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British Trust for Ornithology

Nest Record *News*

A newsletter for supporters of the NEST RECORD SCHEME, forming part of the BTO's Integrated Population Monitoring programme carried out under contract to the Joint Nature Conservation Committee on behalf of English Nature, Scottish Natural Heritage, the Countryside Council for Wales, and the Environment & Heritage Service in Northern Ireland.

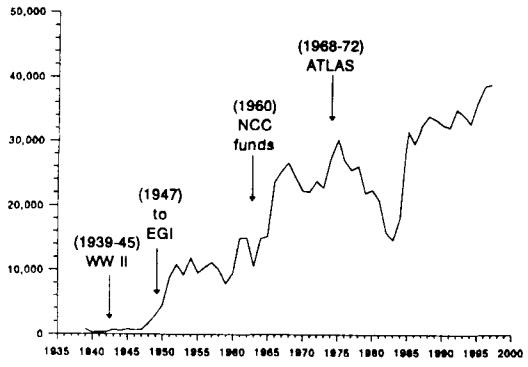
Another record-breaking year in 1997!

Your kind help in 1997 has enabled the BTO's Nest Record Scheme to achieve another 'all time' highest-ever total of cards received for a single season - observations extending back to 1939. By mid-March 38,980 Nest Record Cards had been received, checked, thanked and initial preparations made for analysing the findings. The inevitable trickle of late card batches for 1997 will take the overall intake well in excess of 40,000 cards - a marvellous achievement for which the BTO extends a large measure of 'Thanks' to all involved in this project of increasingly important conservation value.

As ever, totals varied widely, from the single nest histories for Whooper Swan, Montagu's Harrier and Cetti's Warbler through to impressive sets of 2,515 Great Tit and 4,209 Blue Tit cards. Particularly impressive were samples for BTO 'Target Species' (part of the annual monitoring programme) that exceeded 400 cards and covered Moorhen, Oystercatcher, Lapwing, Stock Dove, Barn Owl, Song Thrush, Reed Warbler, Starling, Tree Sparrow and Chaffinch - including a range of species of immediate conservation concern. Similarly, it was so pleasing to see such a high proportion of multi-visit cards and so many detailing events through to nest 'outcome' which are doubly useful.

Once again a dedicated and varied task force was involved, thought to comprise in excess of 1,000 birdwatchers. Contributions were received from 419 individual nest recorders working singly, 24 local bird clubs and organised school groups, 29 ringing groups and observatories, plus 29 groups operating via the National Trust, County Naturalist Trusts, RSPB reserve wardens and Forest Enterprise. Again, the 'top trio' of contributors comprised the Merseyside Ringing Group (2,608 cards), The National Trust Farne Islands (2,485) and team of J E A Brook and R C Cooke (1,672). However, as ever, the vital backbone of the annual intake of cards in 1997 was provided by those individual nest finders who carefully completed a handful of histories to help paint a full countrywide picture.

NEST RECORD TOTALS



1997 Breeding Season

Introduction to the breeding season

Peregrines and Ravens nesting on cathedrals, inland breeding by Avocets, buoyant Woodlark populations, and improved nesting success by tits and Pied Flycatchers compared with the abysmal previous year: all favourable ingredients of an intriguing and productive 1997 breeding season. These positive features of the year were somewhat tempered by substantial local losses amongst open-nesting wagtails, warblers and thrushes during destructive damp and frosty spells in April and May, followed by widespread failures amongst colonial nesting seabirds, waders, gamebirds and hirundines during unseasonably cool summer storms in late June, at which times hyperactive predatory corvids, foxes and grey squirrels played a damaging role.

Contributors to the BTO's Nest Record Scheme countrywide variously described the 1997 breeding season as: 'spring conifer forests buzzing with Crossbills, Siskins and tits - a joy' (Highland); 'dry spring delayed laying and reduced brood sizes of Rooks, Dippers and Grey Wagtails' (Gwent); 'peak vole populations helped to boost Kestrel, Barn Owl and Short-eared Owl family sizes' (Dumfries and Galloway); 'late spring frosts kill Dunnock, thrush and Chaffinch broods' (Devon); 'warblers plentiful but Turtle Doves, Spotted Flycatchers and Yellow Wagtails in woefully short supply' (Bucks); 'June downpours wreaked havoc amongst Eiders, auks and terns' (Grampian); 'heat and rains in July and August help late nesting Wrens, Dunnocks and Blackbirds' (Warks); and 'Indian summer warmth benefits last broods raised by Swallows, finches and Stock Doves' (Kent).

Early spring heat helps nesting waterbirds, Woodlarks and Crossbills

The coldest January since 1987, when snow, freezing fog and rain were features at various points in the New Year, effectively precluded all nesting activity. Those few cases of breeding noted, by Crossbill (Galloway and Highland), Tawny Owl (Cumbria), Mistle Thrush, Song Thrush, Blackbird and Collared Dove (various counties), were associated either with a super abundance of specialist foods, or artificially high temperatures generated by the urban environment. Consistent warmth during much of February, when temperatures daily were 2-3°C above average, prompted many wildfowl, waders and wintering passerines to return prematurely to their breeding grounds. Many were quick to display nesting intent, and Great Crested Grebe, Tawny Owl, Raven, doves, thrushes and Robin commenced egg-laying in scattered localities during the last few days.

Mercifully, March maintained the mild theme - often such a key pivotal month for the relative nesting fortunes of many resident birds. Temperatures consistently exceeded 15°C between 9th and 17th, enhancing a generally mild and dry month, a welcome contrast to March 1996. The second half of the month witnessed a spate of nest-building by many doves, tits and thrushes, and some early clutches were started by Barn Owl (Dumfries), Stonechat (Dorset), Great Tit (Kent) and Magpie (Herts), alongside less notable cases reported among Cormorant, Long-eared Owl, Woodlark, Carrion Crow, Rook and Starling.

Extremes of weather continued to have a marked impact on the timing of nesting and relative fortunes of various species. The period from a very warm Good Friday (31st March) through to hot Election Day (1st May) spanned a remarkably mild and dry spell in most districts when temperatures at times reach 24/25°C. At first, fair conditions helped many birds, notably sawbills, Mallard, Moorhen, Stonechat, Siskin, Pied and Grey Wagtails to raised early large broods. Progressively, though, a lack of moisture posed problems. Drought, allied to a scarcity of certain invertebrate foods, combined with sharp overnight frosts (temperatures dipping to -5°C in frost hollows in southern England), contributed towards reported cases of moribund broods and deserted chilled clutches of Grey Heron, Rook, thrushes, Long-tailed Tit, Chaffinch, amongst others. Parched riparian habitats in southern and eastern areas led to a loss of nesting cover for certain dabbling duck, crakes, Water Rail, plovers, Curlew and Reed Bunting. Cases of non-breeding, early failures, and premature moult were noted among

waders. Tinder dry situations also led to damaging fires from Dartmoor, New Forest and Isle of Wight north to the Lake District and Highland. Scarce species such as Merlin, Long-eared Owl and Dartford Warbler lost important nesting sites.

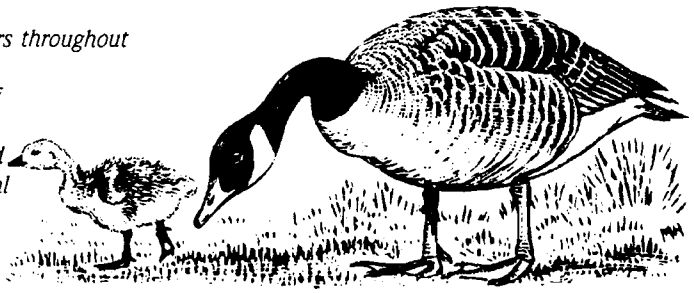
Changeable May weather helps tits, warblers and flycatchers

May literally blew hot and cold. See-sawing weather conditions favoured most breeding birds, hindering fewer. Hot, dry and sunny spells at the month's start (1st-3rd) and close (28th-31st), when temperatures climbed to 27°C in places, and a warm humid period from 16-17th were particularly beneficial. Welcome rains arrived at the end of the first week to help relieve excessively dry habitats. Comfortable heat and moisture combined to boost food supplies, a huge improvement on conditions endured in May 1996 when a spell of unusually late wintry weather caused havoc among a broad spectrum of the UK's nesting birds. Many migrants, hitherto held back by unsettled cyclonic weather in the Mediterranean Basin, flowed into the UK after the first week. Most were quick to establish territories, build nests and commence clutches, generating a frenzy of breeding activity on many study areas. Nest recorders noted a widespread increase in Chiffchaff and Blackcap populations. Conversely, numbers of Whitethroat and Sedge Warbler were generally reduced, following several encouraging summers for these stressed Trans-Saharan migrants, probably reflective of changes in the quality of their wintering habitat.

The majority of summer visitors enjoyed a relatively productive breeding season overall, though observers often noted either vacant sites or a local scarcity among Turtle Dove, Spotted Flycatcher, Swallow and Reed Warbler. Lesser Whitethroats were strikingly scarce in some areas and enjoyed limited nesting success. Quail bred widely but in small numbers.

Despite the legacy of a relatively poor 1996 breeding season, harsh winter 1996/97, and limited supplies of key winter food supplies such as beech mast to aid survival prospects, nestbox scheme operators widely charted surprisingly high occupation rates by tits. Great and Coal enjoyed high densities, to a lesser extent Blue, Marsh and Willow. Many pairs started egg-laying early, a few exceptionally so, notably in prime oak woodland habitat, raising modest to large broods before inclement rains could have a significant impact. Similarly, Pied Flycatchers and Redstarts returned to most traditional haunts in encouraging numbers, marginally reduced at most. Eggs were laid over a protracted period, a broad range of family sizes raised, Redstart going on to invariably rear twin broods. Repeat clutches and second broods though were a scarce feature among most tits. Aspect, altitude and regional location of nestboxes played a more significant role in governing relative success in 1997 than generally the case.

Adverse weather played an important part at times also in May. Sunny days gave way to some damaging night frosts while a northerly airflow during 6-7th May brought hail, sleet, even snow down across the country. Incredibly, incubating Lapwing, Little Ringed Plover, pipits, chats and Woodlark, amongst others, survived a temporary covering of snow. Equally damaging mid month were widespread thunderstorms and hailstorms. Substantial losses were recorded amongst Golden Eagle, Merlin, gamebirds, Skylark, thrushes and finches during these two episodes.



Canada Goose with gosling.
Persistent torrential downpours throughout much of mid and late June saturated the downy bodies of young waterbirds, from Mute Swan and Mallard to Coot and Canada Goose, leading to local heavy losses through hypothermia and drowning.
Drawing by Mark Hulme.

Destructive June downpours hit seabirds, sandpipers and Swifts

June started with great promise but quickly turned into a destructive damp squib for many breeding birds. Warm showers over the first week brought further relief to parched habitats for nesting duck, plovers, thrushes and corvids. Intense thunderstorms broke out between the 5th and 7th in many regions, before winds switched to a chilly northerly flow by the 14th, and summer depressions tracked painfully slowly across central parts of the UK. Heavy downpours under grey gloomy skies eventually resulted in the wettest June in many parts since 1879 and it proved a costly episode for many breeding birds.

A broad spectrum of species suffered in a wide range of habitats, from coastal, marsh and garden, to wood, farm and moor. Significant losses were charted amongst ground nesting Dotterel, Lapwing, Golden Plover, Common Sandpiper, Red Grouse, Capercaillie, Ring Ouzel, Wheatear and Skylark study populations. Similar scale losses were noted amongst low cover nesting leaf and scrub warblers, finches and buntings. Increasingly unsettled conditions from 18th to 30th, bringing more violent thunderstorms, heavy rains and strong winds, compounded the very uncomfortable situation for incubating and foraging parent birds alike. Rivers in spate hit 'mid season' nesting attempts by Common Sandpiper, Dipper, Grey Wagtail and Kingfisher. Mute Swan cygnets, Canada Goose and Greylag goslings, and the chicks of both dabbling and diving ducks became saturated and many perished.

The situation was at its worst during the last week of June, temperatures dipping to 10°C on the 26th, enhanced by windchill. Severe gales, heavy rains and unseasonably choppy summer seas from 26th June to 1st July caused heavy losses amongst nesting seabirds. Northeasterly gales battered the east coast, damaging seabird colonies from Orkney south to Essex, though the effects were felt around the south coast to N Wales and Cumbria. The young of auks and gulls (chiefly Guillemots and Kittiwakes) were swept from nesting ledges, Puffins drowned in nesting burrows, while Eider deserted chilled clutches. Rough seas and tidal surges contributed towards heavy losses in major coastal Black-headed Gull and tern colonies. Nestbox project coordinators reported local heavy losses involving Kestrel, Barn Owl, Stock Dove and Spotted Flycatcher. The low temperatures, enhanced by persistent rains, combined to reduce aerial insect food supplies and led to scattered instances of moribund adult and young Swallows, House and Sand Martins reported both in and outside of saturated nests. Swifts similarly endured heavy losses. Some torpid single young eventually fledged after a protracted fledging period, but many others perished, the adults prematurely departing to the south.

Wren at nest.
Warm and moist weather conditions at the start and end of the 1997 breeding season enabled many multi-brooded species from Blackbird and Robin to Dunnock and Wren to raise early and late broods. Drawing by Crispin Fisher.

Variable brood sizes amongst owls and diurnal raptors

Owls generally enjoyed mixed fortunes countrywide. In northern forest and farm sites where the staple field vole food item approached, or reached its 3-4 year population peak, Barn Owl and Tawny Owl consistently raised large broods; similarly Short and Long-eared Owls on a local scale. Encouragingly, Barn Owls also over-wintered well and began to reoccupy favourable nest sites left vacant by substantial losses during

the cold 1995/96 winter. The converse was true in East Anglia and over much of southern England where Kestrel, Barn Owl and Tawny Owl, locally Buzzard, endured their least productive season for several years. Complete brood failures were variously attributed to the heavy, cold and late spring downpours, low mouse and vole populations.

Scarce raptors similarly enjoyed fluctuating fortunes in 1997. The exciting trio Merlin, Hobby and Goshawk maintained their recent population expansions. Sadly several nesting pairs of each fell foul of losses to deliberate human interference as well as chicks chilled by the torrential downpours of late June.

Red Kite and Osprey continued their ongoing eye-catching recolonization of traditional ground in mainland Wales and Scotland respectively. The survival rates among young, though, failed to match that of more recent springs, a legacy of the May and June chill, summer rains, and a higher proportion of inexperienced first-time breeding pairs involved. Nesting success tended to be higher amongst those pairs of reintroduced Red Kites in England and Scotland, though even here the expansion of range tends to be a relatively slow process. A further eight Ospreys were released at Rutland Water in mid August in a bid to enhance the process in England.

Stifling summer heat helps and hinders hirundines, finches and buntings

Summer-like conditions returned in the first week of July. Temperatures quickly climbed to 25-27°C in many regions of the country, persisting for spells, eventually contributing towards the fourth successive hotter and drier summer than normal in most parts of the UK. Welcome warmth, combined with the legacy of June rains and moist soils, stimulated a spate of late and often successful nesting attempts by Wren, Robin, wagtails, thrushes and others. Consistent heat continued throughout much of August, temperatures topping 27°C on 18 successive days, oppressive conditions and localized thunderstorms variously helping and detracting from late nesting attempts. Scorching heat led to reported cases of nest losses among thrushes, warblers, Swallow and House Martin due to flimsy nest construction, over-heating and dehydrated broods, small families eventually free-flying at best.

Nevertheless, this regular heat, damp soils, higher water tables and some improved sources of many aerial insect and soil invertebrate food supplies, triggered off late nesting attempts by a range of birds. Great Crested Grebe, Stone Curlew, Nightjar, Dunnock, Wren, Woodlark, House Martin, Linnet, Yellowhammer and Corn Bunting eventually often raised twin sets of young. Others, including Moorhen, Swallow, Blackbird, Stonechat and many doves reared third broods as clement conditions extended into the warmest and driest September since 1991. Indian Summer weather at times in October, temperatures reaching 20°C during the first week and from 15-20th, witnessed a scattering of late nesting attempts by Stock Dove, Feral Pigeon, Collared Dove and House Sparrow. Severe frosts at the tail end of October effectively put an end to nesting operations at large. Nonetheless, temperatures climbed back to an unseasonably high 15-17°C mid month in November, enhancing the survival prospects of Great Crested Grebe, Mallard, Barn Owl and Woodpigeon with families.

An improved breeding season overall

In the history books the 1997 season will perhaps best be recalled as the year in which Little Egrets finally established a firm toehold in the UK, six pairs raising 12 young in Poole Harbour, Dorset. For the great majority of our breeding birds 1997 will be looked upon as a modest, average or good season in terms of the numbers of young reared. For many this represents a welcome improvement on the abysmal, generally poor breeding season in 1996 when exceptionally cold and damp late spring conditions in May tore the heart out of the nesting year, especially for single brooded birds. In 1997, many waterfowl, doves, chats, finches and buntings enjoyed a productive summer, while many resident and migrant insectivores, including tits, thrushes, hirundines and warblers experienced an average year in terms of young reared - though there were many local exceptions during an intriguing year, as chronicled above.

1997 Card Intake - Sample Highlights

Size is in no way a fundamental consideration for nest recorders. A dozen detailed Nest Record Cards completed for your garden birds may well have a greater use to the BTO than a hundred single visit nest records gathered whilst casually birding during the year. Cards following successive attempts by a single pair throughout their full breeding season are perhaps the most highly treasured of any type.

Nevertheless, some observers, or groups, are able to expand this aspect of their birdwatching and spend extra time and effort nest finding and recording - to good effect. Many such observers and groups figure in the list below which covers all contributions that topped the elusive 100 card mark. The overall total of cards per batch are preceded by the number of nests visited more than once (eg 127/134 means that 127 of the 134 cards sent covered nests visited more than once, a commendably high proportion).

T M Allinson (Co Durham) 188/202 inc. 34 Snipe, 26 Curlew; **D S C Arthur** (Tayside) 101/112 inc. 9 Tawny Owl, 23 Ring Ouzel; **K S Arthur** (Sussex) 103/103 inc. 54 Blue Tit, 37 Great Tit; **Birklands Ringing Group** (per **M A Dobb**, Notts) 116/116 inc. 11 Dunnock, 23 Blackbird; **Bristol Naturalists' Society** (per **P J Chadwick**, Avon) 158/359 inc. 41 Willow Warbler, 14 Corn Bunting; **J E A Brook & R C Cooke** (Warks) 1672 inc. 201 Woodpigeon, 53 Magpie; **D Buckingham & S Schmidtt** (Dorset) 152 inc. 76 Skylark, 29 Swallow; **Calf of Man Bird Observatory** (per **T Bagworth**, Isle of Man) 271/308 inc. 163 Shag, 103 Herring Gull; **J Cameron** (Staffs) 69/137 inc. 46 Swallow, 24 Pied Flycatcher; **J E S Cooper & R F Sanderson** (Sussex) 83/121 inc. 8 Greylag Goose, 9 Redstart; **R E Danson** (Lancs) 822/825 inc. 19 Little Owl, 170 Swallow, 119 Tree Sparrow; **J Driver** (Gwynedd) 196/215 inc. 48 Carrion Crow, 23 Raven; **C & R du Feu** (Notts) 150/150 inc. 17 Wren, 70 Blue Tit; **Dursley Bird Watching & Preservation Society** (per **B M Wherrett**, Glos) 171 inc. 17 Stock Dove, 67 Blue Tit; **East Dales Ringing Group** (per **J C Warwick**, N Yorks) 184/249 inc. 4 Golden Plover, 6 Common Sandpiper; **Farmland Bird Project** (per **A Morris**, Oxon) 446/457 inc. 190 Linnet, 168 Yellowhammer; **Forest Enterprise New Forest** (per **A G Page & M G Holland**, Hants) 91/112 inc. 14 Sparrowhawk, 10 Hawfinch; **Forest Enterprise North Scotland Region** (per **M Canham**) 348/378 inc. 18 Tawny Owl, 148 Great Tit; **Forest Enterprise South Scotland Region** (per **G Shaw**) 291/372 inc. 51 Barn Owl, 42 Pied Flycatcher; **Foulney Island** (per **W Makin**, Cumbria) 154 inc. 30 Eider, 51 Arctic Tern; **P French** (Highland) 376/376 inc. 212 Lapwing, 36 Common Gull; **D J Garner** (Cambs) 127/137 inc. 6 Little Grebe, 59 Reed Warbler; **Gibraltar Point NNR** (per **M Anderson**, Lincs) 138/138 inc. 69 Ringed Plover, 63 Little Tern; **R Goater & R Bryce** (Tayside) 504/504 inc. 502 Eider, 1 Red-breasted Merganser; **R Goff** (Lincs) 157/171 inc. 46 Black-headed Gull, 8 Coal Tit; **R W Grainger, N & P Fenwick, M Lonsdale & J Richardson** (Co Durham & Kent) 597 inc. 34 Reed Warbler, 14 Bullfinch; **D Gruar** (Beds) 207/207 inc. 80 Blackbird, 13 Greenfinch; **S R Hacker** (Tayside) 111/111 inc. 24 Swallow, 16 Tree Sparrow; **D Hazard** (S Yorks) 149/151 inc. 13 Black-headed Gull, 19 Swallow; **I, P & D Hildred** (Lincs) 135/135 inc. 15 Wren, 12 Willow Warbler; **P & D Hill** (Gtr Man) 112/152 inc. 12 Great Crested Grebe, 4 Great Spotted Woodpecker; **J & M Hodson** (W Yorks) 183/200 inc. 40 Blackbird, 19 Greenfinch; **P R Holness** (Suffolk) 376/412 inc. 6 Egyptian Goose, 171 Swallow; **J & C Holt** (Sussex) 145/145 inc. 37 Blackbird, 17 Song Thrush; **Hughenden Ringing Group** (per **D Cox & B Hawes**, Bucks) 123/124 inc. 6 Mistle Thrush, 12 Willow Warbler; **E Humphreys** (W Yorks) 253/255 inc. 33 Dunlin, 9 Snipe; **H Insley** (Highland) 260 inc. 10 Oystercatcher, 209 Common Gull; **R A Jenkins** (Dyfed) 116/116 inc. 20 Pied Flycatcher, 13 House Sparrow; **P J Johnson** (Gtr Man) 180/196 inc. 115 Blue Tit, 70 Great Tit; **M S Jones** (Shrops) 76/145 inc. 10 Cormorant, 5 Lesser Black-backed Gull; **J B Kent** (Notts) 230/297 inc. 73 Cormorant, 70 Grey Heron; **R J Lanaway** (Sussex) 148/148 inc. 33 Swallow, 6 Goldfinch; **A M Lawrence & G Herbert** (Gwent) 419/429 inc. 19 Stock Dove, 22 Whinchat; **J M S Lewis & S J Roberts** (Gwent) 173/186 inc. 39 Dipper, 33 Pied Flycatcher; **R J Louch & D Tompson** (Oxon) 311/321 inc. 35 Whitethroat, 13 Bullfinch; **R G Loxton** (Kent) 865/865 inc. 16 Treecreeper, 55 Bullfinch; **F J Mawby** (Cumbria) 101/115 inc. 13 Pied Flycatcher, 26 Great Tit; **M O Meadows** (Essex) 428/429 inc. 35 Collared Dove, 37 House Sparrow; **Merseyside Ringing Group** (per **D Norman**, Cheshire, Clwyd & Merseyside) 2308/2608 inc. 11 Gadwall, 565 Black-headed Gull, 26 Sedge Warbler; **D Moore & W Proctor** (Warks) 1446/1447 inc. 93 Feral Pigeon, 740 Rook, 203 Starling; **D A Myers** (Gtr Man) 205/226 inc. 52 Woodpigeon, 25 Sand Martin; **G Myers** (Cleveland) 254/254 inc. 10 Redstart, 32 Long-tailed Tit; **Nagshead RSPB** (per **I Proctor**, Glos) 255/255 inc. 62 Pied Flycatcher, 151 Blue Tit; **National Trust Farne Islands** (per **J Walton**, Northum) 2485/2485 inc. 434 Shag, 840 Kittiwake, 14 Rock Pipit; **North Ronaldsay Bird Observatory** (per **S Stansfield, S Lewis & D Anning**, Orkney) 1199/1561 inc. 365 Fulmar, 925 Arctic Tern, 64 Black Guillemot; **Northumbria Ringing Group** (per **R M Holmes**) 368/382 inc. 51 Dipper, 82 Pied Flycatcher; **North West Norfolk Ringing Group** (per **T Girling**) 263/350 inc. 83 Ringed Plover, 48 Skylark; **A B Old** (Cumbria) 183/183 inc. 60 Pied Flycatcher, 98 Blue Tit; **Orkney Ringing Group** (per **E R Meek**) 120/132 inc. 61 Red-throated Diver, 31 Hen Harrier; **P Page & A Robinson** (Devon) 134 inc. 59 Pied Flycatcher, 58 Blue Tit; **R H Peart** (Dorset) 141/143 inc. 24 Spotted Flycatcher, 48 Blue Tit; **P H Ridout** (Hants) 172/172 inc. 33 Chiffchaff, 22 Corn Bunting; **H Robb** (Central) 225/227 inc. 48 Redstart, 4 Wood Warbler; **G Roberts** (Powys) 99/101 inc. 50 Pied Flycatcher, 32 Blue Tit; **P Robinson** (Isles of Scilly) 506 inc. 20 Storm Petrel, 96 Great Black-backed Gull; **P Roe** (W Yorks) 191/222 inc. 49 Swallow, 19 Pied Flycatcher; **M H Rogers** (Oxon) 105/106 inc. 51 Blue Tit, 31 Great Tit; **M D Russell** (Beds) 111 inc. 17 Moorhen, 24 Rook; **W Rutherford** (Herts) 99/105 inc. 7 Common Tern, 33 Reed Warbler; **Rutland Water Ringing Group** (per **D S Roizer**, Leics) 121/121 inc. 16 Great Tit, 50 Tree Sparrow; **Rye Meads Ringing Group** (per **P Roper**, Herts) 214/238 inc. 7 Tufted Duck, 25 Reed Warbler; **D W Simpson** (Co Durham) 169/176

inc. 17 Coot, 58 Swallow; **N J Skinner** (Suffolk) 104/110 inc. 15 Lesser Black-backed Gull, 24 Kittiwake; **Somerset Wildlife Trust** (per **A Coward & J Parker**) 128/128 inc. 94 Blue Tit, 32 Great Tit; **Sorby Breck Ringing Group** (S Yorks) 249 inc. 8 Tawny Owl, 31 Tree Sparrow; **South Lakeland RSPB Group** (per **G Bottomley**, Cumbria) 133/133 inc. 36 Pied Flycatcher, 40 Great Tit; **South West Lancs Ringing Group** (per **J D Fletcher**, Merseyside) 97/116 inc. 5 Willow Warbler, 65 Blue Tit; **R Stevens** (Notts) 217/218 inc. 44 Moorhen, 27 Coot; **Tain Royal Academy Bird Club** (per **R L Swann**, Highland) 430/434 inc. 107 Eider, 46 Buzzard; **M Thomas** (Glam) 121/122 inc. 15 Wren, 13 Magpie; **S J Tyler & F Burge** (Gwent & Herefordshire) 100 inc. 15 Grey Wagtail, 22 Dipper; **G A Vaughan** (Devon) 164/164 inc. 44 Pied Flycatcher, 70 Blue Tit; **J Walshe** (Suffolk) 114/123 inc. 13 Woodpigeon, 4 Treecreeper; **D Warden** (Avon) 603/649 inc. 94 Coot, 252 Reed Warbler; **P N Watts** (Lincs) 156/157 inc. 96 Common Tern, 11 Corn Bunting; **N J Westwood** (Cambs) 327/330 inc. 11 Cuckoo, 283 Reed Warbler; **WWT Washington** (per **A Donnison**, Tyne & Wear) 90/102 inc. 18 Grey Heron, 11 Mallard; **WWT Welney** (per **J B Kemp**, Cambs) 303/303 inc. 30 Snipe, 51 Redshank; **R Wood** (Essex) 184 inc. 48 Sand Martin, 110 Rook; **Ynys-hir RSPB** (per **R Jones**, Powys) 165/166 inc. 10 Redstart, 61 Pied Flycatcher.

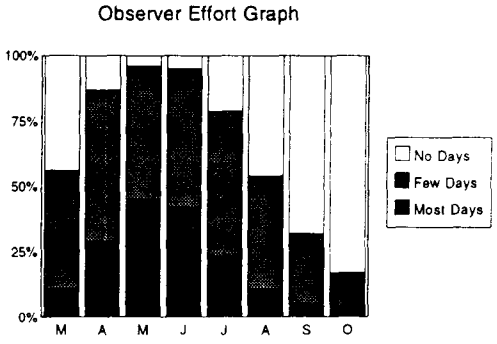
Milestones Passed in 1997

A broad spectrum of interesting species figured in the list of landmark totals achieved within the 1997 Nest Record Card intake. They illustrate the impressive nature of the holdings, resulting from 58 years of dedicated fieldwork for the BTO's Nest Record Scheme, currently being put to ever greater use.

Ruddy Duck reached the 100 mark with a card sent in by D Warden for a pair nesting at Chew Valley Lake, Somerset where the species has a small breeding population. The 1,000th **Woodlark** card came from R A Hoblyn, Norfolk who colour-ringed the three young as part of a study of a species happily increasing. The 2,000th **Cuckoo** card was sent in by N J Westwood, Cambridgeshire for a parasitised Reed Warbler nest. Three monitoring species reached 3,000 cards: **Nuthatch** with a card from D M Cornish, Glamorgan (5 young in nestbox attached to a larch); **Raven** with M Hyndman's card (3 young fledged from a tree nest in Co Londonderry); and **Goldfinch** with a card from A Cole, Devon (nest in sapling elm in coastal mixed farmland). **Fulmar, Grey Heron, Little Tern** and **Long-tailed Tit** all achieved the 5,000 mark with, respectively, nest histories from North Ronaldsay Bird Observatory, Orkney (hatched the usual single egg); P Almond, Bedfordshire (recorded as part of the BTO Heronries Census); R West, Suffolk (a nest on a shingle spit); and C Osthoff, Co Wicklow (a nest in blackthorn and honeysuckle). **Kittiwake** reached the 10,000 mark with a nest recorded on a colony Nest Record Card by J Brown, Northumberland. Finally, **Moorhen** topped 20,000 cards with G James' card for a nest in a London reedbed where 2 well-feathered young were reared from a clutch of 6 eggs.

Covering the Full Season

It is very important that observers maintain their recording effort throughout the year so that the BTO receives a representative sample of nest histories that cover all stages of the breeding season. The graph (right) depicts monthly recording effort in 1997 based upon the Summary Sheets kindly completed by 380 observers and groups. It depicts a similar picture to that painted in recent seasons so allowing the BTO to compare with confidence nesting success between years. Many thanks for your help in 'seeing the season through' in 1997. Do please keep up the good work over the coming months.



Totals For Nest Record Scheme From Pre-1996 To 1997

SPECIES	Pre-96	1996	1997	TOTAL
Red-throated Diver	**2,103**	**66**	**65**	**2,234**
Black-throated Diver	190	4	3	197
Little Grebe	1,985	84	85	2,154
Pied-billed Grebe	1	.	.	1
Great Crested Grebe	3,008	148	107	3,263
Red-necked Grebe	1	.	.	1
Slavonian Grebe	181	.	.	181
Black-necked Grebe	15	.	5	20
Fulmar	4,503	354	578	5,435
Manx Shearwater	227	.	.	227
Storm Petrel	40	10	20	70
Leach's Petrel	7	.	.	7
Gannet	31	2	.	33
Cormorant	1,552	60	84	1,696
Shag	6,441	1,259	817	8,517
Bittern	20	2	5	27
Little Bittern	1	.	.	1
Grey Heron	**4,723**	**274**	**311**	**5,308**
Night Heron	3	.	.	3
Mute Swan	**4,844**	**184**	**189**	**5,217**
Whooper Swan	7	1	1	9
Bar-headed Goose	1	.	.	1
Greylag Goose	568	22	16	606
Snow Goose	2	.	.	2
Canada Goose	2,740	242	186	3,168
Barnacle Goose	10	7	5	22
Egyptian Goose	41	8	8	57
Shelduck	280	7	7	294
Mandarin	341	19	9	369
Wigeon	163	1	2	166
Gadwall	96	9	16	121
Teal	217	3	.	220
Mallard	7,619	250	181	8,050
Pintail	23	.	.	23
Garganey	9	.	.	9
Shoveler	143	11	5	159
Pochard	117	9	9	135
Tufted Duck	1,089	37	33	1,159
Scaup	1	.	.	1
Eider	2,883	650	1,013	4,546
Common Scoter	41	.	.	41
Goldeneye	158	29	7	194
Red-breasted Merganser	259	3	5	267
Goosander	257	8	7	272
Ruddy Duck	97	9	6	112
Honey Buzzard	23	1	.	24
Red Kite	22	1	5	28
Marsh Harrier	41	7	.	48
Hen Harrier	**1,346**	**66**	**33**	**1,445**
Pallid Harrier	1	.	.	1
Montagu's Harrier	51	1	1	53
Goshawk	421	67	86	574
Sparrowhawk	**4,708**	**193**	**103**	**5,004**
Buzzard	**4,368**	**222**	**174**	**4,764**
Golden Eagle	439	14	13	466
Osprey	44	9	7	60
Kestrel	**6,115**	**241**	**205**	**6,561**
Merlin	**2,550**	**204**	**137**	**2,891**
Hobby	526	43	29	598

SPECIES	Pre-96	1996	1997	TOTAL
Peregrine	**2,109**	**107**	**114**	**2,330**
Red Grouse	792	10	15	817
Ptarmigan	130	·	1	131
Black Grouse	61	1	9	71
Capercaillie	77	2	1	80
Red-legged Partridge	446	3	2	451
Chukar	1	·	·	1
Grey Partridge	798	12	12	822
Quail	14	·	·	14
Pheasant	1,995	42	26	2,063
Golden Pheasant	6	·	·	6
Lady Amherst's Pheasant	1	·	·	1
Water Rail	80	1	·	81
Corncrake	30	·	·	30
Moorhen	**19,630**	**568**	**479**	**20,677**
Coot	13,565	640	577	14,782
Oystercatcher	**12,629**	**643**	**462**	**13,734**
Black-winged Stilt	2	·	·	2
Avocet	517	24	3	544
Stone Curlew	430	·	·	430
Little Ringed Plover	1,690	82	78	1,850
Ringed Plover	**7,922**	**227**	**234**	**8,383**
Kentish Plover	19	·	·	19
Dotterel	250	1	·	251
Golden Plover	797	21	23	841
Lapwing	**20,564**	**985**	**922**	**22,471**
Temminck's Stint	1	·	·	1
Purple Sandpiper	4	·	·	4
Dunlin	506	2	37	545
Ruff	4	·	·	4
Snipe	**1,480**	**44**	**76**	**1,600**
Woodcock	604	7	9	620
Black-tailed Godwit	13	7	·	20
Whimbrel	60	·	·	60
Curlew	**2,613**	**88**	**55**	**2,756**
Redshank	**2,162**	**107**	**132**	**2,401**
Greenshank	157	1	·	158
Wood Sandpiper	2	·	·	2
Common Sandpiper	**1,340**	**46**	**36**	**1,422**
Red-necked Phalarope	109	30	28	167
Arctic Skua	351	1	5	357
Great Skua	377	20	·	397
Little Gull	3	·	·	3
Black-headed Gull	8,495	314	677	9,486
Mediterranean Gull	6	·	·	6
Common Gull	3,826	347	359	4,532
Lesser Black-backed Gull	1,220	20	27	1,267
Herring Gull	5,407	150	177	5,734
Great Black-backed Gull	2,074	91	216	2,381
Kittiwake	8,141	1,288	1,145	10,574
Lesser Crested Tern	4	1	·	5
Sandwich Tern	1,730	83	·	1,813
Roseate Tern	696	27	3	726
Common Tern	4,939	181	543	5,663
Arctic Tern	5,360	872	1,469	7,701
Little Tern	4,580	246	274	5,100
Guillemot	1,095	9	6	1,110
Razorbill	783	64	73	920
Black Guillemot	1,231	77	95	1,403
Puffin	262	139	2	403
Rock Dove	332	92	54	478
Feral Pigeon	1,610	182	181	1,973

SPECIES	Pre-96	1996	1997	TOTAL
Stock Dove	**6,247**	**543**	**435**	**7,225**
Woodpigeon	22,297	1,031	962	24,290
Collared Dove	**3,785**	**198**	**178**	**4,161**
Turtle Dove	1,865	28	29	1,922
Ring-necked Parakeet	8	12	26	46
Cuckoo	1,977	25	20	2,022
Barn Owl	**3,326**	**393**	**450**	**4,169**
Snowy Owl	2	.	.	2
Little Owl	**1,577**	**70**	**73**	**1,720**
Tawny Owl	**7,345**	**442**	**368**	**8,155**
Long-eared Owl	650	31	18	699
Short-eared Owl	338	13	8	359
Nightjar	**1,331**	**90**	**60**	**1,481**
Swift	1,296	127	104	1,527
Kingfisher	**578**	**13**	**15**	**606**
Hoopoe	1	.	.	1
Wryneck	23	.	.	23
Green Woodpecker	313	15	19	347
Great Spotted Woodpecker	**1,064**	**41**	**56**	**1,161**
Lesser Spotted Woodpecker	162	3	10	175
Woodlark	**880**	**80**	**131**	**1,091**
Skylark	**6,627**	**104**	**69**	**6,800**
Sand Martin	**1,142**	**28**	**155**	**1,325**
Swallow	**45,297**	**1,936**	**1,635**	**48,868**
House Martin	7,662	438	296	8,396
Tree Pipit	**1,539**	**29**	**29**	**1,597**
Meadow Pipit	**8,634**	**186**	**121**	**8,941**
Rock Pipit	705	21	19	745
Yellow Wagtail	945	37	3	985
Grey Wagtail	**5,161**	**163**	**111**	**5,435**
Pied Wagtail	**8,459**	**245**	**228**	**8,932**
Dipper	**8,583**	**290**	**191**	**9,064**
Wren	**13,665**	**324**	**267**	**14,256**
Dunnock	**28,359**	**438**	**309**	**29,106**
Robin	**18,356**	**499**	**330**	**19,185**
Nightingale	431	3	6	440
Bluethroat	1	.	.	1
Black Redstart	140	2	3	145
Redstart	**5,555**	**184**	**214**	**5,953**
Whinchat	**1,868**	**43**	**74**	**1,985**
Stonechat	**2,632**	**80**	**64**	**2,776**
Wheatear	**3,233**	**89**	**70**	**3,392**
Ring Ouzel	1,442	36	12	1,490
Blackbird	120,840	1,736	1,617	124,193
Fieldfare	7	.	.	7
Song Thrush	**69,894**	**782**	**622**	**71,298**
Redwing	111	.	2	113
Mistle Thrush	**7,214**	**174**	**144**	**7,532**
Cetti's Warbler	24	1	1	26
Grasshopper Warbler	359	3	5	367
Savi's Warbler	2	.	.	2
Sedge Warbler	**4,319**	**146**	**90**	**4,555**
Marsh Warbler	167	.	1	168
Reed Warbler	**10,497**	**691**	**904**	12,092
Dartford Warbler	432	6	7	445
Lesser Whitethroat	803	12	11	826
Whitethroat	**5,481**	**157**	**125**	**5,763**
Garden Warbler	**1,699**	**119**	**75**	**1,893**
Blackcap	**2,920**	**160**	**118**	**3,198**
Wood Warbler	**2,245**	**58**	**31**	**2,334**
Chiffchaff	**2,348**	**154**	**172**	**2,674**

SPECIES	Pre-96	1996	1997	TOTAL
Willow Warbler	**11,503**	**286**	**245**	**12,034**
Goldcrest	748	18	15	781
Firecrest	9	-	-	9
Spotted Flycatcher	**9,930**	**178**	**180**	**10,288**
Pied Flycatcher	31,401	1,924	1,384	34,709
Bearded Tit	59	20	9	88
Long-tailed Tit	**4,656**	**207**	**237**	**5,100**
Marsh Tit	**1,242**	**38**	**32**	**1,312**
Willow Tit	420	8	14	442
Crested Tit	301	38	25	364
Coal Tit	4,697	104	132	4,933
Blue Tit	70,342	4,509	4,209	79,060
Great Tit	44,010	2,819	2,515	49,344
Nuthatch	**2,797**	**139**	**97**	**3,033**
Treecreeper	**2,166**	**68**	**71**	**2,305**
Short-toed Treecreeper	1	-	-	1
Golden Oriole	41	-	-	41
Red-backed Shrike	256	-	-	256
Jay	1,401	34	26	1,461
Magpie	**6,657**	**332**	**258**	**7,247**
Chough	598	18	17	633
Jackdaw	**5,825**	**286**	**258**	**6,369**
Rook	**9,400**	**1,002**	**1,139**	**11,541**
Carrion Crow	**6,303**	**394**	**235**	**6,932**
Hooded Crow	1,059	13	14	1,086
Raven	**2,877**	**154**	**86**	**3,117**
Starling	**13,665**	**601**	**538**	**14,804**
House Sparrow	11,231	564	466	12,261
Tree Sparrow	**14,963**	**472**	**422**	**15,857**
Chaffinch	**19,643**	**919**	**569**	**21,131**
Brambling	2	-	-	2
Serin	1	-	-	1
Greenfinch	**13,065**	**207**	**242**	**13,514**
Goldfinch	**2,909**	**73**	**69**	**3,051**
Siskin	75	-	1	76
Linnet	**25,220**	**1,041**	**551**	**26,812**
Twite	848	3	2	853
Redpoll	**1,290**	**10**	**2**	**1,302**
Common Crossbill	149	1	-	150
Parrot Crossbill	4	-	-	4
Scarlet Rosefinch	1	-	-	1
Bullfinch	**5,129**	**108**	**151**	**5,388**
Hawfinch	165	9	12	186
Snow Bunting	193	-	-	193
Yellowhammer	**6,458**	**236**	**313**	**7,007**
Cirl Bunting	251	2	2	255
Reed Bunting	**7,490**	**100**	**75**	**7,665**
Corn Bunting	**748**	**58**	**59**	**865**
GRAND TOTAL	**1,010,879**	**42,269**	**38,980**	**1,092,128**

NB A few records for some wildfowl species may relate to feral birds (eg Whooper Swan, Greylag Goose and Mallard).

Species highlighted in bold are those used within the BTO's Integrated Population Monitoring programme.

The totals for pre-1996 and 1996 have changed since those printed in *Nest Record News* No. 13 due to the addition of cards received at the BTO after March 1997.

How to help us use your cards to the full

Every year we produce a list of the most common errors that make their appearance on Nest Record Cards. We are pleased to report that there were considerably fewer errors in 1997. In addition to being another record season, the standard of the cards continues to improve. Many thanks.

When filling in cards:

1 **Please use official two letter status codes only!** (The computer does not recognise alien codes!) Both letters should be entered in the same column on the card.

2 **Observer Codes** If you have been allocated an Observer Code, please make sure it is entered on each card. As we are running out of codes (and some observers even have the same name!), please include any middle initials on your Summary Form (especially if it is your first year of nest recording).

3 **Dash it!** If using two, or four-figure grid references, please ensure that you include dashes (eg 'TL8--8--' or 'TL87-83-'). The cards are input by an external data-processing agency, and they type precisely what is on the card!

4 **Please use a new card for additional nesting attempts** Each card should only contain the details for one nesting attempt. Additional cards for 2nd and 3rd attempts by the same pair should be clipped to the first.

5 **Going Cuckoo!** Please continue to fill in two cards for each Cuckolded nest you may find: one for the host and one for the Cuckoo (see *Nest Record Scheme Handbook*). So that we can check that duplicates have been made, please clip the two cards together.

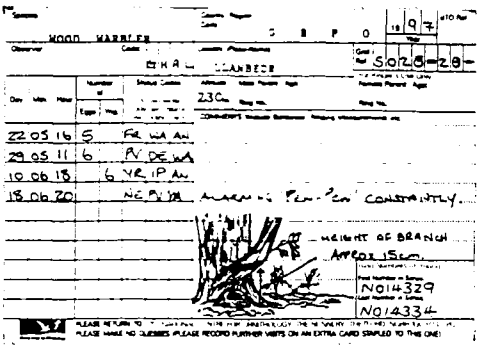
6 **Ring Numbers?** If you are a ringer, please ensure you enter the full ring numbers of young/adults on your cards.

7 **Records for all "actively used" nests are required!** Please note we need cards for all active nests that subsequently fail as well! However records of nests that don't get beyond the nest-building stage (ie no eggs laid) are sadly of very limited value to the Scheme.

When returning your cards:

Please use a Summary Form - We can process your cards quicker if you fill in one of these. If you don't have a form, please give us a call and we will send you one.

Please pack your cards well!
Every year some cards only just reach us! This year the record has to go to the large batch of cards that had completely parted company with their envelope! Fortunately they were held together by a thick elastic band and someone at the Post Office had noticed the BTO address printed on the cards and sent them on to us! This batch of cards represented many, many hours of fieldwork. When the Summary Form arrived (separately!) we were relieved to discover that none of the cards had gone missing. After all your hard work, please don't risk losing your very valuable cards! Please, please pack them well! We still recommend the use of elastic bands, polythene bags and Jiffy envelopes. NB We regret that we still have to charge for cards which are obtained specifically for private use. The cost of each card is currently 4p (ie £4.00 per 100). Please make any cheques payable to 'BTO'. However there is definitely no charge for cards which will be filled in and returned to the BTO.



Wood Warbler Nest Record Card.
Card and artwork by Grant Herbert.

1996 Nest Record Scheme Annual Monitoring Report

The 1996 nesting year was a dismal one for most birds in the UK. For a wide range of species, BTO Nest Record Cards showed that it was not only a late nesting season, but one in which many species produced small clutches, small broods and suffered relatively poor nest success. Much of the country experienced extremes of temperature, with cold weather spells persisting almost until June, after which it became exceptionally hot and dry. The cold, wet May was particularly damaging for single-brooded residents and early-nesting migrants. For this report 200,000 records were analysed covering 52 species and the 1996 data were compared with the trends shown over the last 25 years to see if it was a particularly unusual year in terms of nesting success.

The results showed that 22 species nested later than expected, presumably being delayed by the cold conditions. The extreme case was shown by Skylark which, on average, laid three weeks later than expected. Migrant species significantly delayed by the weather were: Chiffchaff, Redstart and Reed Warbler. Only 7 species nested earlier than normal, four of which were raptors: Buzzard, Hen Harrier, Kestrel and Sparrowhawk (for which it is known that abundant food supplies can override adverse weather).

Twenty-one species laid smaller clutches than expected and 18 produced smaller broods. Birds of a broad range of ecological groups were affected including Sparrowhawk, Magpie, Ringed Plover, Meadow Pipit, Robin, Blackcap, Spotted Flycatcher, Chaffinch and Stock Dove. The insect-eating migrants and residents were particularly adversely affected. Smaller numbers of species produced relatively large clutches or broods than in recent years and these were generally waterbirds such as Red-throated Diver and Moorhen, and also Tawny and Barn Owls.

Equal numbers of species showed relatively poor and good nest success during the incubation phase. Long-distance migrants appeared to be badly affected (for example Blackcap, Chiffchaff and Sedge Warbler), whereas waterbirds and waders seemed to do quite well (for example Lapwing, Moorhen, Mute Swan and Ringed Plover). Nesting success was particularly badly affected by the weather during the nestling stage. Nineteen species suffered higher losses than usual, especially open-nesting resident species such as Dunnock, Mistle Thrush and Stonechat, and seed-eaters such as Chaffinch, Linnet and Yellowhammer.

When the BTO's analyses had been completed, two types of alert were issued to the government's Joint Nature Conservation Committee for species showing particularly worrying declines in breeding performance over the past 25 years (1972-96):

High Nest Records Alerts

Hen Harrier	average clutch size has declined by three-quarters of an egg.
Reed Bunting	overall nest survival has fallen by 33%.

Medium Nest Records Alerts

Red-throated Diver	increasing nest failure rates.
Moorhen	average clutch sizes have declined by over half an egg and average brood size has decreased by nearly one nestling.
Ringed Plover	significant increases in nest losses during incubation.
Lapwing	increasing overall nest content losses.
Kingfisher	recent decline in brood sizes.
Meadow Pipit	increase in nest losses at the incubation stage.
Greenfinch	increasing nest failure rates.

New Projects

The following projects using Nest Record Card data have been initiated since *Nest Record News* No. 13:

a. Ian Elphick - Ring Ouzel in Scotland and the Peak District
b. Phazamile Kgosi - Yellowhammer
c. James Maxwell - Willow Tit nesting & habitat requirements
d. Mike Shrubb - Linnet nest sites
e. Valerie Suleski - Twite in Scotland
f. Mike Toms - Barn, Tawny, Long-eared & Short-eared Owls in Norfolk
g. Ewan Urquhart - Stonechat for a future book on the species

Have a Go Yourself

There are currently 54 studies underway using Nest Record Cards, 25 of which are by amateur birdwatchers. Analysing Nest Record Cards is interesting, challenging and rewarding but cannot be undertaken lightly. It takes a good deal of time to pore through the cards, and for species with a reasonable number of records you really need a computer. The rewards are that you really get to know a particular species very well and you can reveal facts that are new to science. If you would like to analyse the cards for a particular species, contact Humphrey Crick and he will be pleased to give advice on planning, analysis and writing up your studies.

Global Warming: NRS provides vital facts

For some years now the BTO's Nest Record Scheme has been reporting that birds in the UK are laying their eggs earlier in the year than they used to. The importance of these results has recently been recognised and a paper, 'UK birds are laying eggs earlier', appeared in the premier scientific journal *Nature* on 7 August 1997. As a consequence, Humphrey Crick was invited to present a paper at a workshop on climate change and wildlife, organised by the World Wide Fund for Nature and Birdlife International in Colorado, USA last December. One of the products of this workshop was a briefing document which was distributed to the representatives of all the world's major governments at the Kyoto Climate Change Conference in Japan.

This document included results from the work of the Nest Record Scheme which showed that 20 of 65 widespread species are showing statistically significant trends towards earlier laying. compared with only one (Stock Dove) having a trend towards later laying. The average shift in laying date was nine days, and ranged between four and 17 days. The species involved were not confined to any one ecological type and ranged from waterbirds (e.g. Curlew), insect-eaters (e.g. Wren), migrants (e.g. Blackcap), corvids (e.g. Carrion Crow) and seed-eaters (e.g. Magpie) to late-season nesters (e.g. Corn Bunting).

Follow-up research is now showing that laying dates are strongly affected by spring temperatures and that these trends are most likely to be due to the warming that has occurred in the UK over the past 10 to 15 years. The later nesting of many species in 1996 does not alter this trend. Future work will show what effect these changes will have on the breeding success of our birds.

(If you would like more information about this study, please contact Humphrey Crick.

Reference:

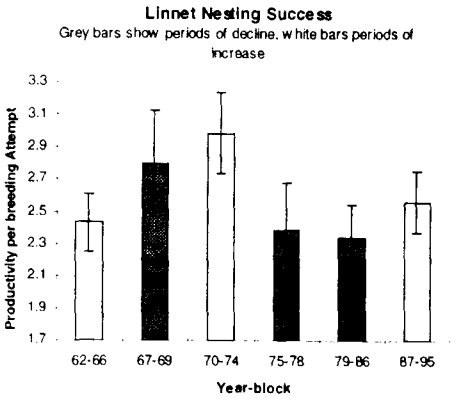
CRICK, H.Q.P. et al. (1997). UK birds are laying eggs earlier. *Nature* 388: 526.

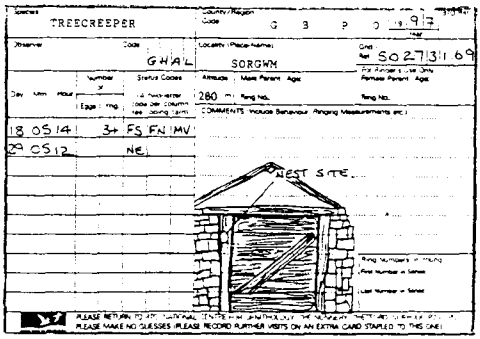
Nesting Success and the Declines of Farmland Seed-eating Birds

The BTO is currently involved in a collaborative project with Oxford University (funded by the Ministry of Agriculture, Fisheries and Food) which is investigating the causes behind severe declines, over the last few decades, in the populations of several species of seed-eating farmland birds in Britain. This project is focused on linking Common Birds Census (CBC) data on bird abundance with those on annual survival from ring-recoveries and those on nesting success from the Nest Record Scheme. The rationale for our approach is that we can gain a better understanding of why the widespread population declines have occurred by identifying which stage or stages of the life cycle have been affected. For example, if a reduction in the quality of farmland habitats for birds in winter (say, through a decrease in food availability) has been the major effect on populations, a fall in annual survival should be detectable, whereas an increase in nest predation by crows or Magpies might be reflected in falling nesting success.

We have analysed Nest Record data from 1962 to 1995 for Stock Dove, Turtle Dove, Skylark, Tree Sparrow, Chaffinch, Greenfinch, Goldfinch, Linnet, Bullfinch, Yellowhammer, Reed Bunting and Corn Bunting. For comparison, this list includes species whose populations have increased as well as some which have declined. Data on clutch size, brood size, hatching success and the daily failure rate of nests were extracted from Nest Records and analysed to show whether periods of decline in species' CBC population trends have been associated with low nesting success. We also calculated a measure of the overall productivity of fledged young from the average nest by combining these variables. Our results show that reduced nesting success is likely to have been the major cause of population change for one species only: Linnet. This is shown in the graph below: overall productivity per nesting attempt was lower during the major periods of decline between 1975 and 1986. This reduction was caused by an increase in the nest failure rate during the egg stage, which could have a number of ultimate causes. These can now be investigated in the field. For the other species, it was much more common for nesting success to be *higher* during periods of decline. There are several possible reasons for this, but it clearly suggests that falling nesting success does not explain the declines of species like Corn Bunting and Turtle Dove. For such species, changes in survival may have been more significant, but it is also possible that other components of annual productivity such as the number of breeding attempts pairs are able to undertake may be critical. Nest Records data provide little information on this, and there is some evidence from other studies that the decline of the Skylark has been caused by an effect on this variable of the winter sowing of cereal crops.

Gavin Siriwardena





Treecreeper Nest Record Card.
We particularly need more cards for species such as Treecreeper where annual totals have fallen below 100.
Card and artwork by Grant Herbert.

More Records Please

The annual intake of Nest Record Cards for a number of monitoring species have fallen to critically low levels and may severely hinder the BTO's mission to monitor the 'health' of their populations. Please make extra efforts to record the nests of the following species.

Snipe	**Skylark**	**Sedge Warbler**	**Raven**
Curlew	**Whinchat**	**Garden Warbler**	**Goldfinch**
Nightjar	**Stonechat**	**Wood Warbler**	**Reed Bunting**
Little Owl	**Wheatear**	**Treecreeper**	**Corn Bunting**

New CD: "One Million Greatest Hits"!

As reported in the last *Nest Record News* (No. 13 April 1997), we are delighted that the BTO was awarded a Lottery Grant. The money has enabled us to scan the historical holdings of over one million Nest Record Cards onto CD-Rom. The long-term security of the card collection had been a cause for concern for many years. Nest Record Cards are a unique and irreplaceable resource and enable long-term species trends to be monitored. It was therefore vital for the BTO to ensure their safety.

We are very pleased to report that the scanning of cards has now been completed. The images of the million cards fit onto just 97 standard-sized compact discs. Although the new system is still being tested, it has already been used for several studies, serving to illustrate its usefulness and flexibility.

It is now a thousand times quicker to look through the card collection (and certainly a lot cleaner!). We can locate any one of the million cards in less than a minute!

Thank you to everyone who has helped to raise the £140,000 needed in order to match the Lottery funding. This was achieved in just 12 months. The valuable Nest Record Card collection is ready for use well into the next millennium! Many thanks again.

Dead Song Thrushes Required

In an attempt to understand why Song Thrushes are suffering increasing mortality during the post-fledging period, **Dr James Kirkwood** of the Universities Federation for Animal Welfare is supervising a project to look for diseases and parasites by conducting post mortems on Song Thrush carcases. If you find any dead Song Thrushes, whether young birds or adults, (or any dead Blackbirds) then please contact him (Tel. **01582 831818**, Fax. **01582 831414**, E-mail **kirkwood@ufaw.org.uk**).

Song Thrushes have shown a very dramatic population decline since the mid-1970s and have been 'Red Listed' as a UK bird of conservation concern. The BTO has shown that increasing mortality of young birds in their first year of life, particularly in the first 60 days after leaving the nest, is of major importance in affecting eventual population sizes, but we still don't know the specific processes responsible for this. A better understanding of the diseases of Song Thrushes (and Blackbirds) could be of considerable value, so please help if you can.

Please note that because the collection of live birds is illegal without a licence, the legislation concerning the possession of dead birds requires the individual to keep a note of the date and circumstances under which the bird was found dead. These details should be sent with the bird if it is posted. Carcases should not be touched with bare hands, but with protective gloves or a plastic bag. Observe scrupulous hygiene when collecting and wrapping carcases.

Predation of Stock Doves by Grey Squirrels

During 1993-97 I have noticed evidence of conflict between Grey Squirrels and Stock Doves over the occupation of nestboxes and of apparent predation of the birds by the squirrels. It appears that eggs and young birds have been taken and adult birds killed, and this despite the statement in the *Handbook of British Mammals* (Corbet and Harris 1991) that there is no evidence that Grey Squirrels are significant predators of bird eggs or nestlings.

In my study area of overmature semi-natural woodland in Kent, large bird nestboxes made from ammunition boxes with 6 inch circular entrance holes are used by Grey Squirrels as dens, nests and dreys at all times of the year. They collect large quantities of leaves to form a bed or nest, and also add many sticks. Here from 1 to 4 animals may live, and sometimes a female will raise a family. Of 87 Stock Dove BTO Nest Record Cards completed over the five years, 28 suggest predation or competition from Grey Squirrels. On six occasions there have been many adult Stock Dove feathers in a box. This I suspect is probably the result of a scrap when a squirrel enters a box holding a roosting bird. On one occasion two young birds died soon after hatching and were found buried under green leaves. Here squirrels have apparently usurped the box and excluded the adult bird. In another box three eggs, some down and small flight feathers two-thirds out-of-pin, were buried under a mass of green leaves. Elsewhere two squirrels, sticks and leaves were found covering two eggs; and later the eggs were removed. Here the squirrels may have eaten at least one young bird. Similarly in another box a deserted egg and many feathers half out-of-pin indicate predation of the young. In the most conclusive case a headless adult bird was found in a box together with two squirrels, one egg, many twigs and leaves.

Whether this should be classed as 'predation' is a matter of semantics. Southern (1964) mentions an unpublished record of a Grey Squirrel which stalked and caught House Sparrows. Shorten (1954) states that the Grey Squirrel has often been thought to eat carrion. She considers this not a general habit, but that they sometimes eat parts of dead birds, usually concentrating on the head of young birds and the crop of older birds. She also says (1962) that the food of Grey Squirrels is almost entirely vegetarian, but includes unspecified bird eggs taken in April and May. Gurnell (1987) states that occasionally animal food such as invertebrates, birds' eggs and young, and even dead squirrels, will be eaten, especially in summer. However he writes (pers comm): 'I think your observations are interesting but, I have to say, they do not provide evidence that squirrels are significant predators of bird eggs or nestlings. Squirrels are opportunistic feeders and will take eggs and nestlings occasionally, but these are not significant items in their diet, nor do they constitute an important mortality factor for bird populations. Also the dove v squirrel interaction involved bird boxes. Again squirrels, and Grey Squirrels in particular, will sometimes take over boxes, and in doing so may dislodge, kill or consume in part, the occupants..... I would suggest that this is a local problem that may even involve the same squirrels from one year to the next. Many wild animals can be a nuisance from time to time..... However I remain to be convinced that they are significant predators of wild bird populations'.

I am grateful to Dr Bill Bourne and to Dr John Gurnell for their help.

References:

CORBET, G. and HARRIS, S. Eds. 1991. *The Handbook of British Mammals.* Third ed. Blackwell.
GURNELL, J. 1987. *The Natural History of Squirrels.* Christopher Helm.
SHORTEN, M. 1954. *Squirrels.* Collins New Naturalist.
SHORTEN, M. 1962. *Squirrels - their Biology and Control.* HMSO Bulletin No 184.
SOUTHERN, H. N. 1964. *Handbook of British Mammals.* Blackwell.

David Counsell, Tunbridge Wells, Kent.

Creating a national reference collection of nests of British breeding birds

In *BTO News* No. 186 (May/June 1993) I wrote to thank people for sending me used Long-tailed Tit nests. One of the puzzles I sought to answer was the purpose of the lichen which covers the outside of the nests. Contrary to common belief, lichen placed on the outside of birds' nests does not make them look like the tree in which they are located; if anything it makes the nest look pale or, in some species, as if it has holes with light coming through. I was driven to that conclusion by examining Long-tailed Tit nests sent to me and looking at major collections of birds' nests in museums in Europe and particularly in the USA.

My research on the functional design of birds' nests has impressed on me the need for a collection of nests of British breeding birds that could act as a research and teaching resource and I have decided that we have the facilities to set one up in Glasgow University as part of our well established Hunterian Zoology Museum. The aim this summer is to establish a core collection of the nests of the commoner breeding species.

Of course it is very important that the collection of a nest does not interfere with the nesting of any species. I have been in touch with English Nature, Scottish Natural Heritage and Countryside Council for Wales to obtain their advice and make sure that the appeal does not transgress any laws. The key is that the collection of a nest is not an offence, provided that the nest is no longer in use. If in **any** doubt, leave the nest until you are absolutely sure that the breeding season is over and the nest abandoned before collecting it. The nests of a wide range of species, including the massive piles built by eagles or Ospreys, other raptors, seabirds, colonial nesting corvids, and herons are traditional sites used year after year. These must obviously be left well alone as also should the nesting cavities of woodpeckers and similar species which may be used in succeeding years. So, you can see that the aim is to collect and preserve examples of what you might call 'typical' bird nests: cup or domed nests in trees or on the ground that have a working life of just a few weeks before being abandoned.

Sometimes damage to the nest by a predator will reveal that the breeding attempt is over and in that case you may feel that the nest is not worth collecting. Not a bit of it. The majority of Long-tailed Tit nests sent to me were found because they had been damaged by a predator yet, from them, I was able to establish that the lichens, mosses and feathers used in the nests come from a very limited range of species. This is just one example of the sort of work that could be extended to other species if there was a good national reference collection.

If you are interested in being involved in this exciting enterprise then please write to me at the address below. I will give you a simple set of guidelines that have been approved by the regional conservation bodies and some further information of what I hope to achieve with the whole project.

Dr Mike Hansell, Department of Environmental and Evolutionary Biology, Graham Kerr Building, University of Glasgow, Glasgow G12 8QQ. Tel: 0141 330 4779. E-mail: M.Hansell@bio.gla.ac.uk

BTO *Nestboxes* Guide No. 23

This BTO guide is widely acclaimed as the definitive guide for making, siting and maintaining 'boxes' of all shapes, sizes and types. The artificially created nesting places covered range from rafts, tunnels, ledges and chimneys, to conventional Blue Tit and Robin type nestboxes. Copies can be obtained from the Sales Department, BTO Headquarters, price £4.95 plus £1.00 p & p.

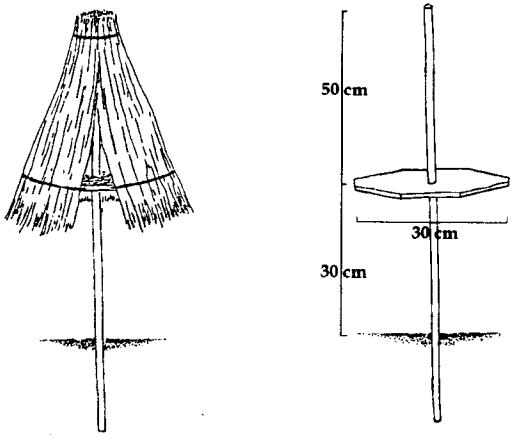
Please send any new ideas and findings you may have on nestbox design for future issues of the guide to:

Chris du Feu, 66 High Street, Beckingham, Notts DN10 4PF

1997 Nestbox Challenge

John Wilson's ingenious design for a Bearded Tit 'box' won the 1997 Nestbox Challenge competition. With their normal nesting site deep in the bases of reeds, Bearded Tits do not seem to be conducive to the boxing solution. However, John's wigwam design works wonderfully and even has another non-box species using the basement accommodation - a Water Rail. Chris Mead commented: 'The idea of getting a really rare bird to nest in a manmade site is excellent. In this case it is especially valuable as it will enable those studying Bearded Tits to get better information on their nesting habits without having to devote the time and effort into nest finding'.

John, who is warden of the RSPB's Leighton Moss Reserve, will be presented with one of the closed circuit TV systems for bugging nesting birds produced by Boxwatch (01342 850259).



Leighton Moss Bearded Tit wigwams.

Many thanks to Sonia Davies for production of this issue of *Nest Record News*.

Project Barn Owl

This project, a collaboration between the BTO and The Hawk and Owl Trust, has just completed its third and final fieldwork season and the data are currently being analysed. Fieldworkers managed to monitor the majority of the 1,100 survey squares, which was a mammoth feat, many hours being required to cover each tetrad. The final results will not be known until the end of 1998, but many interesting facts have already come out of the work (see *BTO News* No. 214). The project organisers would like to thank all those that took part in this very successful survey.

The Nest Record Scheme

Humphrey Crick (Head of Nest Record Scheme) is currently analysing the methodology of the Nest Record Scheme, undertaking detailed analyses of Nest Record Cards (as part of BTO Integrated Population Monitoring studies) and is responsible for raptor monitoring within the BTO.

Caroline Dudley (Assistant Nest Records Officer) is responsible for maintaining the collection of cards and for overseeing their computerisation. She helps with data analysis, answering data requests and edits *Nest Record News*.

David Glue (Nest Records Research Officer) follows the relative nesting fortunes of the UK's birds throughout the breeding season and summarizes his findings in *BTO News* and other publications. He has a particular interest in owls and woodpeckers, maintains the BTO's Raptor Research Register and Garden Bird Feeding Survey, and helps with the Trust's Garden BirdWatch project.

Peter Beaven (Nest Records Research Officer) helps in maintaining the collection of cards, corresponds with observers and assists with various other projects.

Gavin Siriwardena (Populations Research) is currently analysing Nest Record Card, ringing and Common Birds Census data for a range of farmland bird species, principally seed-eaters. This project (in collaboration with Oxford University and funded by MAFF) aims to discover how the declines in our common farmland birds are linked to changes in breeding success and in survival.

BIRD SPECIES PROTECTED UNDER THE WILDLIFE AND COUNTRYSIDE ACT 1981

The species listed below are protected under the Wildlife and Countryside Act 1981 as amended by the Environmental Protection Act 1990. If you wish to consider visiting the nests of any of these species, write to J K Baker, the Licensing Officer, at the BTO for a licence application form. No nest may be visited without prior approval.

The majority of licenses issued during the breeding season are renewals for the same workers who held the appropriate approval during the previous season. Newcomers to the Nest Record Scheme, or recorders who have never held such a licence before, can apply for the relevant approval through the BTO. However, it is necessary to provide two references from 'respected' ornithologists eg County Recorder, BTO Regional Representative, Bird Club Chairman, etc, or a letter of support from a study group - relevant to the species application being sought. Please apply to J K Baker at the BTO, Thetford.

List of Schedule 1 species

Avocet
Bee-eater
Bittern
Bittern, Little
Bluethroat
Brambling
Bunting, Cirl
Bunting, Lapland
Bunting, Snow
Buzzard, Honey
Chough
Corncrake
Crake, Spotted
Crossbill
Curlew, Stone
Diver, Black-throated
Diver, Great Northern
Diver, Red-throated
Dotterel
Duck, Long-tailed
Eagle, Golden
Eagle, White-tailed
Falcon, Gyr
Fieldfare
Firecrest
Garganey
Goldeneye
Godwit, Black-tailed
Goose, Greylag
Goshawk
Grebe, Black-necked
Grebe, Slavonian
Greenshank
Gull, Little
Gull, Mediterranean
Harrier (all species)
Heron, Purple
Hobby
Hoopoe
Kingfisher
Kite, Red
Merlin
Oriole, Golden
Osprey
Owl, Barn
Owl, Snowy
Peregrine
Petrel, Leach's
Phalarope, Red-necked
Pintail
Plover, Kentish
Plover, Little Ringed
Quail
Redstart, Black
Redwing
Rosefinch, Scarlet
Ruff
Sandpiper, Green
Sandpiper, Purple
Sandpiper, Wood
Scaup
Scoter, Common
Scoter, Velvet
Serin
Shorelark
Shrike, Red-backed
Spoonbill
Stilt, Black-winged
Stint, Temminck's
Swan, Bewick
Swan, Whooper
Tern, Black
Tern, Little
Tern, Roseate
Tit, Bearded
Tit, Crested
Treecreeper, Short-toed
Warbler, Cetti's
Warbler, Dartford
Warbler, Marsh
Warbler, Savi's
Whimbrel
Woodlark
Wryneck

NB A rarer breeding species than these may be added to the Schedule 1 species list without warning, so if you find one, contact the BTO's Licensing Officer for clearance.

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