. Stephen's Street, Norwich, were amazed to see a grey squirrel running down the central reservation. One of our sharp-eyed contributors had seen it leap from the back window of a car travelling down the street. It ran a considerable distance before disappearing up a side alley. Another contributor remarked how few people in the street had been aware of the incident.

The Bank Vole (Clethrionomys glareolus) is reported to be in good numbers and featured prominently in live trapping expeditions by the editor. Whenever numbers within a species are high, individuals always come to the fore because of their odd behaviour. One Bank Vole was found sleeping in a tent at Waxham during the summer holiday season. Two from different sites in the county were discovered high in elder bushes eating fresh green shoots. A gardener, hearing the tale, gave instructions for preparing a liquid feed for Chrysanthemums from the boiled elder shoots which he promises is first class. The most fortunate small mammal of the season was one Bank Vole taken from a Longworth Trap in a moribund condition at Lolly Moor. Miss D. Maxey carried it home inside her coat and warmed it, (very gently!) under the grill, after which it continued an active and well-fed life. Another showed

its unconcern at Bawdeswell. When taken from the live trap it took a long, casual drink of water from a cupped leaf on the path, watched by a circle of people, before walking off into the bushes.

Short-tailed field voles (*Microtus agrestis*) had fewer references during the year, though widespread and locally plentiful. A Thorpe Hamlet cat proved this in its area while another cat at Edgefield found that by sitting on fence posts she could easily detect the movements of this prey species when the grass was comparatively short.

In spite of some adverse reports, references to the Water Vole (Arvicola terrestris) were encouraging. The Warden at Weeting reports them common on the reserve. At Hickling they are mainly melanistic. The dark form was also seen at Saxthorpe. The coypu pens at the Research Laboratories, Norwich, had a water vole arrive quite mysteriously and stayed on for some time, much to the delight of the staff.

Cats in suburban gardens sometimes catch small mammals and carry them indoors. A lady in Norwich wasn't too happy to find a dead Wood Mouse (Apodemus sylvaticus) cached inside her slipper, but most commendably the event and species were recorded and sent in. Few corpses are found outdoors as they are consumed in various ways with quite astonishing speed. A stroller along the Yare Valley Walk on Feb 1st was surprised to find six dead Wood mice within a distance of half a mile. One, very much alive, was watched by a householder taking leaves to a hole in his lawn and dragging them inside. Another contributor, called to examine a potato harvester was astonished to see mice going through the mechanism unharmed and running all over the machine. Two trapping expeditions to a 3 acre site in Bawdeswell produced a very high catch of Wood mice. They showed a very wide variety in their main colouring and in the size of their yellow throat marking. This went from no mark at all to a long streak 20 mm long. Many move indoors during the winter and 22 church mice (sub-species 'ecclesiasticus'?) were trapped in the Chapel at Itteringham.

No more Norfolk sites for the Yellow-necked mouse (Apodemus flavicollis) have been found though their continued presence in Broome has again been confirmed by a cat.

The House Mouse (*Mus musculus*) varied from none in an old regular site in Corpusty though occasional in East Tuddenham to 'common in garden' in Attlebridge. Among other references was one 'found drowned' in a hotel swimming pool at Cromer.

The Harvest Mouse (*Micromys minutus*) had few mentions although two localities were added to the recent list, Aylmerton and Happisburgh.

Described in previous reports as our roving reporter, Mrs J. E. Gaffney logged her mileage while recording mammals during 1981. She travelled well over six thousand miles and ammassed quite a file of notes. During her travels she found 88 Brown Rats (*Rattus norvegicus*) killed on the road. The figures for 1980 were 88 and for 1979 were 93. 21 of these were found in February, almost a quarter of the total. Numbers in localities often reflect the effectiveness of control measures and where these have been relaxed our contributors use phrases like 'abounding' and 'overabundant'. Rats form an important item on the menu for predators. Rat skulls in the relatively few Barn-Owl pellets that are found nowadays can mask the presence of other less bulky prey species. An adult Wood Mouse has a weight in the region of 20g. whilst a Brown Rat may well weigh 500g. Even a half-grown rat is the equivalent of many mice in bulk. A dead specimen found at a field edge west of Holt caught the eye by its colouring, described as soft ginger fur with black tips to the hairs and a snow-white underside.

Dr. L. M. Gosling follows his usual custom of concluding his notes on the Coypu (*Myocastor coypus*) in the spring of the year, this being the best time of the year to judge the situation. **He writes:**

The new campaign against coypus started officially in April 1981 although, as noted in the 1980 Mammal Report, the recruitment of additional trappers started some months before. In practise, the full force of 24 trappers were operating from around January so that the year can be considered as a natural unit.

Over 13,000 coypus were killed by the enlarged force with trapping effort of about 195,000 trap nights; kills by other agencies including gamekeepers, Anglian Water Authority pest operators and Ministry of Agriculture, Fisheries and Food research staff brought the total catch for the year to nearly 14,000 animals and the total trappings effort to about 212,000 trap nights. The majority of these were caught in the Broads and grazing marshes of east Norfolk and in the extensive coastal marshes of south-east Suffolk. However, the emigration that occured in years with a smaller trapping force has resulted in a population range that extends well beyond this core area: small numbers were regularly trapped in the Fens between Ely and King's Lynn and as far south as the estuary of the River Blackwater in Essex.

Coypus are strongly effected by the severity of winter weather and the winters at the start and end of the first year of the new camaign have provided an opportunity to witness the extremes of their response. The winter of 1980/81 was very mild so that females maintained good condition and started to litter in large numbers in early spring.

In the months that followed the population increased in spite of large catches by the enlarged trapping force. This growth phase came to an abrupt end in the freezing weather of December 1981 and a winter which, for coypus at least, was the coldest for 20 years. By the following spring adults had been more than halved in numbers and juveniles had become an almost insignificant part of the catch.

This sort of numerical change might suggest that cold weather is more important in limiting the number of coypus than trapping. In fact these two factors appear to be interrelated in an interesting way: cold weather certainly has a direct effect in killing large numbers of young animals and these probably die from the combined effects of cold and starvation. Adult females are also vulnerable in the sense that they lose condition and abort their litters when freezing weather persists. However, it seems unlikely that large numbers of adults perish except during the sort of extremely cold weather that oc cured in the winter of 1962/63. In less extreme winters, such as that of 1981/82, few die from cold but trapping can make a relatively enormous impact because, with supressed breeding and high juvenile morality, the animals that are trapped are not replaced, as is normally the case.

15 June 1982

CARNIVORA

The Fox (*Vulpes vulpes*) has for several years been our only large land carnivore which has not given cause for concern. This year fewer reports than usual have come in albeit from widespread localities covering most of the county. The Fox has the advantage of great adaptability and can survive in most unlikely circumstances though sometimes in very poor condition. The suburban fox phenomenon has not arrived in Norfolk though one householder in a Norwich residential area did suspect the presence of a marauding fox, and was supported by expert opinion, but the culprit turned out to be an over-enthusiastic cat.

The Badger (*Meles meles*) is very much dependent on habitat and while the necessary minimum remains under the care of sympathetic land managers the Badger will maintain its tenuous place on our list. The same comment could well be made on the Otter (*Lutra lutra*) though individuals cover a much greater range which makes

the problem much more difficult. It now has the advantage of a high degree of public sympathy. The national decline has been well publicised during the year but hopefully here in Norfolk we may have reached our lowest point and perhaps passed it. Some young were raised which is a positive pointer.

Numerous records received of our small carnivores are sure indicators that their prey species are also present. An acrobatic Stoat (Mustela ernimea) at Crostwick Common did what was described in aeronautical terms as a half-loop and roll to avoid an oncoming lorry. At Caister St. Edmund another was seen carrying a young rabbit, still alive, to its presumed lair in an ivy-covered oak tree. Stoats' agility and versatility always brings in strange tales. At Barnham Broom one was seen zigzagging across the road but stopped by the roadside bank. Its strange progress had been caused by its determination to carry off a sizeable egg. After pausing, it continued by lifting the egg using its front paws and its nose. At Bawburgh, a colony of nesting Martins were completely cleared out by Stoats.

Among the many records of Weasels (*Mustela nivalis*) were several killed by cats. Far luckier was the orphaned young weasel cared for and successfully reared by the Wilkinson family at Drayton who found it by its recently killed parent. Another fortunate female at Horning-toft dashed into the road closely followed by the larger male. Seeing our contributors car bearing down on them both, be grabbed her by the scruff of the neck and dragged her up the road side bank.

PINNIPEDIA

We are again indebted to Percy Trett for his information on East Norfolk Seals and the condition of Scroby Sands. The island in 1981 was very unstable and the Grey Seals (*Halichoerus grypus*) did not stay. A few had pups on the mainland beaches but fewer than last year. If pups are born at sea they are lost, while the multitude of problems for pups born on our well-used beaches were described in last year's report. We can only hope that the stability of Scroby improves and the pups have a much better start in life.

Common Seal (*Phoca vitulina*) reports are mainly from the Snettisham to Cley segment of our coast which includes Blakeney and Morston, the location of most sightings. There were up to 200 on one occasion. Tagged seals from the east coast have been located at Morston. Two seals, one at Holme in February and one at Snettisham in early March allowed such close approach that they prompted the query that they were possibly hand-reared releases. We hope either their trust has not been misplaced or that they have acquired the necessary degree of caution if not downright suspicion of two-legged creatures.

The mammal that caused the greatest ripples in Norfolk mammal affairs (not to mention the biggest splash in the press) was the Walrus (*Odobenus rosmarus*) that first appeared on the Lincolnshire coast, then, on Sept 14th, followed a Conservance Board barge in from the Wash and entered the Ouse at King's Lynn. It continued up river for 15 miles and finally settled at Salters Lode, south of Downham Market. On Sept 15th, a crowd of onlookers was vastly entertained by the unsuccessful attempts of a team of specialists, with volunteer helpers, complete with helicopter, to capture it. The Walrus eventually slipped into the water and found its own way back to sea and finally turned up more or less where it had been first sighted near Skegness. It was taken to the local Marine Zoo to check on its physical condition. There it was crated and flown from London airport to be transferred to Walrus waters off Greenland.

ARTIODACTYLA

To catch a glimpse of a fine Red Deer (Cervus elephus) stag is a special bonus for a mammal watcher. No less than five stags were seen at Thompson in March. Other groups of stags and family parties were seen in North Norfolk. The greatest concentration is obviously in Thetford Forest and we are told that there the herd is in good order numerically and physically. A careful check is kept on their health to ensure the long-term future of the group.

The Fallow Deer (*Dama dama*) of West Norfolk present themselves for view from time to time and there seems no serious cause for concern over their future. Not so in the case of the small herd that once roamed the Horsford/Felthorpe area. No positive reports have come in for some time and it is possible that it no longer exists.

The Roe Deer (Capreolus capreolus) of Breckland continue to thrive. We hope to present a fuller account of the coded collar scheme in due course.

Chinese Water Deer (*Hydropotes inermis*) no doubt found the exceptionally cold spell at the end of the year difficult but no alarming accounts of casualties have come in. The problem period came before mammals had declined too far from peak condition and while there was sufficient snow-covered rather than ice-covered vegetation, feeding was possible.

Muntjac (Muntiacus reevesi) are the deer that are proliferating in Norfolk. Not many are seen but regular visitors to Breckland speak of increasing numbers. Rex

Whitta points out that while only one is born at a time, gestation is only seven months and the doe mates within two or three days of dropping the fawn. Females are mature in under a year. New-born fawns have been found in every month of the year. A formula for success!



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THE NORFOLK NATURALISTS TRUST

Bird Watching

Excellent bird watching facilities are available from 1st April to 31st October at Hickling Broad National Nature Reserve, Cley Marshes Bird Sanctuary, Holme Dunes Nature Reserve (self-contained flat available all year) and Broadland Conservation Centre, Ranworth. Reduced rates for members, party bookings and extended periods.

For full particulars kindly forward stamped addressed envelope to N.N.T., 72 The Close, Norwich, Norfolk NR1 4DF.

Norfolk Naturalists Trust Properties cont'd.

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1957	Thursford Woods		•••		25	Gift	
1960	Hethel Old Thorn				1/8	Gift	
1961	Scarning Fen				11	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	5.5.5.1.
1968	Dickleburgh Pightle	•••		•••	1	Agreement	
1972	Smallburgh Fen			•••	19	Leased	
1972	Ringstead Downs		•••		26	Agreement	S.S.S.I.
1973	East Winch Common				80	Gift	S.S.S.I.
1974	Sparham Pools				30		S.S.S.I.
1975	Pope's Drift			•••	8	Agreement	
1975	Wayland Wood	•••	•••	•••		Agreement	
1977	Hockering Wood	•••	•••	•••	80	Purchased	S.S.S.I.
		•••	•••	• • •	229	Agreement	S.S.S.I.
1978	Syderstone Common	• • •	•••	• • •	60	Leased	
1978	Lolly Moor				6	Agreement	
1980	Booton Common				19	Agreement	S.S.S.I.
1981	Thompson Common				164	Purchased	S.S.S.I.
1982				•••			
	Thompson watering a	inu Ca	111		145	Purchased	S.S.S.I.



In addition, the Trust advises 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. = National Nature Reserve

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

P.S.S.I. = Proposed Site of Special Scientific Interest.

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

A May-time scene at Hardley Flood Reserve. Common Terns breed annually, whilst Spoonbills appear from time to time. Over-shooting migrant Blackwinged Stilts and White-winged Black Tern delighted observers in 1965 and 1977 respectively.



Printed in England by Witley Press Ltd., Hunstanton, Norfolk.