

# BRISTOL ORNITHOLOGY



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# BRISTOL ORNITHOLOGY

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## PREFACE

Every year, *Bristol Ornithology* tries to combine the familiar with the exotic, the experiences and knowledge to be gained from local birding together with the more rarefied rewards of further-flung observations. This edition continues the tradition, with perhaps an added emphasis on work in the immediate vicinity of Bristol.

Brian Slade, following the customary assiduous research always required, contributes the Review of 1983, while Geoff Upton enlarges upon an earlier report in his study of the birds of Royal Portbury Dock. Both that paper and John Tully's work at Blaise Woods provide object lessons to every birdwatcher on how to get the most out of one's local patch. Their efforts must not only have given them an added interest, but have added to the general sum of ornithological knowledge in the area.

Other contributions, ranging from David Warden's detailed study of Reed Warblers at Chew Valley Lake to the notes of Bernard King and K.E.L. Simmons, once again reflect the depth and breadth of interest to be found among Club members.

On behalf of the membership, I would like to thank the editorial committee for its dedication and all the contributors whose work brings credit on the Club.

Mike Lord

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## A REVIEW OF 1983

by Brian Slade

The area dealt with by this review consists of the County of Avon and the northern half of Somerset, south to the Bridgwater area and east to the Wiltshire border (for sketch map of the area, see *Bristol Ornithology* 16(1983):4). The appeal for members to send in their records in previous years appears to have been largely ignored: only some 111 members bothered to contribute to our monthly report *Bird News* and of these less than 50 could be described as regular contributors. This review is therefore based on the records of a minority of the BOC membership.

The Mendip reservoirs signify those at Barrow Gurney, Blagdon, Cheddar and Chew Valley Lake (CVL). Durlough is referred to separately. The levels refer to the peat moors and heaths in the part of Somerset covered by this review. The Channel means from Bridgwater Bay to Severn Beach (this latter place name has been used to also cover observations from nearby Chittening) and the Royal Portbury Dock includes St. George's and Portbury Wharves. Some 225 species occurred during the year (excluding obvious escapes) and records of rare birds (unless indicated otherwise) have been accepted by the *British Birds* Rarities Committee (B.B.R.C). Species are generally listed in accordance with the Voous (1977) sequence but it has been thought better at times to ignore this particularly where unrelated species are involved in the same movement. When computing totals, especially of the scarcer passage waders, minimum numbers have generally been used. These have been arrived at by adding up the highest monthly figures in each locality, except where a high count at the end of one month and the beginning of the next appears to refer to the same birds.

### The first winter period

In contrast to 1982 January was very mild (the fourth mildest this century) being dominated by wet, windy westerly weather. An anticyclonic period during 18th-23rd brought colder but more settled conditions. February remained mild until the 5th when an anticyclone developed over the mid-Atlantic and subsequently extended to Scandinavia. Cold northerlies and north-easterlies brought snow and harsh frost to the country, but from the 13th the wind turned easterly then southerly bringing a slow rise in temperatures. March started cool with west to north-west winds. From the 8th a stream of warm air brought a rise in temperatures and the arrival of the first migrants into the country but high pressure returned to the south and west and with it a return to cool westerlies and cold northerlies.

A badly oiled Red-throated Diver was at CVL from 19-21 February. On the final date it was caught but unfortunately died; another bird was present at the same place during 25 February-27 March and this locality also held a Black-throated Diver in Herons Green Bay on 27 February. A diver not specifically identified flew south at Berrow on 19 February. Little Grebe numbers were generally small but gradually increased during March especially at CVL (with 18 on territories by late March). Great Crested Grebes were present on most of the reservoirs with a maximum of 189 at CVL in January. The only unusual grebe was the Slavonian at Barrow Gurney which remained from 1982 and was last seen on 17 January. Dead Fulmars were found at Berrow on 15 January and 24 March and in the Brue Estuary on 13 March. One or two live birds were noted off Brean Down on 21 March. Small numbers of Cormorants were noted on the reservoirs and at many places on the coast. A Bittern showed itself at CVL on 8 January, 18 and 21 February. The largest herd of Mute Swans was 34 present on the levels but Bewick's Swans were rather scarce with 45 birds at three places in January. White-fronted Geese were non-existent, and the other species of geese, mainly at the Mendip reservoirs, were of very dubious origin. However the one or two Barnacle Geese at Royal Portbury Dock during March and April are not so easily dismissed even though they were said to be fairly tame. It should be remembered that this species is much less wary than are grey geese and can sometimes be approached, in full view, to about 50 metres. Canada Geese are now a familiar sight in the area and the CVL flock reached 130 on 15 January with numbers at Blagdon reaching eleven and 27 at Durlough. Five Brent Geese were present at CVL on 12 February; one bird was carrying two colour rings as part of an international ringing programme.

The numbers of the commoner duck species were generally about average. Reports of Scaup came from Cheddar, CVL, Blagdon and Barrow Gurney, usually single birds but there was a pair at Cheddar in March. Nine Eiders were noted at Berrow on 1 January and there were at least five Long-tailed Ducks in the area which

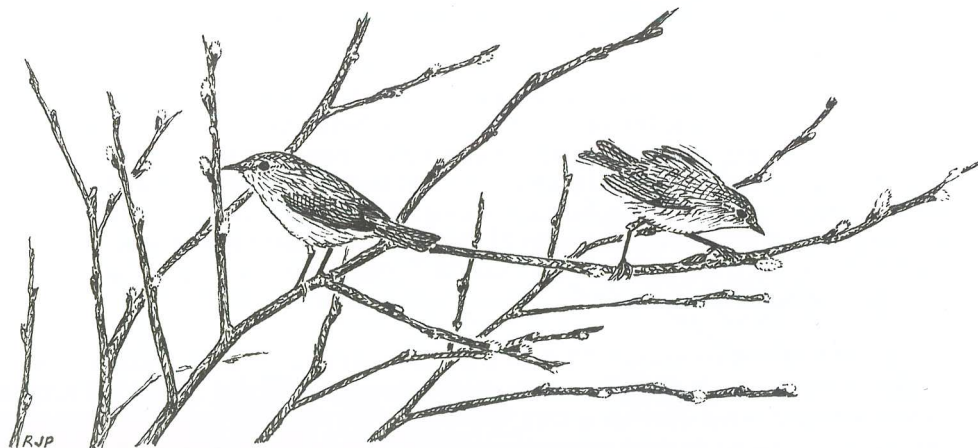


produced some long staying individuals, in particular the first winter female on the Portishead Boating Pool which remained until 19 June. Only one Common Scoter was reported, a male, off Brean Down on 5 February. Goldeneye reached 60 at Cheddar on 20 February with the CVL flock peaking at 112 on 22 March while up to 15 birds were noted at the other reservoirs. A female Smew was at CVL between 8 January – 7 April; this locality also produced a female Red-breasted Merganser on 15 January which was joined by a male the next day and both stayed until at least 24 March. A male was also seen at Barrow Gurney on 9 February. Goosanders reached their top count of 59 at CVL on 6 and 13 March, with smaller numbers, not exceeding eleven, at six other places. Combined counts of Ruddy Duck at CVL and Blagdon produced 758 on 15 January and 709 on 12 February; the former site held 428 on 5 March but numbers dropped to 203 by 13 March. A Red Kite graced Backwell Down on 18 March while there were reasonable numbers of Merlin and Peregrine at inland and coastal sites. Water Rails were noted at only four places with the main numbers being six at CVL and four at Berrow.

Wader counts for this period were unexceptional. A single Oystercatcher was at CVL on 28 February while Berrow had the highest coastal number of 161 on 16 January. Ringed Plover, never particularly numerous here in winter, reached a peak of 30 in the Parrett Estuary during February-March. Yate had 300 Golden Plover in January, Rangeworthy 214 on 10 February with 250 passing south at Berrow on 13 February. Steart did well with 533 Grey Plover on 2 February dropping to 130 on 30 March. Knot fared much better this year with 350 also at Steart on 2 February. One or two Purple Sandpipers were noted at Severn Beach during January and February, probably the most regular place for this very charming wader in our area. Wintering Ruff were present at Steart with a single bird on 2 January and Tealham Moor with three on 19 February. This species has decreased at the last site in the last few years: there were 14 here in 1978. As usual Jack Snipe were well in evidence at Berrow with a maximum of eleven on 26 February and smaller numbers were present at eight other places. Berrow also had the highest count of Snipe with 77 on 26 February. One or two Woodcock were noted at five localities but probably overlooked at others. Up to ten Black-tailed Godwits and 21 Bar-tailed Godwits wintered in the Parrett Estuary and there was a single of the former species at Oldbury on 9 January. The Parrett also held 890 Curlew on 2 January and up to eight Spotted Redshanks were a regular feature here until late May. A dark phase Arctic Skua, the first January record for Somerset, was watched close inshore at Berrow on 5 January, chasing Kittiwakes, while a Great Skua passed up Channel. These occurrences probably relate to the movements of Kittiwakes which were noted particularly from Brean Down with 300 on 4 January and 200 two days later; CVL produced its first January records of this attractive gull with singles on 11th and 30th and three on 15th. This reservoir again provided a good selection of gulls. Mediterranean Gulls were a regular feature with possibly twelve individuals being involved; there was also an adult at Barrow Gurney on 6 January and a first winter bird at Blackmoor on 11 March (both probably from CVL) while a second winter bird was noted at Berrow on 3 January. An interesting bird seen at CVL on the 9 February was thought to be a Mediterranean x Black-headed Gull hybrid as it showed characteristics of both species. Two immature Little Gulls were at CVL on 22 January with a single present on three dates in March and an adult here on the 27th: an immature was noted at Berrow on 15 January with one at Barrow Gurney on 3 February followed by an adult on 12 and 24 March. Careful gull watchers at CVL were rewarded with an adult Ring-billed Gull on five dates between 22 January and 30 March. This same locality played host to a first winter Iceland Gull during 6 February – 2 March with the additional bonus of an adult on 9 February. The immature bird also visited Barrow Gurney and the nearby Yanleigh Tip. Herring Gulls of the yellow-legged race (probably *L. a. michahellis*) were noted at CVL with an adult present on 5 and 22 January, and 1 February and a third year bird on 6 January. A first winter Glaucous Gull was noted at Berrow on 26 February. The gull roost at CVL on 22 January produced over 43000 birds with species counts of 28780 Black-headed, 12880 Common, 1160 Lesser Black-backed, 325 Herring, including one yellow-legged, two Little, one Great Black-backed and a single Ring-billed. An unidentified auk was found dead at Berrow on 16 January.

There were 400 Stock Doves at Rangeworthy during January and February and 230 at Thornbury on 20 February. Short-eared Owls were scarce but one or two were noted, mainly on the coast, between 4 January and 7 May. Up to three Water Pipits *A. s. spinoletta* were at CVL from 9 January to 9 April and as many as six were noted at Royal Portbury Dock during 5-27 March with a single bird still present on 3 April. Black Redstarts were reported from 13 sites, mainly single birds but there were two at Avonmouth and three at Sand Point. Winter thrushes were present in low numbers with 1000 Fieldfares near Norton St Philip on 2 January and 500 Redwings near Kilmersdon on 26 February being the highest counts. The mild winter produced plenty of wintering Blackcaps, up to three being recorded from 22 places, as well as Chiffchaffs with the latter reported from 13 localities with Chew Valley Ringing





Chiffchaffs

Station catching 17 in the first three months of the year; birds of the eastern race *P. c. tristis* were identified at CVL on 18 and 29 January. Firecrests were also present in above average numbers with up to four at Berrow, two at Saltford and single birds at Barrow Gurney, CVL, Elburton, Snuff Mills and Webbington. Goldcrests were also much in evidence as were Long-tailed Tits, while a pair of Bearded Tits were noted at Berrow on 26 February. Ten Nuthatches were noted at Orchardleigh on 20 February with the same number of Treecreepers at Blaise Woods on 8 January. Two Ravens were watched at Cheddar Gorge on 9 January while one was at Barrow Gurney on the 17th. The only notable count of Tree Sparrows came from Stoke Gifford on 24 February when 28 were present. The winter visiting finches were rather scarce especially Siskin and Brambling but Portishead held its usual small flock of Twites while Redpolls were noted at only four places with a maximum of 16 at Goblin Combe. A flock of 70 Yellowhammers near Wellow on 13 February must have brightened up a winter's day.

### Spring migration

April commenced with cold air from the north brought in by cold north to west winds and unsettled cyclonic weather persisted until the 12th. Warmer, southerly air arrived on 16th but was soon replaced by the return of cold northerlies. The last week was rather wet with south-west winds persisting. May was a very wet month with below average temperatures and occasional thunder storms and these conditions continued into early June. A more settled anticyclonic period started on the 15th with high pressure centred close to the British Isles but, with rather persistent cloud, temperatures were below normal. Further unsettled weather returned with cool northerly air arriving after the 23rd.

A single Manx Shearwater passed Brean Down on 1 May and there were sightings of single Fulmars here between 29 April and 9 May. An immature Shag was noted at Royal Portbury Dock on 10 May. A few Wigeon lingered on into the spring at CVL, Brue Estuary and Steart with the last on 15 May. Two Gadwall at the last site on 27 May were unusually late. The Brean Down/Axe Estuary area held three Scaup from late April until early May with one remaining until 15 May. Before 1910 this locality regularly held large numbers between mid-October and April, occasionally reaching a staggering 700. An immature female Common Scoter was at Eastville Park on 17 April while there were four at Brean on the 29th. There were still eight Goldeneye at CVL on 2 May and Goosanders were seen on the Brue Estuary, a male on 2 April, and at Saltford, a female on 6 and 15 April. Two Marsh Harriers at CVL on 23 April, an immature male at Sheppardine on 1 May and females at Huntspill on 23 and 27 May made this a good spring for the species. There was a Merlin at Sand Point on 27 April and it was this date that saw the first Hobbies of the year with two at CVL. This last locality received the only Osprey of the spring on 5 May.

Wader passage was generally unremarkable. Seven Little Ringed Plovers were reported from five places during 22 April to 8 May, while the maximum number of Ringed Plover was 60 at Severn Beach on 20 April. Sanderling passage was very disappointing, especially at Berrow where the largest flock was only twelve. There was



however a winter-plumaged Curlew Sandpiper here on 24 April, an uncommon species at this season, while a fine Ruff in full summer plumage at Huntspill on 26 April, was the only record this spring. Jack Snipe remained at Berrow until 19 April and there was a good count of 200 Snipe at CVL on 27th. Single Black-tailed Godwits were noted in the Parrett Estuary on 28 April and 27 June. The passage of Bar-tailed Godwits in late April/early May is usually small as this species takes the east coast route in spring and this year produced only thirteen at Berrow on 1 May with two in the Yeo Estuary during June. The Whimbrel roost in the Parrett Estuary reached 1532 on 2 May with the following two evenings each producing counts of over 1300. There were also good numbers at other sites, such as 49 at Knowle Moor, and 71 at Berrow, during May with odd birds still being noted to the end of June. The only two Greenshanks of the spring were noted at Huntspill during 26-28 April. Five Green Sandpipers were recorded at three places while Common Sandpipers peaked on 21 April with 26 present at four sites, although the maximum count at a single site was 17 at CVL on 2 May. April saw 88 Turnstones in the Brue Estuary on the 2nd with 60 still there at the end of the month.

An Arctic Skua was watched at Portishead on 23 April and there were two off Brean Down on the 27th. Up to three Little Gulls visited CVL, the Parrett Estuary and Durleigh between 4 April and 13 May. 27 Kittiwakes passed Brean Down on 9 May with additional sightings at CVL, Berrow and the Huntspill River during 16 April to 24 May. A Sandwich Tern was at Berrow on 16 April then no more were noted until two flew south at Huntspill on 4 June. Common Terns passed through CVL between 26 April and 25 June peaking at 16 on 16 May; Arctics were noted here between 27 April and 10 May with 26 present on 4th. 40 Common or Arctics were noted at Berrow on 3 May. Nine Little Terns were noted at Berrow, Parrett Estuary and CVL during 30 April – 11 June. Two Whiskered Terns were found at CVL on 29 May with one remaining for the next two days. The usual spring movement of Collared Doves was noted between Berrow and Huntspill with a maximum of 30 on 23 April. Three Turtle Doves at Brean Down on 1 May were the maximum reported but there were one or two at ten other sites. After the first on 3 April the Cuckoo soon became widespread. Swifts arrived on 21 April and by the end of the month CVL held 2000 and then played host to 5-6000 on 2 May. A Hoopoe was reported from Clevedon on 29 April. The first Sand Martins appeared at CVL on 10 March, and the first Swallow was noted on the late date of 10 April, but CVL had 400 by 20th, Portishead 184 on 27th and Durleigh 150 on 13th while the only report of note in May was of 1500 at CVL on 2 May. House Martins were reported from 13 April with CVL again holding the largest numbers: 100 on 20 April and 300 on 2 May. The Tree Pipit passage commenced on 16 April, main numbers coming from Brean Down with 13 on 20th and Berrow with 10 on 23rd while smaller numbers were at 16 other places. After the first Yellow Wagtail on 10 April they were noted in small groups of up to seven from 13 locations during the remainder of the month. May was not much better but a flock of at least 100 at Huntspill on 4 May included a male Blue-headed Wagtail *M. f. flava*. White Wagtails *M. a. alba* were identified at Bucklands Pool and CVL in late March but it was a poor spring passage for this species as April only produced 24 birds at four localities. A male Black Redstart was at CVL on 2 April and there was a female at Brean Down during 7 – 26th. Redstarts from 16 April and Whinchats from the 21st were reported in small numbers from widespread sites. The first Wheatear was at Huntspill on 5 March followed by up to eight birds from at least ten places by the end of the month. Birds thought to belong to the Greenland race *O. o. leucorroha* were claimed for Brean Down on 26 April (female) and Durham Down on 3 May (two males and three females) but it should be borne in mind that this race can be very difficult to identify. A Ring Ouzel was found at Berrow on 22 March while the last Fieldfare was on 23 April and final Redwing on the 11th. The first Grasshopper Warbler was on 12 April followed later that month by only another six birds at just four sites and with even fewer reported in May and June. Both Sedge and Reed Warblers are poorly recorded and give no indication of their true status in the area; both were first reported at Huntsworth on 20 April. Small numbers of Lesser Whitethroats were noted from 22 April while the first Whitethroat was on 7 April with the most on Brean Down. Garden Warblers reached a peak of 13 at CVL on 6 May after being noted in small numbers from 12 April. The spring migration of the Blackcap is rather obscured by wintering birds but there was an obvious influx in April. Wood Warblers are invariably elusive on migration and were almost exclusively reported from north of Brean Down with one or two at eleven localities most of which were potential breeding sites. A sprinkling of Chiffchaffs was reported during the spring and summer while the Willow Warbler showed a distinct influx on 16 April with 70 on Brean Down and 50 at Sand Point but there were very few reports in the following months. Single Firecrests were noted at Severn Beach on 3 April and at Brean Down on 17th. Spotted Flycatchers appeared in late April and early May and the usual small spring passage of Pied Flycatchers produced eleven birds at nine places between 16 April and 15 May. A female or immature Golden Oriole brightened up Shapwick Heath on 15 May while there was a fine male at Marshfield on 30th. Another excellent



bird was a Great Grey Shrike on Filton Golf Course on 6 April. Two Ravens were watched mobbing a Sparrowhawk at Crook Peak on 3 May. The more unusual finches included small numbers of Siskin, Redpoll and Twites, with six of the last species remaining at Portishead until 2 April while two Crossbills flew north at Portishead on 4 June.



Little Grebes

### Selected breeding species

The high water level at CVL helped to produce a record breeding season for several species of water bird. Little Grebes fledged 62 young from 29 broods; Great Crested Grebe 144 from 68 broods making this their third best year ever; Mute Swan 37 from seven broods and Pochard 38 from eight broods. Tufted Duck with 114 young from 22 broods had a very good season compared to most recent years. The water level did not suit all species and Canada Geese produced only eleven young from three broods and Gadwall 43 from six broods. Mallard with 244 young from 33 broods were described as mediocre. Ruddy Duck with twelve males and two females present managed five young. Little Grebes bred or were present on five other waters and Great Crested Grebes raised young at Blagdon and Orchardleigh. Young Grey Herons were noted at Huntspill and Newton College Park. Mute Swans, away from CVL, raised 30 young at eight localities. Counts of Shelduck broods included six young on the Parrett Estuary, the same number at Sand Bay and 34 at the Yeo Estuary. Teal bred at Shapwick, a female being accompanied by eleven young on 11 June.

Sparrowhawks were noted at at least 30 sites during the breeding season with young seen at a dozen. Buzzards were given special attention because of the BTO's survey. This revealed 51 pairs in Avon with an additional 12 just outside in Somerset (eleven) and Gloucestershire (one). (See *Avon Bird Report 1983:47-48* for further details.) Breeding was confirmed from at least 19 sites. Kestrels were widely reported but with few records of actual breeding. The results of the Club's on going survey are given on pp. 86-88. Hobbies were present at five places and although there were no reports of breeding, these birds can be very elusive at this time of the year. Red-legged Partridges were noted at eleven places during the year and Grey Partridge were at 18. Quail appeared in reasonable numbers for a change; it was reckoned that at least four pairs were breeding on Mendip with a further three birds heard at Marshfield (but this must surely be below the true number) and one at Coalpit Heath. Coot bred well at CVL with a record 291 young from 100 broods, beating the previous best of 97 broods in 1971.

Breeding waders received little attention. Two Oystercatcher nests failed in the Clevedon-Yeo area but Redshank had a good year in the same locality. Barn Owls were noted at nine places throughout the year, Tawny at 25 and Little Owls at 70. Three Nightjars churred away at Shapwick but one wonders for how much longer they can survive at this much diminished site. Kingfishers were noted at 37 places throughout the year but there were very few reports of young being seen. Green and Great Spotted Woodpeckers were widely reported but the more elusive Lesser Spotted was only noted at six places in the first half of the year. The Sand Martin would appear to be a very uncommon breeding bird in the area so it is nice to report a colony of ten pairs at Somerdale during



July. Tree Pipits were noted at only four sites while Stonechats were producing young at Black Down, Brean Down, Crook Peak and Priddy Pools. The only Redstarts were at Velvet Bottom and Stock Hill.

There were reports of a total of 15 Dipper nest sites from the Bath area. Nightingales were again present in good numbers at Inglestone Common with a count of 26 and there were a further 15 divided between Shapwick, Street Heath, Ashcott Heath, Westhay, Norton St. Philip and Saltford. Grasshopper Warblers were only reported from Shapwick and Black Down. The main colonies of Sedge Warblers were at CVL with 18 males and at Berrow with 12 males, while the Reed Warbler is described as very common at CVL and there were 18 males at Berrow; few others were reported with records only from the Yeo Estuary and Shapwick. Wood Warblers were present at twelve suitable breeding sites during the season. Willow Tits were noted at two places but there was no sign of any young. The Cetti's Warbler is expanding into the area but it is at present best not to disclose the sites; the same applies to the Bearded Tit which managed to rear young in the area. Tree Sparrows appear to be at a low level at present; the only young being noted were at Nailsea, but this species is often under-recorded. Hawfinches were present at one site and there are still a few pairs of Cirl Bunting hanging on in suitable places. The Corn Bunting, a bird of peculiar distribution, has a few local colonies, the most notable being at Marshfield where 14 were present on 4 June.

#### Other mid summer observations

18 Manx Shearwater were noted at Sand Point on 6 June and there were 27 off Berrow on 13th. A Purple Heron was discovered at CVL on 25 June and remained in the area until 2 July. 3700 Shelduck were noted at Steart on 10 July and other summering duck included Wigeon, Teal, Pintail and three Goldeneye while the usual passage of Common Scoter at CVL produced nine on 18 June and three on 7 July.

A Little Stint in summer plumage was found at Steart on 13 July and there were also two Bar-tailed Godwits on the Yeo Estuary during that month. A Green Sandpiper was noted at Huntspill on 27 June and the same month saw 12 Common Sandpipers at three places which were presumed to be early returning migrants. There were also several reports of Turnstones in mid summer. Two Common Terns were seen at CVL on 11 and 25 June and this locality also had two Little Terns on the first date while there were five in the Parrett Estuary on the 1st. A Pied Flycatcher was found in a garden at Pilning on 24 July having been brought down by heavy rain. An albino Starling was noted at Keynsham during July and three Crossbills were noted at Abbots Leigh on the 19th.

#### Autumn migration

1983 produced the hottest July this century with temperatures regularly over 80°F and occasionally over 90°F. Winds were light and variable with rain almost unknown until heavy thunderstorms on 31st. Warm weather soon returned in August as high pressure continued to cover the south of the country but the high temperatures of July were not maintained. Heavy rain fell between the 19th and 21st and cloud cover remained for most of the remainder of the month but leaving temperatures at a more reasonable level. The weather in September was dominated by a series of low pressure areas crossing the country during the first three weeks creating gale force winds. The severest weather was during the 3rd to 5th when prevailing winds veered north-west. High pressure produced more settled conditions towards the end of the month when winds were mainly from the south and east. October was dominated by continental anti-cyclonic systems giving dry, clear weather, although mist persisted on some days. A strong Atlantic depression brought south-west to westerly winds across the country on the 15th and 16th.

Following the record breeding season there were 91 Little Grebes at CVL on 27 August. This locality also held 475 Great Crested Grebes on the same date which included 161 young birds, and the moulting flock later peaked at 510 on 17 September. Two Black-necked Grebes were at CVL on 21 August with one remaining the following day.

The autumn gales, especially during 3-5 September, brought large numbers of seabirds into the area and although the majority were in the Channel with most sightings in the Parrett Estuary and at New Passage, several species were reported far inland on the Mendip reservoirs. There were relatively few Fulmars noted, five during





Manx Shearwaters

3-4 September with single birds on 17th and 5 and 16 October. 279 Manx Shearwaters were reported during the period 3-19 September with 216 of these coming between the 3rd and 6th. The later small influxes produced 27 on 11th and 20 on 18th, while singles were still appearing on 5th and 16th of October. Single birds were also reported from CVL on 5 and 17 September. Some shearwaters were seen being harassed by other species with one being killed by a Great Black-backed Gull and another knocked into the sea by a Peregrine. The Parret Estuary produced the first records of Cory's Shearwater for Somerset on 11 and 13 September and both records possibly relate to the same bird. A Sooty Shearwater was seen in the same area on 18th. Apart from a single bird on 11 September all records of Storm Petrels were confined to 3-5 September and all but four were noted in the Channel. The exceptions were two at CVL and singles at Blagdon and Cheddar all on the 3rd. 66 Leach's Petrels occurred during 3-5 September followed by a further eight during 11th-19th. On the 3rd there were inland records of seven at CVL and one at Blagdon. Later records involved three in the Parret Estuary on 5 October followed by 17 on 16th; Severn Beach saw singles on 8th, 17th and 18th with 6 on 16th which was also the day that one was found at CVL.

Four petrels which could not be specifically identified were noted at Severn Beach on 4 September with a further five on 16 October. Gannets were mainly reported from higher up the Channel, 78 being recorded on 3-4 September, an additional seven on 5th and one on 6th. A single was also present at CVL on the 4th and 5th. An immature Shag was noted at Cheddar on 6 September while there was another at Severn Beach on 16 October.

27 Arctic Skuas were noted during 3-20 September mostly from the Parrett Estuary and Severn Beach. (A skua at CVL was possibly this species but could have been a Long-tailed Skua). October produced three in the Parrett Estuary on 5th and one on 19th while there was also one at Severn Beach on 18th. 23 Great Skuas were noted during 4 September-18 October with 17 of these appearing in September. Although mainly reported from the coast there were two at CVL on 4 September, and one the following day and Cheddar played host to one on the 11th. A Pomarine Skua was at Portishead on 4 September with two different birds being present at Severn Beach on 16 and 17 October. A juvenile Long-tailed Skua was watched at close range off the sea-front at Burnham on 5 September while on the previous day an unidentified skua (either Arctic or Pomarine) was at Severn Beach. Sabine's Gulls were noted in unprecedented numbers, not only in our area but in the country as a whole (87 were seen in one day at St. Ives, Cornwall). Records from the Brue/Parrett Estuaries probably involved 23 individuals, including three juveniles, during 3-6 September and were followed by an adult on 11th and a juvenile on 16th. Up to twelve were noted at Severn Beach during 3-5 September with a juvenile being seen on each day, while there was a single bird, thought to be second year, at Oldbury on the 6th.

Numbers of moulting Mute Swan at CVL were rather low with 77 in August. 2060 Shelduck were present at Steart on 11 September while inland there were two at CVL on 7 July, nine at Cheddar on 22 August and one at Barrow Gurney on the 28th. Wigeon numbers remained low but there were 215 Gadwall at CVL on 27 August dropping to 82 by 17 September. Teal were present in small numbers until an influx around 27 August when numbers rose to 355 at CVL and 160 at Cheddar. This latter locality produced very good conditions for the species in September when numbers increased to 1200 by the 20th. Mallard were not particularly numerous but there



were 995 at CVL on 17 September and 675 at Huntspill on the 14th. Up to seven Pintail were noted at CVL and Cheddar with nine in the Brue Estuary on 21 September. The influx of Teal brought a number of Garganey with them and numbers at CVL rose to ten on 27 August while there were one or two during the month at Bucklands Pool, Cheddar, Nailsea and Oldbury. Birds remained on the Mendip reservoirs until 24 September. 490 Shoveler were at CVL on 27 August with 325 still there on 17 September. An eclipse male Red-crested Pochard at Cheddar on 27 August was joined by a female two days later; there was also a hybrid there in September which was thought to be this species crossed with a Mallard. 630 Pochard were at Cheddar on 18 September while CVL claimed the largest Tufted Duck flock when 915 were seen on 27 August. Five Common Scoter were noted on the coast during September while inland CVL held two males on 6 August and 17 including eight males on 24 September. A female or immature Goldeneye in the Brue Estuary during the gales on 4 September was unusually early for the Somerset coast. For the first time there was a moult gathering of Ruddy Duck at CVL with a flock of 30, including 24 males on 6 August which had increased to 124, still with a predominance of males, by 27 August. Numbers had risen to 215 here by 24 September.

A Black Kite was noted in the Gordano Valley on 8 August. A female or immature Marsh Harrier was at Avonmouth Sewage Works on 19 August while there was an adult male in the Yeo Estuary on 1 September. The first Hen Harrier of the autumn appeared at Royal Portbury Dock on 30 October. A Goshawk was found in Avon on 13 August. There were eleven reports of Merlins, mainly from the Parrett Estuary during 28 August–31 October. Hobbies, mostly single birds, were noted at six places during 13 August–2 October with well watched CVL making the biggest contribution. Up to three Peregrines were present in the Parrett Estuary during August to October with single birds being noted on many dates at eight other localities. Water Rails were noted at CVL, Berrow and Weston Moor. Three Spotted Crakes gave excellent views at CVL during 4–20 September with two being trapped and ringed. A very rare visitor in recent years was a Corncrake which was flushed from the dunes at Berrow on 28 August.

Oystercatchers were present at the usual coastal sites with a maximum of 439 at Berrow on 25 September while inland records came from CVL in August and September. 20 Little Ringed Plover were noted during 3 July to



Ringed Plover

28 August from both coastal and inland sites. At least 1500 Ringed Plover occurred along the coast, the maximum count being 675 at Oldbury on 21 August while inland records came from Cheddar with up to 26, Bucklands Pool with 18, Durleigh with 8 and only three at CVL.

A Kentish Plover was present at Huntspill on 7 October. Small numbers of Golden Plovers were noted in August with a slight increase in September but the best flocks were in October when there were 115 at Marksbury. Steart proved once again to be the main haunt for Grey Plover with 130 on 25 August increasing to 350 on 25 October. This locality also held 270 Knot on 11 September with inland records from CVL and Cheddar in the same month and 300 at Berrow on 23 October. The main Sanderling numbers were as usual at Berrow with 70 on 30



July and 50 on 7 August, but there were small numbers at other coastal sites as well as one or two at Cheddar during 3–11 September. Little Stint passage commenced on 20 August and lasted until 26 October with up to seven birds being reported from many sites including a total of 15 birds at Berrow in early October. A juvenile Pectoral Sandpiper was at Cheddar during 27 August–23 September being joined by a second bird during 17th–20th; a single bird was also noted at the Brue Estuary on 12 and 28 September. It proved to be a poor autumn for Curlew Sandpipers; the first was at Clevedon on 14 August followed by up to five birds at half a dozen places in September. Most October reports came from Avon with up to six birds on the coast and at CVL. Two Purple Sandpipers were at Severn Beach on 31 October. Dunlin numbers were rather low with few reports of flocks exceeding 1000 before October, when 7500 were reported from Steart on the 25th. Ruff were noted at ten places during 6 July–22 October, mainly the reservoirs and never more than four birds together. Jack Snipe appeared at Clevedon on 25 September but the main arrival was as usual in October when they were noted at Berrow, Portishead, Weston Moor and Clevedon. Numbers of Black-tailed Godwit passing through the Parrett Estuary still remain low but they did reach 220 on 18 August but soon dropped to 60 by mid-September with very few remaining in October. Bar-tailed Godwits pass through later but few were noted until 40 appeared at Steart on 11 September. Up to 50 Whimbrel frequented Huntspill during 9–24 July with much smaller numbers in August and September over widely spread localities. 1250 Curlew were present at Steart on 25 August and 11 September. 42 Spotted Redshanks were noted during 10 July–31 October making this a poor autumn for this species. In contrast Redshank were noted in good numbers with 600 reported from Steart on 10 July and odd birds inland at CVL, Cheddar and Durleigh. There were 137 Greenshank during 7 July–29 October; 101 Green Sandpipers 2 July–31 October and 293 Common Sandpipers 3 July–29 October. Single Wood Sandpipers were noted at Avonmouth, Cheddar and Huntspill during 14–25 August and again at Cheddar on 18 September. Flocks of over 50 Turnstones were noted at the Brue and Huntspill Estuaries and Severn Beach. A Red-necked Phalarope was at Cheddar on 4 September joining the two Grey Phalaropes which were still present from the previous day. Another Grey was noted here on 16 October with two on the 19th while there were also singles at Steart on 3 September and Berrow on 17th and in the Brue Estuary on 18 and 19th (possibly the Berrow bird) and 6 October. Up to three birds were noted at Severn Beach during 16–19 October. The rarest wader this autumn was a Broad-billed Sandpiper which was seen at Oldbury during 20–22 August and constituted the first Avon record. 30 Kittiwakes were noted during 3 September–30 October but appeared to be little affected by the gales. 23 Little Gulls appeared between 11 August and 22 October. A yellow-legged Herring Gull *L. a. michahellis /cachinnans* was at CVL in late September and early October. A sub-adult Mediterranean Gull was noted at Berrow on 9 September and an adult at Clevedon on 19 October while CVL held a juvenile on 18 September and a second winter bird on 29 October. There were 22 Sandwich Terns during 13 August–9 October; 44 Common Terns during 2 July–19 October; 25 Arctic Terns 7 August–29 October; 16 Little Terns 2–24 August; 190 Black Terns 9 July–19 October and a White-winged Black Tern which was noted at Barrow Gurney on 1 October and moved to CVL later the same day. An auk which was not specifically identified was off Sand Point on 29 October. A Long-eared Owl was found at Severn Beach on 29 October while Short-eareds were present at Yeo Estuary and Berrow during 22–28th. A record of Common Nighthawk at Churchill on 23 October is still being considered by BBRC and if accepted will be the first record for Avon and only the second ever on the U K mainland.

400 Woodpigeons flew high to the south-east over Keynsham on 22 October but only five Turtle Doves were noted during the autumn with the last on 22 October. The last Swift was seen on 11 September. A Woodlark flew in from the sea heading off to the east at Clevedon on 23 October and this date also produced a Shore Lark, again heading east, at Sand Point. Sand Martins reached 500 at CVL on 10 September, Swallows 4000 on 7 August and House Martins 3000 on 10 September. A Tawny Pipit was at Huntspill on 5 October (apparently a good autumn for this species in the south-west) while the usual small passage of Tree Pipits occurred between late August and late September. 1900 Meadow Pipits passed Keynsham in two hours on 2 October. Rock Pipits appeared inland at Barrow Gurney, Cheddar and CVL and this last locality also had four Water Pipits on 25 October. There was a small passage of Grey and Yellow Wagtails, the latter being last noted on 22 October. Black Redstarts appeared at three places in late October. There were eleven Redstarts during 19 August–2 October; 62 Whinchats during 13 August–12 October and 71 Wheatears from 7 August–29 October with a male apparently of the Greenland race at CVL on 27 August.

A very early Fieldfare was noted at Steart on 28 August and apart from five at CVL on 20 September there were very few until the main arrival occurred on 21 October at which time Redwings also became more numerous. About 400 Sedge and 500 Reed Warblers were ringed at CVL during August but a bird of the second species was still



at Highbridge on 24 October. The last Whitethroat was noted on 16 September and the last Lesser Whitethroat on 28th. A female Bearded Tit was at CVL on 25 October while Berrow held six on the 29th. There was a small influx of Blue Tits in October, including over 100 at Keynsham on 8th, with mixed parties which also involved Great and Coal Tits being noted on the coast. A minimum of 420 Jays appeared during October reflecting the huge influx into the West Country, particularly Devon and Cornwall, due to the failure of the acorn crop in Scandinavia. What appeared to be a genuine Hooded Crow was seen at Yoxter on 30 August and an albino Starling was at Pilning during September and for a change there were reasonable numbers of Tree Sparrows with 20 at Wick St. Lawrence on 12 October and 40 at CVL on 25th. After a poor showing last winter some 48 Brambling were reported from 19 October and a charming Serin was found at CVL on 22nd but passed through rather quickly giving only two people a chance to see it. 49 Siskins in October followed a single at Saltford on 30 September. A flock of 600 Linnets was present at the Yeo Estuary in September, up to ten Twites were noted at the Brue Estuary during 25–28 October and there were 32 Redpolls during 2–19 October at several locations. Five Crossbills were noted at Barrow Gurney on 13 August with records at Abbots Leigh of 13 on 14th and a single on 29 October while an immature male flew south at Berrow on 23rd. This last locality saw Lapland Buntings on 23 and 29 October while just down the coast at the Brue Estuary there were single birds on 23rd and 27th. There was a Snow Bunting in the Clevedon/Yeo area on 22 October and Yellowhammers appeared at several coastal sites indicating a small number of passage migrants.

### **The second winter period**

November started settled but dull with an anticyclone stationed nearby. There were easterly winds around 9th–10th with a sudden drop in temperature by the 12th as winds turned northerly. Temperatures remained low until the 23rd. However later in the month temperatures rose slightly as warm air pushed in from the south west. December was predominantly mild with a south-westerly airstream crossing the British Isles producing rain on most days with fresh to strong winds varying from south east to south west. There were short colder periods between the 4th and 12th when a northerly airstream brought snow to the north of the country.

A Red-throated Diver was at CVL during 13 November–10 December, while one flew north at the Brue Estuary on 27 November. An immature Great Northern Diver was noted at CVL on 3 December and remained into the New Year. Another watched drifting down the River Parrett on 21st was probably the bird found sitting in a puddle and heard calling at Berrow later in the morning. There was also one present at Royal Portbury Dock two days later. Reasonable numbers of Little Grebes wintered on the reservoirs and there were 380 Great Crested Grebes at CVL in mid-November; a combined count of the Mendip reservoirs on 17 December produced 397 birds. Rarer grebes included a fine Red-necked at CVL from 23 December into 1984 and a Slavonian at Blagdon during 17–24th. A Fulmar picked up at Berrow on 23 December unfortunately died on Boxing Day at the R.S.P.C.A. Wildlife Centre at West Hatch, while another was noted at Severn Beach on the 27th. Records of Leach's Petrel are rare in winter but one was well seen at CVL on 30 December, while further south an immature Shag flew into the Brue Estuary on 23 December and was later seen on the pools at the nearby Apex Gardens. Bewick's Swans were widely reported in small numbers with a maximum of 17 at Northwick but much rarer were the five Whooper Swans which flew east here on 13 November and the two noted at Tortworth Lake on 4 December. White-fronted Geese were noted at CVL, Northwick, Oldbury, Aust and Steart with the maximum being the 22 at the last locality on Boxing Day. 136 Canada Geese were present at CVL with small numbers recorded at several other sites. Brent Geese were in the Parrett Estuary during 9 November–29 December mostly in parties of less than ten but there were 19 here on 22 December, two were noted at Severn Beach on 7 November with four present on the 12th while there were two in the Clevedon / Yeo Estuary area the following day and one had unusually appeared inland at CVL on 12th. Steart as usual proved to be the headquarters of the Shelduck flock with 350 on 9 November and 480 in December. The main arrival of Wigeon occurred in mid November and there were good numbers at several sites with the Parrett Estuary holding 640 on Christmas Eve. Gadwall showed a marked increase on 12 November with 118 at CVL compared to 34 the previous month. There were 1000 Teal at Blagdon on 18 and 26 December with 900 at CVL on the latter date. 1000 Mallard were noted on the River Parrett on 8 December while both Pintail and Shoveler were present in the area in small numbers. Pochard produced good numbers with a combined count from Blagdon, Cheddar and CVL producing 2110 on 12 November but numbers had fallen by the end of the year. 451 Tufted Duck were noted at CVL and Blagdon on 12 November while in mid December some 700 were counted on all the Mendip reservoirs combined. Unusually six were present at the Brue Estuary on 14 December. At least four different Scaup were seen at CVL with pairs at Cheddar and Steart while a male was noted at Blake's Pool, R. Yeo on 23 November and 21 December. A Long-tailed Duck was noted in the Parrett Estuary on 14 November and a female



was at Blagdon on 18 December, probably the bird understood to have been at Cheddar at this time. An influx of Common Scoter into the area occurred on 12 November with 80 at Severn Beach, 17 at Cheddar and 16 at CVL increasing to 18 the next day. There was also a single at Portishead on 20th and four at Berrow on 26 December. A pair of Velvet Scoters was at CVL on 12 November, the first record at the lake of a species which is very uncommon inland. Goldeneye were noted at all the Mendip reservoirs as well as one or two coastal sites; the CVL roost reached 64 on 27 December. A female or immature Smew was at Blagdon on 17 December but moved to CVL on the 27th and remained there until the end of the year. Goosander at CVL increased from 32 on 18 November to 61 by the end of December with smaller numbers at Blagdon, Huntspill River and the Brue Estuary. Four Red-breasted Mergansers including a solitary male flew north at Berrow on 21 December while a female or immature was noted at CVL on 30th and remained to the end of the year. 426 Ruddy Ducks were counted on CVL and Blagdon on 12 November increasing to 685 on 17 December of which 526 were at CVL. Small numbers of Merlins and Peregrines were noted and Water Rails wintered in their usual haunts. Over 3000 Coot were present on the reservoirs on 17 December and on this date 41 Moorhens remained at CVL.

The highest count of Oystercatchers came from Berrow with 368 on 6 November. An Avocet briefly graced Barrow Gurney on 13 November. Ringed Plover were in good numbers with about 150 reported from six places. There were 326 Golden Plover at Rangeworthy on 17 December while Steart maintained its hold on Grey Plover with 340 on Christmas Day. Lapwing numbers were unexceptional due no doubt to the lack of a really cold snap. Up to 70 Knot were noted between Steart and Sand Bay but a Sanderling inland at Eastville Park on 3 December was very unusual for the time of the year, while a Little Stint was found at Blagdon on the same date. Up to four Purple Sandpipers were at Severn Beach with a single bird in the Yeo Estuary on 23 November.

Flocks of over 1000 Dunlin were noted in November at several coastal sites with 2500 in Sand Bay on the 27th. Numbers increased in December with the highest count of 5000 at Steart on 24 and 29 December while there were several records from inland localities. A Ruff was at the Huntspill River on 14 November. Small numbers of Jack Snipe frequented the usual sites in small numbers with nine reported in November and 13 in December. Woodcock were noted at eight places with Abbots Leigh producing seven on 22 December. 18 Black-tailed Godwits were in the Parrett Estuary in December and there were a handful of Bar-tailed Godwits scattered along the coast while



Woodcock



580 Curlew were at Steart in December and one inland at CVL on 12 November. Eight Spotted Redshanks wintered in the Parrett Estuary and there was also one at Oldbury on 30 December; this second locality produced a Greenshank on 13 November and 30 December. Eight Green Sandpipers were wintering in five areas with possibly seven Common Sandpipers also at two sites. There were 110 Turnstones at Severn Beach on 12 November.

A first winter and an adult Mediterranean Gull were noted at CVL on 5 and 20 November respectively and it is possibly these birds which were involved in the later December sightings here. There were adults at Stratton on the Fosse on 1 November and Saltford on 22 December while a second winter bird was seen at Severn Beach on 27th. Nine Little Gulls were noted at five locations and an adult Ring-billed Gull was at CVL on 29 December. 1486 Common Gulls were counted at Berrow and 240 at Royal Portbury Dock on 11 December and were probably involved in the same movement as the Kittiwakes that were in the Channel that day. An adult yellow-legged Herring Gull was noted at CVL on 5 and 19 November. This reservoir also received an adult Glaucous Gull on 26 December which represented only the fourth record for the lake. A Kittiwake was found at CVL on 27 November while the same day produced 35 in the Parrett Estuary. On 11 December a staggering 1592 passed Berrow in only 50 minutes but no more were noted until 101 passed here on 22nd. It is from this date that the species became widely reported, not only from the coast but also the reservoirs, until the end of the year, with Berrow and the Parrett Estuary being the most favoured (a wreck of this species occurred on the French coast in January 1984, involving at least 30000 birds, see *Brit. Birds* 77 (1984): 237). Single Guillemots were noted in the Parrett Estuary on 28 November and 11 and 26 December while the remains of an auk (possibly Razorbill) was found at Berrow on 28th. Seven Short-eared Owls were noted and three Long-eared Owls were present at a roost in the Gordano Valley during 4–27 December.

70 Collared Doves were noted at Burnett in November while 120 Woodpigeons were seen flying east at Keynsham on 5 November and there were 75 at Huntspill on 14th, but these figures do not compare to the 1500 at Rangeworthy during December. The end of this month also saw 358 Stock Doves at Steart with 120 at Rangeworthy on the 4th and 100 at Severn Beach on 5th. A Woodlark flew south at Berrow on 20 November while the last Swallow was noted on the 4th at Sand Point and the last House Martin on 13th at Clevedon. A probable Richard's Pipit was reported from Blagdon on 6 November. Water Pipits were noted in small numbers at five sites. Southgate Street, Bath provided a roosting site for 1300 Pied Wagtails on 28 December, while there was the usual scattering of wintering Grey Wagtails at the reservoirs. Seven Black Redstarts were reported from six places and a very late Redstart (female or immature) was at Huntspill on 19 November. Only small numbers of Stonechats were noted and the last Wheatear was at Steart on 9 November and was considered to be of the Greenland race. There were few Fieldfares until mid-December (apparently a heavy crop of Rowans kept many birds in Finland (*Brit. Birds* 77 (1984): 240), but that month did produce better numbers of Redwings with 2000+ near Yatton and 3000 above Compton Martin. 20 Blackcaps and nine Chiffchaffs wintered and a Firecrest was noted at Yatton on 12 November with sightings of two at Portishead on 20th and Berrow on 27th and a single bird at the last site on 29 December. Berrow also held two pairs of Bearded Tits on 6 November. Long-tailed Tits appeared to be in good numbers at many localities but only one Willow Tit was reported. 2000 Jackdaws were going to roost at CVL on 6 November. An encouraging number of Tree Sparrows were noted at ten sites with the high counts of 46 at Saltford, 35 at Northwick and 33 at Rangeworthy. Bramblings were much more numerous than last winter with small flocks being noted at many places. Larger flocks included 55 at CVL, 60 at Huntspill, 76 at Royal Portbury Dock and 150 at Sand Bay.

Siskins were also widely reported but in small numbers with a maximum of 25 at Wrington on 19 November. Twite on the other hand were more numerous than usual. Although surprisingly absent from Portishead, November saw flocks of eight at the Brue Estuary, six at Royal Portbury Dock, and up to 36 in the Clevedon/Yeo/Kenn area, while this last site still held 20 during December and up to 22 were regularly present at Berrow during 20th–31st. Redpolls were rather scarce being only noted at four places with the highest count of 36 at Shapwick on 10 December. Up to four Crossbills were noted at Abbots Leigh in November and a Hawfinch was at Shirehampton on 2 and 16 December. Single Lapland Buntings were at Clevedon on 13 and 23 November and at Brue Estuary on 3rd while Snow Buntings were at the Yeo Estuary on 22 November and Royal Portbury Dock next day as well as Christmas Eve. To round off the year two Corn Buntings were noted at Berrow on 29 December.



## THE BIRDS OF ROYAL PORTBURY DOCK, AVON

by G. J. Upton

The area of St George's Wharf, Avon was considered an interesting one ornithologically before the construction in the early 1970s of the large Royal Portbury Dock and continues to attract birds in large numbers and in good variety. My observations there did not commence until November 1977 and subsequent regular visits over seven years have seen a change from the relatively undisturbed period after the Dock was excavated to the relatively busy and well developed industrial scene of the present day, with the Dock working as a container base, a processing plant for molasses, and a major port for imported cars. Interestingly, bird populations in the area have suffered remarkably little and one can still see large numbers of birds – many of them unusual in Avon – within the industrial surroundings.

When I first visited the site the dominant habitat was man-made areas of flat plateaux of earth and silt extracted from the Dock, which had stabilised and become overgrown to a greater or lesser extent with grasses and weeds, interspersed with isolated freshwater pools and ditches. Where the ground cover of vegetation was slight, the surface of the land was dotted with small boulders and the shingly habitat was ideal for breeding birds such as Ringed and Little Ringed Plover\*, Lapwing and Skylark. In areas of thicker vegetation, breeding birds included Lapwing, Redshank, Reed Bunting and Skylark. The freshwater pools provided feeding grounds not only for the breeding waders but also for large numbers of migrant waders and ducks. In recent years these types of habitat - especially the shingle - have been eroded by increasing development and the two large freshwater pools have been drained. However, new areas of man-made shingle are continually being created and one of the most interesting features of birdwatching at Portbury is the way in which migrant and breeding birds are able to adapt to the changing environment.

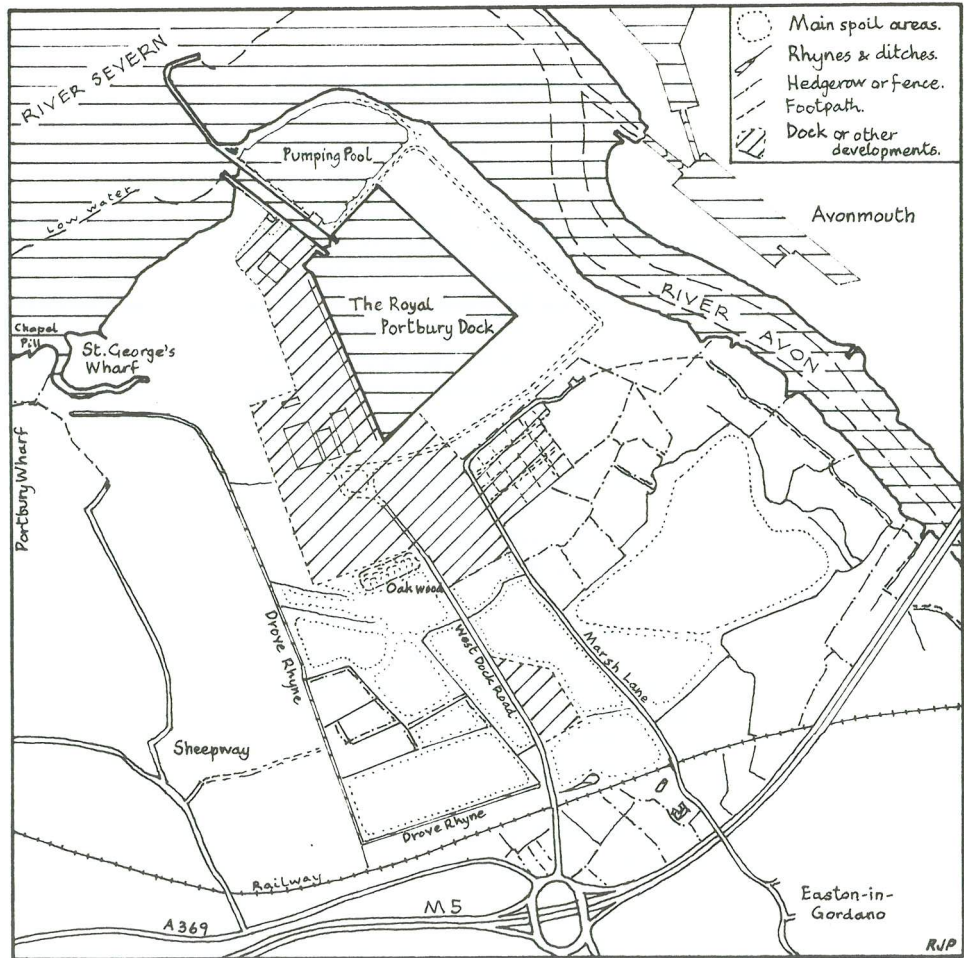
Background information concerning the wildlife of the area, with particular emphasis on wildlife management work there, can be found in the article by M.Dorgan and G.Youdale in *Bristol Ornithology* 15: 163-165. This paper covers the period November 1977 to November 1984 in fuller detail. The systematic list brings out some of the effects of increasing industrialisation on the bird life, but some general observations can be made here. Breeding waders seem to find the area as attractive in 1984 as they did in 1978, despite the additional disturbance, and although many of the nests are within yards of regularly used roads or tracks, the birds do not apparently worry. Similarly, numbers of ducks and waders wintering in the nearby estuary have increased if anything: disturbance at the mouth of the Avon is negligible at low tide, but the waders have been obliged to become noticeably more tolerant of human beings at their high tide roosts. This is one way in which the development could be said to have helped the birdwatcher as birds generally now allow a closer approach. Unfortunately this mutual tolerance between people and birds is in stark contrast to the situation at Portbury Wharf, where apparently uncontrolled shooting seems to be on the increase. Numbers of breeding passerines have remained relatively unchanged except that Reed Warblers have increased dramatically. Numbers of finches wintering in the area seemed good in 1977 and subsequent winters were very much poorer until 1983/4 when numbers were comparable. With so much undisturbed long grass the area must support a large population of mice and voles, and the area remains very good for predators such as Kestrel, Short-eared Owl, and Little Owl. So the picture is generally of bird populations remaining stable or increasing. On the other hand, habitat reduction has meant that freshwater waders such as Greenshank are not seen in such large numbers and it is now a rare event to see ducks or grebes in the Dock amongst the ships, whereas some waterbirds were to be seen regularly before the Dock was opened to shipping.

The study area for the purposes of this article is bounded by the Rivers Severn and Avon, the M5 Motorway and the large drainage channel separating Royal Portbury Dock from the adjacent Portbury Wharf (see Fig. 1). Some observations included in the systematic list may relate to Portbury Wharf (partly due to the difficulty of identifying records given in bird reports as 'Portbury') but in general I have tried to confine observations to this more limited area to ensure consistent coverage. The study area includes other habitats besides the dominant man-made shingle and grassland. There are areas of reed-filled ditches and pools, which support a growing population

\* Scientific names of most species are given in the systematic list.



Fig 1. Map showing main features of study area at Royal Portbury Dock, Avon.



of Reed and Sedge Warblers and Reed Buntings. Hedges and areas of hawthorn *Crataegus monogyna* scrub hold large numbers of Whitethroats and Lesser Whitethroats, with Green Woodpeckers, Bullfinches and Linnets. 'Oak Wood', just off the approach road, is a small area of mature oak *Quercus robur* woodland with breeding Willow Warblers and Chaffinches. The Dock itself, as mentioned earlier, is no longer attractive to ducks and grebes but the semi-tidal pumping pool, governed by sluice gates, adjacent to the huge lock at the entrance to the Dock, is highly attractive to ducks and waders. Finally, the Severn estuary is used as a major migration route by large numbers of passerines, waders and terns and can well repay careful watching for seabirds during favourable conditions. I had no luck at all with seawatching from the area until 3 September 1983 when I watched from the comfort of my car an almost constant stream of Gannets, Manx Shearwaters, Storm Petrels and Leach's Petrels battling down-river against the force 9 south-westerly gale. This was the date when watchers all along the Severn estuary recorded unprecedented numbers of seabirds and, although watching from Royal Portbury Dock was not as exciting as at New Passage, just 10 kilometres up river, it was still an unforgettable experience.

The range of habitats and the proximity to a major migration route means that almost any species could theoretically turn up, and like other watchers who have their own 'patch', I find myself spurred along on dull days by the thought that there might just be an amazing rarity further on. In May 1982 I had the reward of finding the county's first Lesser Grey Shrike here and in October that year, I had frustratingly brief views of a bird which was almost certainly a Tawny Pipit. (The Rarities Committee which removed this species from its list in 1983, will almost certainly be unable to approve this as the identification rested primarily on call.) Many other scarce, rather than rare birds have been recorded over the years and no doubt further species will be added to the list for the locality, provided coverage can be assured.

I have been able to establish records of 175 species from the area during the study period. In addition there are a further 9 recorded before this, but not subsequently (see Appendix 2). In view of the limited observer coverage it is hardly surprising that a number of birds which could be expected to occur have never been seen: examples that spring to mind are Canada Goose *Branta canadensis*, Bearded Tit *Panurus biarmicus*, Pied Flycatcher *Ficedula hypoleuca*, Firecrest *Regulus ignicapillus*, and Corn Bunting *Miliaria calandra*. Also, in view of recent occurrences of Lesser Yellowlegs *Tringa flavipes* and Pectoral Sandpiper *Calidris melanotos* at Avonmouth Sewage Farm (less than 4 km away), any of the American waders could be a possibility.

Unfortunately, the Port of Bristol Authority has to be extremely cautious over granting access to visitors. I have been fortunate in having been granted a permit for most of the time since 1978, but this has required a certain amount of persistence on my part. The entrance to the Dock itself is barrier-controlled by PBA Police and readers are advised that a permit is required, not only to enter the enclosed part, but also to walk over the surrounding area. It is to be hoped that the Authority will soon feel able to grant permits to more birdwatchers, as there are many who would be keen to visit the area, and there can be no doubt that increased coverage would lead to a more complete knowledge of its birdlife, both passing through and breeding. However, the Authority has to give prime consideration to the security of the site.

In the systematic list which follows I have included all significant records gleaned from the annual *Avon Bird Report* and the B.O.C's monthly *Bird News*, together with some unpublished records, mainly of my own. I would be interested to hear of any records for the period which have not been included. The list includes a number of tables showing the maximum monthly counts for certain species which feed in the area in significant numbers. In these tables a dash (-) indicates that no birds were recorded in that month although the area was visited. A blank space means that no visits were made.

### Systematic List

Where no initials appear, records are my own. Other observers whose names are abbreviated are W. G. Biggar, M. T. Dorgan, A. Hawkins, A. F. Silcocks and T. B. Silcocks. Some records prior to November 1977 are included for interest and are shown in brackets.

**RED-THROATED DIVER** *Gavia stellata*. An oiled bird was present in the Dock and 'pumping pool' from 1–5 February 1979 (AH, MTD, GJU).

**GREAT NORTHERN DIVER** *Gavia immer*. One in the Dock on 4 and 5 February 1979 (MTD). (Also recorded on 21 November 1976 by WGB).

**LITTLE GREBE** *Tachybaptus ruficollis*. An occasional visitor, mostly in winter, presumably from the nearby CEGB pool on Portbury Wharf where it breeds regularly. Maximum number one.

**GREAT CRESTED GREBE** *Podiceps cristatus*. A regular visitor to the Dock in winter before it was opened to shipping. Maximum four on 22 February 1978. Last seen on 29 April 1979.

**SLAVONIAN GREBE** *Podiceps auritus*. One in the Dock on 18 December 1977 (MTD, GJU *et al.*) and one in breeding plumage on 8 April 1979 (TBS).

**FULMAR** *Fulmarus glacialis*. One flew south in the memorable sea-watch of 3 September 1983; one north on 29 April 1984 (GJU, A Merritt).

**MANX SHEARWATER** *Puffinus puffinus*. Occasionally seen offshore during gales in spring and autumn. The 25 recorded 8th March 1979 (MTD) was a notable count. During two hours' seawatching on 4 September 1983 27 were seen moving southwards.

**STORM PETREL** *Hydrobates pelagicus*. Not recorded before the September 1983 gales, when eleven were seen moving northwards in ones and twos during 2½ hours seawatching on 3rd. Only one was seen in a similar period on the 4th.



**LEACH'S PETREL** *Oceanodroma leucorhoa*. One on 13 November 1977 (WGB). Two were seen during the seawatch of 2 September 1983. Surprisingly, on the same day New Passage just ten kilometres up the coast had many more Leach's but few Storm Petrels.

**GANNET** *Sula bassana*. Two on 8 March 1979 (MTD). Nine on 3 September and three on 4 September 1983. All records are of birds passing off-shore during gales.

**CORMORANT** *Phalacrocorax carbo*. Regular visitor during winter and spring. Particularly good numbers off-shore in the winter of 1983/4, with a maximum of 15 on 24-December. Less often seen in the Dock than previously, when it was common to see Cormorants drying their wings on the lamp posts surrounding the dock.

**SHAG** *Phalacrocorax aristotelis*. One on 15 January 1978 (MTD). One on 31 March (AH) and 10 May 1983 (GJU). All birds on the estuary.

**BITTERN** *Botaurus stellaris*. One on 29 December 1981 (AFS). This bird was seen in the Marsh Lane area during freezing conditions.

**GREY HERON** *Ardea cinerea*. Present throughout the year in numbers of up to 15 or 20. The heronry nearby at Portbury contains approximately 20 nests and directly overlooks the Dock. Out of the breeding season, up to six birds roost regularly in Oak Wood.

**MUTE SWAN** *Cygnus olor*. Up to six birds regularly seen either in the Dock area or on Portbury Wharf where they breed.

**BEWICK'S SWAN** *Cygnus columbianus*. Occasional brief visitor in winter. Ten on 31 December 1978 (AH); 18 on 5 January 1979 (AH); one on 22 February 1979 (G.Poole); ten on 18 December 1981 (AH); one on 6 November 1983; 17 overhead on 5 February 1984. Most records relate to flocks flying overhead, but the one in February 1979 was on the Severn mud.

**WHITE-FRONTED GOOSE** *Anser albifrons*. Occasionally seen flying over, usually during periods of hard weather. Largest numbers were 25 on 31 December 1979 (AH), 76 on 1 January 1979 and 72 on 16 January 1982.

**GREYLAG GOOSE** *Anser anser*. One on 19 February 1983. Presumed to have originated from the feral colony which inhabits the Frampton area.

**BRENT GOOSE** *Branta bernicla*. Four on 3 February in the 'pumping pool' and one on 4 March 1979 beside the dock. Also one on 16 January 1982 on the wharf (D. Embling).

**SHELDUCK** *Tadorna tadorna*. A good number of birds have bred in the years under review and in spite of the apparent loss of habitat good numbers continue to be present. Crèches of chicks in the estuary numbering 21 in June 1982, 13 in June 1983 and 11 in May 1984 indicate the level of successful breeding. Numbers of adults highest from January to June, with 40 the normal figure and a maximum of 67 in April 1978. From July to December not normally more than 20 present. Favourite feeding areas are the mouth of the Avon and the 'pumping pool', and also St George's Wharf. In summer large numbers may often be seen up to 1½ km inland.

**WIGEON** *Anas penelope*. Irregular winter visitor usually in small numbers (less than 10) but larger numbers may be present during severe frosts when the reservoirs are frozen. Maximum 206 on 14 January 1979.

**TEAL** *Anas crecca*. Regular winter visitor. During the six years, numbers seem if anything to have increased. The site of the wintering flock moved in the winter of 1983/4 from St George's Wharf to the Avon estuary - presumably because of too much disturbance on the old site. Monthly maximum figures appear in the table below. Maximum 297 on 29 November 1981.

	J	F	M	A	M	J	J	A	S	O	N	D
1978		106	39	18	—	—	—	7	4	16		6
1979	170	85	40	4	—	—	—	—		15		
1980		70	67		—	—	—			30	70	250
1981	260	220	130	—	—	—	—		54	140	297	280
1982	277	200	100	62	—	—	—	5	45	140		100
1983	240	180	90	19	—	—	2	1		120	60	290
1984	140	180	40	18	—	—	—	12	4	30	116	

**GADWALL** *Anas strepera*. Occasional winter visitor. Two on 7 January 1978; one on 7 January 1979; one on 12 December 1981; present from 13 November 1983 to 14 April 1984 with 11 on 18 March. Many of these were seen at the mouth of the Avon but they also frequented a small freshwater pool near the rubbish tip in 1984.

**MALLARD** *Anas platyrhynchos*. Resident and winter visitor. About ten pairs probably breed in the drainage channels but are elusive and difficult to quantify. Monthly maxima below. Maximum 1250 in March 1983 (MTD). The main body of the flock is invariably at the mouth of the Avon, where numbers are very high by local standards. It appears that the Portbury flock is the second largest in the county after Chew Valley Lake.

	J	F	M	A	M	J	J	A	S	O	N	D
1978	251	275	90	70	60	80	65	40	220	330	180	
1979	290	450	100	29	—	—	25	70		180		
1980	460		90		31					30	390	
1981	267	220	70	10					200	420	525	400
1982	510	200		10	10	60	40	75	380	260		350
1983	1200	1175	1250	56	56	190	50	200	150	350	410	440
1984	300	460	50	48	20	30	40	142	360	300	350	

**PINTAIL** *Anas acuta*. Present during December 1977 with four on 18th, but subsequently recorded only once, when a female was seen on 4 November 1984 among the Mallard flock.

**GARGANEY** *Anas querquedula*. Three on the sea on 3 April 1982 (AH).

**SHOVELER** *Anas clypeata*. Regular visitor in autumn, winter and spring whose numbers seem to have increased as with Teal. Highest numbers in mid-winter, e.g. 49 on 16 January 1983; 35 on 8 January 1984.

**POCHARD** *Aythya ferina*. Irregular winter visitor, usually in small numbers. As with Wigeon, severe frosts can bring in large numbers, e.g. 137 on 16 January 1982; 120 on 17 February 1979.

**TUFTED DUCK** *Aythya fuligula*. Irregular winter visitor, usually associated with Pochard, but in very much smaller numbers, e.g. 16 on 19 December 1981, 12 on 16 January 1982.

**EIDER** *Somateria mollissima*. One on 9 January 1982 (MTD). (Also up to five present off St George's Wharf between 14 January 1976 and 13 March 1976. MTD).

**LONG-TAILED DUCK** *Clangula hyemalis*. Single female observed by J. Westcott on 27 October 1978 in the main rhyne. Unfortunately, the bird which frequented Portishead boating lake - four kilometres away - during the winter of 1982/3 was never seen here.

**COMMON SCOTER** *Melanitta nigra*. Two on 1 May 1978 (TBS) in the Dock.

**GOLDENEYE** *Bucephala clangula*. Scarce autumn and winter visitor. A female stayed in the Dock from 3 February to 8 April 1979. Since then all records have been in the estuary in autumn. Maximum three on 2 November 1980.

**RED-BREASTED MERGANSER** *Mergus serrator*. Male in the 'pumping pool' on 21 December 1979 (AH). Female present also in the 'pumping pool' from 18 July to 21 September 1982.

**GOOSANDER** *Mergus merganser*. Males on 11 March 1978 in the River Avon (GJU) and 11 January 1979 in the Dock itself (AH).

**RUDDY DUCK** *Oxyura jamaicensis*. Female off wharf on 28 January 1979.

**MARSH HARRIER** *Circus aeruginosus*. One flushed from spartina on 27 May 1978 (J. R. Best).

**HEN HARRIER** *Circus cyaneus*. Adult male from 16 to 20 February 1979 (TBS, G. J. Holmes); adult male 19 December 1981 (GJU); one/two from 26 to 30 December 1981 (J. R. Best, AH, AFS); one 'ringtail' on 28 October 1984 (GJU).

**SPARROWHAWK** *Accipiter nisus*. Seen regularly in 1978 and 1979 and presumably bred in or near the area in these years. Since then only the occasional individual was seen until 1984, when a welcome increase in the number of sightings has taken place. Birds have again been seen at all times of the year, suggesting breeding.



**BUZZARD** *Buteo buteo*. In spite of a good breeding population in the Portbury/Failand area, this is a rather rare visitor to the Dock with singles overhead on 8 April 1978 (GJU), 18 June 1980 (AH) and 24 April 1983 (GJU). One perched on a boulder in a field in Portbury Wharf on 10 November 1984 (GJU).

**OSPREY** *Pandion haliaetus*. One seen to fly from Portishead towards Portbury on 28 August 1984 (P. Chadwick), probably passing over south-eastern corner of study area.

**KESTREL** *Falco tinnunculus*. Two/three pairs breed regularly in study area, where they apparently find conditions ideal. A nest box erected by M. Dorgan and G. Youdale has been used in several years, and other nest sites include trees and a water-tower.

**MERLIN** *Falco columbarius*. Fairly regular autumn and winter visitor, with all records between September and February and long-staying individuals about every other year. Most records relate to females but an adult male was seen on 5 February 1983.

**HOBBY** *Falco subbuteo*. One on 11 July 1978 (AH); singles on 16 August and 7 September 1983 (AH); one on 13 June 1984 (C.J. Stone); two in July 1984 (TBS). Most birds have been in or near the area of the 'rhyne' between the Dock and Portbury Wharf. This is one bird which, despite a fair bit of trying, I have not yet managed to see in the area. It is to be hoped that the number of recent records suggests potential breeding nearby. Certainly the area is abundant in both dragonflies and hirundines in summer, which are common prey items.

**PEREGRINE** *Falco peregrinus*. Occasional visitor with typically three or four records a year, with records from most months except mid-summer.

**RED-LEGGED PARTRIDGE** *Alectoris rufa*. One on 2 August 1983 (AH) and a singing bird on 28 April 1984. A party of six has been present from September 1984 in the rubbish-tip area.

**GREY PARTRIDGE** *Perdix perdix*. Singles on 2 and 25 July 1978 (GJU); three on 31 December 1978 and three on 10 and 17 December 1983 (GJU and others). On 21 October 1984, on returning from a dusk visit, many were heard calling and a flock of about 30 partridges was seen flying to Portbury Wharf in the thickening gloom. The most likely explanation for this strange occurrence seems to be that a flock was released for shooting purposes.

**PHEASANT** *Phasianus colchicus*. Although seldom actually seen until recently the species breeds fairly commonly in the area - probably two/three pairs most years. In 1984 the species has become suddenly very abundant with up to nine being seen in a day - possibly also the result of increased activity by gamekeepers.

**WATER RAIL** *Rallus aquaticus*. Single on 27 February 1978, flushed from spartina beside the River Avon. Many previous records from WGB of birds flushed from spartina and also several recent records from nearby Portbury Wharf, e.g. three on 18 October 1981 (AH).

**MOORHEN** *Gallinula chloropus*. This species is extremely skulking at Royal Portbury Dock. Probably at least six pairs breed annually in ditches and channels throughout the area, and are to be seen throughout the year although sightings are usually confined to a flash of white under-tail coverts and the ripples in the water!

**COOT** *Fulica atra*. Occasional visitor to Dock itself during periods of severe frost - up to eleven from 11 January to 4 March 1979; 22 on 9 January and 15 on 16 February 1982 (GJU, AH).

**OYSTERCATCHER** *Haematopus ostralegus*. A pair has summered in the area every year since 1978, and their behaviour has suggested that breeding attempts have been made each year. In 1978 WGB found a nest containing two eggs in mid-June but it was empty one week later. Larger numbers can be seen during spring and autumn, the maximum being 36 seen flying up the Severn on 2 August 1983 (AH). Never observed in winter, although a few are usually present in the Portishead-Clevedon area.

**AVOCET** *Recurvirostra avosetta*. One among Shelducks on the wharf on 23 and 24 September and 5 and 6 October 1978 (WGB, J. R. Best, GJU). (WGB also saw one on 26 September 1971).

**LITTLE RINGED PLOVER** *Charadrius dubius*. Summer visitor, breeding most years. In 1978 mating and display were seen and breeding by at least two pairs strongly suspected (TBS, GJU). In 1979 one pair raised four young (MTD), this being the first record of proved breeding in Avon. In 1980 seen on 11 May but not thought to breed. In 1981, two pairs were present, one pair raising seven young in two broods (MTD). In 1982 two pairs hatched seven young (MTD). In 1983 only one record of a pair in May (C. Newman). In 1984 two pairs suspected of breeding but not proven. Birds have usually departed by late July but the occasional migrant bird can turn up in August.

**RINGED PLOVER** *Charadrius hiaticula*. Present throughout year. Has bred annually since 1978, usually two pairs. In 1981 two pairs succeeded in raising twelve young (MTD) and in 1982 a total of eight to ten adults were present throughout the season, and six young were reared (MTD). Two pairs bred in 1984 (GJU). Numbers outside the breeding season fluctuate. In autumn large flocks can accumulate - the maxima recorded being 250 on 22 August 1982 and over 100 on 27 August 1984. Numbers in winter usually below 10, but up to 50 recorded. This species breeds on the same shingly waste ground as the Little Ringed Plover and favours the mud at the mouth of the Avon for its feeding ground.

**KENTISH PLOVER** *Charadrius alexandrinus*. Female in the 'pumping pool' on 28 April 1984 (GJU, S.L.Upton, C. Newman). This bird associated happily with local Little Ringed Plovers but seemed uneasy with local Ringed Plovers. Not present next day. (One on 19th August 1973. WGB).

**DOTTEREL** *Charadrius morinellus*. One on 21 May 1978 (WGB). This bird was on the shingle at St George's Wharf and allowed close approach, apparently.

**GOLDEN PLOVER** *Pluvialis apricaria*. Occasional winter visitor, usually singly or in pairs, but twelve seen flying northwards on 18 February 1983. All records are between October and March.

**GREY PLOVER** *Pluvialis squatarola*. Occasional winter visitor and passage migrant, again usually singly but five on 21 February 1978 (AH), and on 23 September 1984. Records are between September and May (latest 14 May 1980).

**LAPWING** *Vanellus vanellus*. Breeds in good numbers within the study area - more than ten pairs breeding annually in suitable areas of rough grassy shingle both within the Dock enclosure and outside. Flocks of up to 1000 are regular between November and February, and rather smaller flocks can occur in spring and early autumn. Flocks usually frequent the tidal mud in autumn, moving on to the fields and waste ground around the area later on. Numbers diminish drastically in bad weather, with none present in the worst of January 1982.

**KNOT** *Calidris canutus*. Fairly regular autumn migrant between late July and mid-October. 1981 and 1982 were both good years for this species with peaks of 37 on 19 September and 70 on 9 October respectively. Rarely seen out of autumn: three on 15 April 1979 and one on 17 December 1978 (WGB). When present they favour the same areas as Redshank, and often associate with them.

**SANDERLING** *Calidris alba*. Occasional visitor in spring and autumn, with records of singles on 28 April 1979, 11 May 1984 (in summer plumage) and 26 November 1978 (AH).

**LITTLE STINT** *Calidris minuta*. Occasional autumn visitor, usually singly. My record count is of four on 19 September 1981 but WGB recorded 19 on 9 October 1976. Only record outside September/October is one on 13 November 1977 (WGB).

**CURLEW SANDPIPER** *Calidris ferruginea*. Occasional autumn visitor, more regularly and in higher numbers than Little Stint, frequently in parties of four to six. Maximum eight on 3 August 1977 (TBS). Just one spring record: one on 13 May 1980 (A.R.Lindsay). Many of these birds keep apart from Dunlins (although not always) and one long-staying bird quite noticeably preferred the company of Redshanks to that of Dunlin.

**PURPLE SANDPIPER** *Calidris maritima*. Two on 9 April 1979 (MTD); one on 13 February 1982 (Avon Bird Report).

**DUNLIN** *Calidris alpina*. Common as winter visitor and passage migrant. Maximum count 2370 on 10 November 1984 - particularly high numbers being present during recent winters in spite of increasing development and disturbance to roost site. Latest record for spring 25 May 1984 (2); earliest autumn record 27 June 1982 (2). Monthly maxima are as follows:

	J	F	M	A	M	J	J	A	S	O	N	D
1978	1500	200	250	145	10	—	60	60	17	35	450	300
1979	280	500	100	20	30		150	220				
1980	220		200	12	10			20	16	30	30	800
1981		250	1		60			200	300	100	1000	1000
1982	750	200	120	120	75	2	60	150	50	160	175	1000
1983	750	500	700	50	200	75	175	250	75	100	1500	1300
1984	2200	1000	1500	920	32	—	140	178	92	800	2370	



The highest numbers are always to be found at the mouth of the Avon and in recent years the 'pumping pool' has become established as the high tide roost site for all except the very highest tides, during which most waders disperse. Disturbance has resulted from the current operations to strengthen the concrete substructure for the north pier, with vehicles constantly driving within yards of the roost site. However, the birds now accept vehicles so long as they keep moving. So once I've perfected the art of taking photographs from a moving car I shall be able to take full advantage of this!

**RUFF** *Philomachus pugnax*. Occasional autumn visitor, with records from late July to end November. Most records are of one or two, but three on 18 July 1982. Birds turn up either on the freshwater pools or on the estuary mud with Redshanks.

**JACK SNIPE** *Lymnocyrtus minimus*. Winter visitor, regularly present in small numbers between November and March. Usually only one seen, but up to three occasionally. Earliest date 16 October 1982, latest 7 April 1978 (AH). There is one favourite spot at the head of the 'Chapel Pill' but they can be flushed from any piece of wet ground in the area.

**SNIPE** *Gallinago gallinago*. Present normally from late July to mid-April, with typically up to 30 in winter. Exceptional numbers in the winter of 1983/84 with 120 on 28 December 1983 and 70 still present on 18 March 1983. Occasional records during the breeding season suggest the possibility of breeding in or near the study area, although they could relate to visiting birds from the known breeding area in the Gordano valley.

**WOODCOCK** *Scolopax rusticola*. One on 20 December 1981 (AH), flying over the A369 (Bristol to Portishead) and dropping into the south-eastern edge of the study area.

**BLACK-TAILED GODWIT** *Limosa limosa*. Occasional visitor in spring and autumn. Spring maximum three on 9 April 1982 (AH); autumn maximum ten on 27 August 1982. Earliest autumn record 11 July 1982; latest 18 November 1978.

**BAR-TAILED GODWIT** *Limosa lapponica*. Fairly regular spring and autumn migrant. May turn up singly or in parties up to twelve. In the spring of 1984, exceptional numbers of Bar-tailed Godwits passed up the Bristol Channel and distant flocks of what must have been this species were seen offshore on 28 April. On the following day, the record count of 26 feeding in the study area was made. Autumn records from 1 August (1979) to 17 October (1982).

**WHIMBREL** *Numenius phaeopus*. As is to be expected on the Severn estuary, a regular spring migrant here, with a small flock usually present in late April/early May. Maximum 80 on 6 May 1978. Earliest spring record 12 April 1981; latest 25 May 1982. Autumn records consist only of ones and twos between late June and mid-August.

**CURLEW** *Numenius arquata*. Winter visitor and passage migrant. Usually about 40 present in winter - this number having remained fairly constant over the years. Larger numbers may occur on passage, e.g. 160 on 14 February 1981, 950 on 7 March 1981 (AH), 120 in August 1982 and September 1981. The birds feed on the estuary mud at low tide, but will fly some distance inland at high tide. The large flock seen by AH flew across the Severn to the Welsh side in groups of 100 or so at a time as the tide rose. It is significant that Undy, where flocks of this size are not unusual, is directly opposite Portbury on the channel.

**REDSHANK** *Tringa totanus*. Common winter visitor, passage migrant and breeding bird. Maximum number recorded was 500 on 14 and 15 September 1981. Breeding pairs may be slightly reduced by alteration to habitat since 1981: in that year 12 pairs raised young (MTD); the current population is probably only about six pairs. Out of the breeding season, the main body of birds frequent the mouth of the Avon and this is one of the most important sites for wintering Redshanks in the county.

	J	F	M	A	M	J	J	A	S	O	N	D
1978	70		80	27	10	98	140	180	360	410	300	60
1979	69	50	96	50	8		200	200		30		180
1980	30		100		10			220	100	100	30	100
1981		50	60		20			200	500	500	150	100
1982	50	30	250	40	8	100	100	200	410	410	14	50
1983	60	60	40	30	40	60	170	100	390	390	100	250
1984	200	100	40	40	10	10	380	310	404	260	120	

**SPOTTED REDSHANK** *Tringa erythropus*. Occasional autumn visitor, invariably singly, between August and October. One spring record: single on 13 May 1978 (MTD). Birds feed, when present, at one of the various freshwater pools or - more often - in the large rhyne.

**GREENSHANK** *Tringa nebularia*. Irregular spring and autumn migrant. The loss of freshwater pools has made them less numerous than they were in 1978 when up to twelve were present in autumn (on 12 September - AH). However, 1984 has seen a partial return to its earlier status with up to three (on 28 April) in spring and up to four (on 12 August) in autumn. Uncharacteristically, most of the 1984 records have been of birds on the estuary mud rather than in freshwater areas.

**GREEN SANDPIPER** *Tringa ochropus*. A regular winter visitor and passage migrant, this is one of the bird species which can be regarded as a local speciality. Two to four are normally present in the winter but, as with Greenshank, the loss of suitable freshwater pools makes them less numerous now, with only singles in the winter of 1983/4 and 1984/5. Large numbers previously recorded on passage, e.g. 16 on 13 April 1979; 18 on 11 July 1978 - similar numbers are less likely to be recorded in the study area now; although 13 were recorded in July 1984 (Avon Bird Report).. The latest spring date is 21 May (1979); the earliest autumn record 18 June (1984).

**WOOD SANDPIPER** *Tringa glareola*. Singles on 1 September 1977 (AH) and from 2 to 22 August 1982 (GJU, MTD). (WGB recorded three on 12 September 1976.)

**COMMON SANDPIPER** *Actitis hypoleucos*. Regular spring and autumn migrant, with up to five in spring (on 26 April 1980) and up to sixteen in autumn (on 14 September 1977 - AH and on 22 August 1983). In 1981 breeding was found by MTD, with a pair successfully raising young. In 1982 MTD reported that three young were hatched. These represent the first breeding records for Avon. Mostly seen on the estuary, although occasionally to be found on the freshwater pools. Surprisingly, I have never seen this species at Portbury in the winter although the River Avon is a regular wintering site. However, up to six were recorded by MTD in January 1983, presumably in an area not visited by myself.

**TURNSTONE** *Arenaria interpres*. Occasional visitor. Records from all months of the year except April and June. Usually only one or two, but numbers up to ten may occur occasionally. On 2 September 1984 a flock of 138 flew in at high tide from further up the Severn, and settled on the edge of the 'pumping pool' perimeter road.

**ARCTIC SKUA** *Stercorarius parasiticus*. One flew over area on 2 August 1982. First seen flying over the police station, it flew to the mouth of the Avon where it started dive-bombing the gulls at their roost.

**LITTLE GULL** *Larus minutus*. Three first-summer and one summer-plumaged adult present from 1 to 20 May 1978. One first-winter up channel in south-westerly gale on 8 January 1984 with Kittiwakes; nine recorded in Channel on 28 April 1984 (GJU, C.J.Stone, C.Newman, S.L.Upton).

**SABINE'S GULL** *Larus sabini*. Juvenile bird seen briefly during south-westerly gales on 4 October 1981 (MTD, J.Holt).

**BLACK-HEADED GULL** *Larus ridibundus*. Present throughout the year, with a winter roost of between 4000 and 8000 birds - mostly coming from the city area. Maximum recorded at roost was 14600 on 7 January 1980 (AH) when Chew Valley Lake was frozen.

**COMMON GULL** *Larus canus*. Winter visitor, also recorded in small numbers in spring and autumn. Usually only about 20 in roost, but 6700 recorded at roost on 7 January 1980 (AH). Large numbers also present during daytime in December 1983, following strong gales - 240 being the maximum counted. About 200 were present on 24 November 1984, again after strong gales.

**LESSER BLACK-BACKED GULL** *Larus fuscus*. Present all year, particularly in autumn and winter. Numbers rarely exceed 100, but 170 on 7 January 1980 in gull roost (AH).

**HERRING GULL** *Larus argentatus*. Present all year, in somewhat higher numbers than Lesser Black-backs, but seldom above 200. On 7 January 1980, 4200 were present at the roost (AH). Birds showing characteristics of the race *L. a. michahellis* (Yellow-legged Herring Gull) were seen on 9 April 1979 (two - MTD) and on 14 June 1981.

**ICELAND GULL** *Larus glaucoides*. A first-winter bird in the gull roost on 29 and 31 January 1984 (GJU, S.L.Upton), reflecting the influx of this species into southern Britain in the 1983/84 winter.



**GREAT BLACK-BACKED GULL** *Larus marinus*. Present irregularly throughout year, in numbers of up to ten but 27 on 7 January 1980 (AH).

**KITTIWAKE** *Rissa tridactyla*. Adult present from 15 to 30 January 1983. During south-westerly gales, up to 50 seen on 14 and 15 January 1984 - many of them following ships coming up channel. Some birds remained or arrived in subsequent gales, with four still present on 12 February. Adult present on 24 November 1984, following gales.

**SANDWICH TERN** *Sterna sandvicensis*. Three on 3 July 1978 (MTD); two on 23 July 1979 and one on 5 August 1979.

**COMMON TERN** *Sterna hirundo*. One on 9 May 1979 (AH, GJU). Ten unidentified *Sterna* terns downstream on 15 August 1982 (AH) probably this species. Three on 13 September 1984 in mouth of River Avon.

**ARCTIC TERN** *Sterna paradisaea*. Singles on 6 May 1978, and 3 May 1979 (AH), with five on 5 May 1984. Three on 3 September 1983, during south-westerly gales with one on 5 September.

All terns are probably under-recorded as large movements are frequently recorded from other points on the estuary. More observer time spent watching the Channel would undoubtedly produce many more records.

**LITTLE TERN** *Sterna albifrons*. Single on 16 April 1983. (WGB also recorded singles on 26 September 1976 and 24 April 1977.)

**BLACK TERN**. *Chlidonias niger*. Several records for spring and autumn before 1977. My only record is of eight moving up channel on 28 April 1984 (also seen by S.L.Upton, C.Newman and C.J.Stone).

**STOCK DOVE** *Columba oenas*. Present all year, with numbers up to 100 in autumn and breeds in the study area. Suffered a decline after winter 1981/2 but numbers now improving, 60 being seen in October 1984.

**WOODPIGEON** *Columba palumbus*. Present all year, with plentiful breeding. Large flocks can be seen in autumn, e.g. 200 on 27 November 1977.

**COLLARED DOVE** *Streptopelia decaocto*. Breeds fairly commonly around the Sheephouse caravan site and industrial estate. Probably not more than ten pairs breed, but a large flock accumulated near the railway in August 1984 with a maximum count of 70 on 18th.

**TURTLE DOVE** *Streptopelia turtur*. Spring and autumn migrant, up to three being recorded in May. Occasional summer records - one on 26 June 1983 and two on 16 June 1979 (AH).

**CUCKOO** *Cuculus canorus*. Spring migrant with maximum six on 3 June 1979 (AH). Almost certainly breeds in the study area but no conclusive evidence found.

**BARN OWL** *Tyto alba*. MTD ringed two in the period 1979-1981. My first sighting was not until 21 October 1984, following a report of one seen the previous day by C J Stone. This was a particularly welcome sight in view of the fact that the Avon population has been badly hit by the 1981/2 winter.

**LITTLE OWL** *Athene noctua*. Probably at least two pairs breed annually. Favourite areas are Oak Wood and Sheephouse Farm, but birds are frequently to be seen perched on piles of imported timber beside the warehouses, or on the piles of half-burned rubbish on the wharf.

**TAWNY OWL** *Strix aluco*. MTD ringed three in the period 1979-1981, but I have not yet seen or heard this species. However, I have made few nocturnal visits.

**LONG-EARED OWL** *Asio otus*. Present throughout December 1983, with three on 3rd (R.Medland, MTD, et al) and two on several other dates. These birds were found by MTD roosting in hedgerow trees, just outside the study area. They were also seen in Oak Wood and other places within the study area.

**SHORT-EARED OWL** *Asio flammeus*. Spring and autumn migrant, occasionally over-wintering. Two present from November 1978 to March 1979 and over-wintering has occurred in subsequent winters. Otherwise recorded in March/April and October/November with one early record of one on 29 August 1982 ( J. R. Best). The favourite area is the main rhyne/Chapel Pill area but birds can also be seen in the Marsh Lane area.

**SWIFT** *Apus apus*. Common migrant and summer visitor although not thought to breed in area. Small numbers may be seen moving north up channel in early May, e.g. 16 in an hour on 11 May 1984.

**KINGFISHER** *Alcedo atthis*. Occasional visitor. Single bird present throughout autumn 1978 (AH), and since then singles seen on odd dates in autumn and early winter, usually in the vicinity of the main rhyme.

**GREEN WOODPECKER** *Picus viridis*. Present all year, with one or possibly two pairs breeding most years. Favourite areas are beside the railway line and along Marsh Lane, where they are frequently seen perched on telegraph poles.

**GREAT SPOTTED WOODPECKER** *Dendrocopos major*. Occasional records of single birds between July and February, usually in Oak Wood.

**WOODLARK** *Lullula arborea*. Two moving north on 21 October 1979 (AH).

**SKYLARK** *Alauda arvensis*. Common as winter visitor, migrant and breeding bird. Maximum recorded over 500 in first week of January 1979. Probably 20-30 pairs breed, the habitat proving ideal for the species.

**SAND MARTIN** *Riparia riparia*. Chiefly seen in the spring between 11 March and 21 May (up to ten), only occasional in autumn. Very scarce in spring 1984, as everywhere.

**SWALLOW** *Hirundo rustica*. Abundant spring migrant, with large numbers moving up channel in late April/early May. 100 per hour recorded on 29 April 1978. Much smaller numbers in autumn. Breeds in study area - at least five pairs estimated, all in the Sheepphouse caravan site and industrial estate area.

**HOUSE MARTIN** *Delichon urbica*. Spring and autumn migrant, with up to 40 moving through per hour in spring (4 May 1980).

**TREE PIPIT** *Anthus trivialis*. Regular spring and autumn migrant, with up to eight recorded (on 29 April 1978 and 5 September 1982). In spring have been recorded from 14 April to 15 May and in autumn from 20 August to 18 September. Most records are of birds flying over calling, but flocks do occur on the ground in suitable areas.

**MEADOW PIPIT** *Anthus pratensis*. Common winter visitor and passage migrant. Usually up to 30 present in winter, and large flocks of up to 200 occur during passage. There is also much visible migration, especially in April and October. Two pairs bred in 1978 and again in 1984, but not noted during breeding season in other years.

**ROCK PIPIT** *Anthus spinoletta*. Winter visitor, with usually 20 birds in the spartina at the edges of the Avon and Severn between early October and mid-March. The Water Pipit *A. s. spinoletta* occurs regularly in February and March and less regularly in other winter months. Maxima 15 on 1 February 1981 and seven on 18 November 1978. Birds show particular fondness for the areas of flooded grassland which occur beneath the high-tension cables running east from Portishead.

**YELLOW WAGTAIL** *Motacilla flava*. Regular spring and autumn migrant, recorded from 28 March (1981) to 21 May (1984) in spring, and again during August and September. Usually small numbers, but AH recorded a flock of 40 on 29 April 1978 and I had 30 passing through on 4 May 1980. A pair bred just outside the study area in 1978, raising two young. The Blue-headed Wagtail *M. f. flava* has occurred once - a male in song on 22 May 1982, just a little further inland from where the Lesser Grey Shrike had been the previous weekend (see below).

**GREY WAGTAIL** *Motacilla cinerea*. Occurs only, it seems, as a passage migrant in autumn - all records being for late August to mid-November (maximum three), mostly moving southwards.

**PIED WAGTAIL** *Motacilla alba*. Resident and passage migrant. At least one pair breeds most years and small numbers migrate through the area with Meadow Pipits and finches. Both peak counts are of birds moving northwards in autumn: 15 on 18 October 1981 and 18 September 1982. AH recorded a roost of over 60 on 11 November 1978, near the police station. Several White Wagtails *M. a. alba* were present in spring 1978 and 1979, with a maximum of five on 29 April 1978. None have been recorded since, although they have probably been overlooked.

**WREN** *Troglodytes troglodytes*. Resident with formerly about ten pairs in area but since winter 1981/2 population reduced to about four pairs until 1984, when normal numbers present again.

**DUNNOCK** *Prunella modularis*. Resident, breeding in similar numbers to Wren.

**ROBIN** *Erithacus rubecula*. As with Wren and Dunnock, population dropped from around ten pairs to around four following winter 1981/2, but is now more or less fully restored.



**BLACK REDSTART** *Phoenicurus ochruros*. Occasional visitor in autumn and winter, one staying through December 1982 and January 1983. Earliest date 31 October (1978 AH and 1982) and latest date 19 March (1983).

**REDSTART** *Phoenicurus phoenicurus*. A spring migrant recorded on 23 April 1978, 16 April 1983 and 10 May 1983.

**WHINCHAT** *Saxicola rubetra*. Regular spring and autumn migrant. Spring records from 20 April to 14 May (maximum 2) and autumn records from 22 July to 25 October (maximum 16 on 17 September 1983).

**STONECHAT** *Saxicola torquata*. Bred in 1978, but since then breeding not confirmed and population apparently wiped out in winter of 1981/2. Records since then include three in winter of 1983/4, none present during summer 1984, but seven turned up on 28 October (C Newman) and most of these were still present at the end of November.

**WHEATEAR** *Oenanthe oenanthe*. Common migrant almost constantly present throughout spring and autumn. No evidence of breeding in spite of the apparent suitability of the habitat. Excluding records of the Greenland race (see below) recorded between 14 March and 17 May in spring (maximum 16) and from 11 July to 23 October in autumn (maximum 20). Unusually scarce in autumn of 1984. Birds of the Greenland race *O. o leucorroha* have been seen regularly in spring and occasionally in autumn. Maximum twelve on 13 May 1978. Passes through later than the nominate race; latest date 25 May (three birds, 1984).

**RING OUZEL** *Turdus torquatus*. Occasionally reported in spring from Portbury Wharf/West Dock area, e.g. 10 April 1981 (Avon Bird Report). This species has so far eluded me.

**BLACKBIRD** *Turdus merula*. Approximately five pairs breed in various suitable habitats within the area. The population is usually boosted in November by the arrival of migrant birds.

**FIELDFARE** *Turdus pilaris*. Passes through area, sometimes in large numbers, in autumn and winter. Maximum count 2000 moving northwards on 18 December 1981 (AH). Most sightings are in November, December and January and there does not seem to be a visible return movement in spring.

**SONG THRUSH** *Turdus philomelos*. Population reduced from approximately five pairs to one pair in 1984. Small numbers also arrive in winter, often associated with movements of Fieldfares and Redwings. Maximum 55 on 18 December 1981 (AH), moving northwards with Fieldfares.

**REDWING** *Turdus iliacus*. As with Fieldfare, moves through area in right conditions in winter. Maximum count: 1500 on 18 December 1981 (AH). Small numbers may be present for long periods in early winter, but never as numerous here as in the Portbury/Failand area a couple of miles inland.

**MISTLE THRUSH** *Turdus viscivorus*. Breeding suspected in 1978 and 1983 but birds never very much in evidence.

**GRASSHOPPER WARBLER** *Locustella naevia*. Three on 18 April 1978 (MTD).

**SEDGE WARBLER** *Acrocephalus schoenobaenus*. Breeds in area with normally about two pairs although six singing males in May 1982. The preferred areas for this species and Reed Warbler are the small reed beds alongside the railway and along Marsh Lane. As the areas of *Phragmites* reed seem to be increasing (where development is not taking place, that is) the population of both species may continue to rise, although Sedge Warblers are not benefiting as much as Reed Warblers.

**REED WARBLER** *Acrocephalus scirpaceus*. This is one of the species which has increased within the last six years. In 1978 breeding was not observed, but the population within the study area now stands at around six pairs.

**LESSER WHITETHROAT** *Sylvia curruca*. Fairly common summer visitor, always to be found in Marsh Lane and some other suitable areas. About three to four pairs usually breed.

**WHITETHROAT** *Sylvia communis*. Common summer visitor, with around twelve pairs breeding each year. Twenty-one were counted in song on 16 May 1982 but some of these may have been passing through. The overgrown hedges and ditches and hawthorn scrub areas around Marsh Lane are ideal for Whitethroats and Lesser Whitethroats, as are many other hedgerow areas.

**GARDEN WARBLER** *Sylvia borin*. A rather scarce spring and autumn migrant, with only a few records in May, August and September.

**BLACKCAP** *Sylvia atricapilla*. Fairly common spring and autumn migrant, with a couple of pairs breeding most years.

**WOOD WARBLER** *Phylloscopus sibilatrix*. Occasional spring passage bird with one singing in trees by Sheepphouse Farm on 11 May 1980, and another bird in Oak Wood on 23 April 1984.

**CHIFFCHAFF** *Phylloscopus collybita*. Spring migrant, breeding only occasionally (two pairs suspected of breeding in 1982). Maximum nine on 16 April 1983.

**WILLOW WARBLER** *Phylloscopus trochilus*. Summer visitor and migrant with two to four pairs breeding each year and larger numbers noted on spring passage, e.g. 26 on 16 April 1983. Breeding birds are usually in Oak Wood, with occasional pairs also breeding in Marsh Lane or beside the railway.

**GOLDCREST** *Regulus regulus*. Occasional visitor, with up to two from September to March.

**SPOTTED FLYCATCHER** *Muscicapa striata*. Occasional visitor on spring and autumn passage, only singly.

**LONG-TAILED TIT** *Aegithalos caudatus*. Occasional visitor in autumn, with two over-wintering in 1983/4. At least four were present on 28 October 1984.

**COAL TIT** *Parus ater*. Only one record - a bird from 4-26 November 1978.

**BLUE TIT** *Parus caeruleus*. Approximately five pairs breed in area, and are present throughout year. No evidence of any significant changes in population over the years.

**GREAT TIT** *Parus major*. Approximately three pairs breed, in Oak Wood and other suitable areas.

**TREECREEPER** *Certhia familiaris*. MTD trapped and ringed five in the period 1979-81, when breeding probably took place. Not recorded since 1981, however, although easily missed.

**LESSER GREY SHRIKE** *Lanius minor*. A bird which justifies the amount of time spent working the patch: a male on 15 May 1982. First found in the morning, it spent all day singing and feeding from the fence along the south-western edge of the Dock enclosure, enabling it to be watched by a number of local birders. Unfortunately for people who had travelled long distances to see it, it was not seen the following day.

**JAY** *Garrulus glandarius*. Occasional records in autumn and winter. One present in area winter 1983/4, following invasion of Jays into this country from Scandinavia.

**MAGPIE** *Pica pica*. Common resident - flocks of up to 14 may occur occasionally.

**JACKDAW** *Corvus monedula*. Common resident, breeding just outside area. Maximum number recorded 100 in November 1978.

**ROOK** *Corvus frugilegus*. Occasional visitor in small numbers, with a maximum count of 40 in October 1981.

**CARRION CROW** *Corvus corone*. Common resident, usually in small numbers but large flocks may occur on the rubbish tips, e.g. 80 in September 1978. Hooded Crow *C. c. cornix* recorded once, on 24 October 1979 (MTD).

**RAVEN** *Corvus corax*. One flew overhead northwards on 9 October 1982. Previously recorded by WGB on several dates.

**STARLING** *Sternus vulgaris*. Breeds commonly in area, especially in trees around Sheepphouse Farm. Large numbers use area in winter, particularly in the evening, when 4000 have been counted flying through. They roost on buildings at Avonmouth and many gather in the Sheepphouse Farm trees before flying in.

**HOUSE SPARROW** *Passer domesticus*. Breeds commonly around industrial estate and caravan site.

**TREE SPARROW** *Passer montanus*. Present in January 1978 and January 1984 - the two best winters for finches. Maximum nine on 29 January 1984. Also present in autumn 1984 when up to 18 recorded (C Newman) on 27 October.

**CHAFFINCH** *Fringilla coelebs*. About four pairs breed in the area. Can be numerous in winter, with maximum 500 on 14 January 1978 (WGB), and as autumn migrant (200 north in two hours on 18 October 1981). As with most diurnal autumn migrants, the highest counts have been on days when there is a fairly strong north-easterly wind which causes birds to fly north up the coast.

**BRAMBLING** *Fringilla montifringilla*. WGB records up to 800 in January and February 1976; since then the highest count has been of 76 on 28 December 1983. This flock was feeding near to one of the two Tanzanian oil tankers



berthed semi-permanently in the Dock, and used the handrails of the ship as a perch. Also fairly common as an autumn migrant, although numbers of passerines over the Dock in autumn are never as good as at some other locations along the Severn estuary. Maximum migration count 20 moving northwards on 29 October 1983.

**GREENFINCH** *Carduelis chloris*. Present throughout year. Most numerous in autumn, e.g. 50 migrating north on 29 October 1983, and the feeding flocks at this time of year can be as large as 70 (August 1980).

**GOLDFINCH** *Carduelis carduelis*. Present throughout the year, breeding in area. Can be numerous on migration, particularly in spring - maximum 75 north on 4 May 1980. Winter flocks typically around 30.

**SISKIN** *Carduelis spinus*. Scarce autumn migrant - maximum 22 north on 7 November 1981.

**LINNET** *Carduelis cannabina*. Present all year, with fairly large flocks occurring in some autumns and winters. AH estimated 1200 present one day in February 1978 after heavy snow. Maximum count on migration 100 northwards on 25 October 1980 (AH).

**TWITE** *Carduelis flavirostris*. Occasional visitor during winter months. Seen quite frequently in 1977/78 and 1978/9 with a maximum count of 34 on 18 March 1979. Since then the maximum count has been ten (in January 1982) and records have been very sporadic. The earliest date is 18 October (1981) and the latest 14 April (1984).

**REDPOLL** *Carduelis flammea*. Occasionally passes overhead, usually singly in spring and autumn with very few records for winter.

**BULLFINCH** *Pyrrhula pyrrhula*. One or two pairs breed annually, and are to be seen in favoured areas such as Marsh Lane throughout the year.

**LAPLAND BUNTING** *Calcarius lapponicus*. One from 6 to 13 January 1979 (GJU, AH, K E Vinicombe) and another on 22 and 29 March 1980 (GJU, S. L. Upton, R. Unite). Both birds were near the main rhyne/Chapel Pill area.

**SNOW BUNTING** *Plectrophenax nivalis*. Male on 11 November 1979 (AH); male on 16 and 17 October 1982; female/immatures on 23 November and 24 December 1983. WGB recorded them prior to 1977 in May, October and December. Three out of the four have been seen on the dyke surrounding the 'pumping pool'; the 1982 bird was on the high-tide line at St George's Wharf.

**YELLOWHAMMER** *Emberiza citrinella*. Breeds on Portbury Wharf but not within study area. Occasional in autumn and winter, with maximum 22 on 8 August 1981.

**REED BUNTING** *Emberiza schoeniclus*. Breeds commonly in reedy areas throughout site - approximately six pairs estimated in 1984. Commoner in winter, with up to 150 present (21 December 1978 - AH). In winter most birds are usually to be found at or below the high-tide line in areas of spartina.

#### Appendix 1. Birds escaped from captivity recorded since November 1977.

Snow Goose *Anser caerulescens*  
 Bar-headed Goose *Anser indicus*  
 Barnacle Goose *Branta leucopsis*  
 Chiloe Wigeon *Anas sibilatrix*  
 Scaup *Aythya marila*

#### Appendix 2. Species recorded before November 1977 but not since.

Grey Phalarope *Phalaropus fulicarius* 15 September 1974 (WGB)  
 Great Skua *Stercorarius skua* 6 and 9 April 1973 (MTD)  
 Mediterranean Gull *Larus melanocephalus* 1 May 1977 (2) (WGB)  
 Lesser Spotted Woodpecker *Dendrocopos minor* 29 May 1970 (TBS)  
 Red-rumped Swallow *Hirundo daurica* 7 July 1970 (WGB)  
 Marsh Tit *Parus palustris* 3 October 1971 (TBS)  
 Willow Tit *Parus montanus* 26 July 1972 (TBS)  
 Nuthatch *Sitta europaea* 21 June 1971 (TBS)  
 Crossbill *Loxia curvirostra* 16 July 1972 (16) (TBS)

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# REED WARBLERS AT CHEW VALLEY LAKE, AVON

by David Warden

## Introduction

In 1964, by chance, I found a Reed Warbler's *Acrocephalus scirpaceus* nest containing a young Cuckoo *Cuculus canorus* near to fledging. When the nest was checked a week later, the Cuckoo had flown and was located about 20 metres away, begging food from any passing small bird. Thus began an interest in Reed Warblers and their parasitism by Cuckoos, which still continues. It was in 1970 that I began to look for Reed Warbler nests in a systematic way and endeavoured to follow as many as possible of them to a conclusion. The number of nests found each year bears no relationship to the total number of Reed Warblers breeding at Chew Valley Lake; they reflect only observer effort. I found it preferable to concentrate effort into a small area and to attempt to follow individual nests, rather than to cover a larger area less thoroughly. All nests were recorded on British Trust for Ornithology nest record cards. This paper reports on fourteen years of the study from the start in 1970 up to and including 1983.

Each nest found was given a number attached to a nearby reed stem, as soon as the nest contained eggs. I noticed that some nests, located at the building stage, were subsequently dismantled and rebuilt elsewhere. This was particularly likely to occur early in the season. Brown and Davies (1949) devote some pages of their monograph to this behaviour but reach no firm conclusion as to its cause or purpose. I think that observer disturbance may be a possible cause and that early in the season human presence in the reeds is much more noticeable to the birds. Any time spent near nests in the process of construction was therefore kept to a minimum and they were not marked or closely approached.

I made a special effort to establish clutch size, laying date, hatching date, brood size and success rate. I made visits to the nests during egg laying, during incubation and after hatching, together with a post-fledging check for unhatched eggs or dead young. Four visits to each nest established the required information. In the event, it was not always possible to make visits at the necessary intervals, so not all nest record cards contain all the information.

By making certain assumptions it is possible to use the data on less complete cards. I have followed the method used by Summers-Smith (1952) for the Spotted Flycatcher *Muscicapa striata*. 1) If a nest was found before clutch completion and subsequently checked with a full clutch, the date of commencement or completion was calculated by assuming an egg-laying rate of one per day. 2) If the date of hatching or fledging was known, the clutch completion date was calculated by deducting 11 days (incubation period) or 22 days (incubation plus fledging periods) respectively. 3) When only one date during the incubation or fledging period was available, the clutch completion date was calculated by deducting six or 17 days from the date of finding. Where the age of the young could be estimated, this was taken into account. Since the data were considered in 10 day groups, any inaccuracies in the method were considered to be unimportant.

## Eggs and laying

Reed Warbler eggs are extremely variable, both in size and in colour. Campbell and Ferguson-Lees (1972) give the average size as 18 x 14 mm, but some eggs are as large as 22 x 16 mm or as small as 15 x 12 mm. Often, one egg in a clutch is much smaller than the others and the very small eggs do not always hatch. Ground colour varies from off-white, bluish white, greenish white to buff, with markings brownish or greyish and sometimes almost obscuring the ground colour. Sometimes the clutch consists of eggs so dissimilar in appearance that perhaps more than one hen may have been responsible.

Eggs are usually laid daily, but occasionally there is a two day interval before the last egg is laid. Incubation may begin before the clutch is complete since the chicks are not always even-aged. The smallest chick does not always survive to fledging, or may remain in the nest after the rest of the brood have left.



Brown and Davies (1949) discovered that only a negligible number of eggs were laid in May in north Lincolnshire during 1945-48 where their work was carried out. The situation at Chew Valley Lake is more similar to the findings of Bibby (1978) who found, in an analysis of B.T.O. nest record cards, that about 18% of the clutches were started in May. Of the 728 nests examined at Chew the start of laying could be calculated in 352. Of these the numbers started each month were

May	74	(21.0%)
June	215	(61.1%)
July	63	(17.9%)

The decline in clutch size with advancing season is clearly shown in Fig. 1 and Table 1. This decline can be demonstrated in another way by comparing the '5 egg' and '2 & 3 egg' clutches separately as a percentage of all clutches in May, June and July (Table 2).

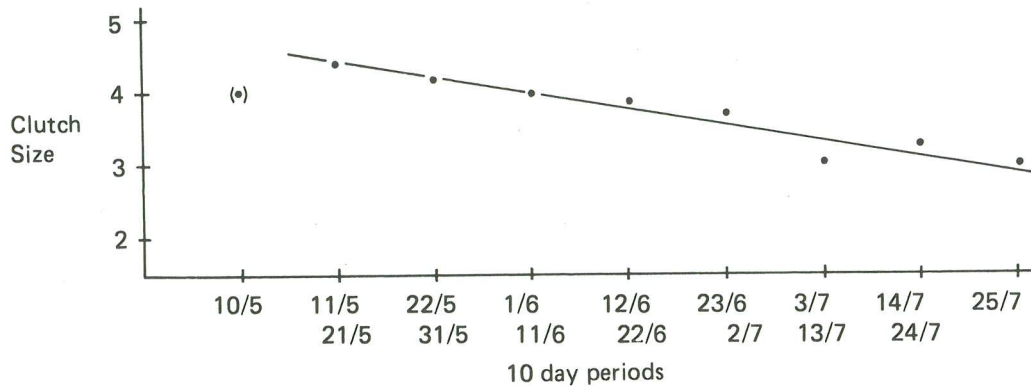


Fig 1. Average clutch size against laying date (accumulated in 10 day periods) for Reed Warblers at Chew Valley Lake.

Table 1. Clutch size of Reed Warblers in relation to laying date at Chew Valley Lake.

Date	2 eggs	3 eggs	4 eggs	5 eggs	Average
Before 10 May			1		
11 - 21 May		1	5	7	4.4
22 - 31 May	2	6	31	21	4.2
1 - 11 June	2	12	71	17	4.0
12 - 22 June	1	6	63	10	3.9
23 June - 2 July	3	9	34	2	3.7
3 July - 13 July		13	18		3.0
14 - 24 July	1	6	3		3.2
After 25 July		6	1		3.1
%	2.5	16.7	64.5	16.2	

Table 2. '2 & 3 egg' and '5 egg' clutches of Reed Warblers shown as a percentage of all clutches May, June and July.

% of all clutches in	Clutch size	
	'2 & 3 egg'	'5 egg'
May	12.1	37.8
June	14.3	12.6
July	54.0	0.0

### Hatching and fledging

Over the fourteen year period I was able to follow the hatching and fledging of 1511 eggs and was further able to gain a figure for the success rate of nests (see Table 3). The hatching rate of from 72 - 91% is similar to that of other small passerines, for example Chaffinch 37 - 72% (Newton, 1964), Willow Warbler 83% (Cramp, 1955). The fledging rate is underestimated to an unknown extent. Some nests were checked when they held small young, but when next seen, to judge from the presence of feather scale or droppings, it was obvious that the nest had been successful but that the number of young fledging was unknown. These nests were credited with the minimum number of flying young (i.e. one only). The large range of nest success rates (shown in Table 3), of from 17% to 86%, seems surprising. However, Newton (1964) found that in the Chaffinch nest success rates varied from 18% to 60% in different years.

**Table 3.** Hatching and fledging history of 1511 Reed Warbler eggs over a 14 year period, from 1970 to 1983 at Chew Valley Lake, with the percentage of successful nests.

Year	Total eggs laid in nests followed to hatching	Eggs hatched (and %)	Young known to fledge (and %)	% of nests followed to conclusion from which at least 1 young flew
1970	72	57 (79)	26 (46)	70
1971	50	42 (84)	13 (31)	60
1972	88	76 (86)	23 (30)	61
1973	156	130 (83)	52 (40)	86
1974	214	179 (84)	89 (50)	61
1975	92	79 (86)	26 (33)	28
1976	213	181 (85)	57 (31)	82
1977	182	160 (88)	42 (26)	62
1978	173	136 (79)	25 (18)	64
1979	61	44 (72)	11 (25)	29
1980	72	62 (86)	14 (23)	62
1981	46	34 (74)	3 (9)	33
1982	60	51 (85)	8 (16)	42
1983	32	29 (91)	6 (21)	17

### Cause of failure

In many cases the cause of failure of a Reed Warbler's nest was not apparent. In some cases eggs just disappeared with the nest left undamaged. Sometimes the complete nest disappeared without trace. Occasionally egg-shell fragments were present in the bottom of the nest and these eggs I presumed to have been taken by corvids. A few nests were deserted, the undamaged eggs sometimes remaining in the nest for weeks. Heavy rain, particularly if accompanied by strong winds, is a major cause of nest failure. This is especially so late in the season when the reeds are high. Nests are sometimes tilted so far that eggs fall out. Young are sometimes found dead in the nest after cold wet weather. The earliest nests are built very low in dead reed litter and these are occasionally flooded by a rise in water level. Early nests are often larger than late ones, which have the appearance of hurried construction without the deep tubular shape of the early nests.

It is probable that most of the nests which disappeared were actually dismantled by the birds themselves. In only a very few cases was I suspicious that human agency was involved. Brown and Davies (1949) suggest that nest material is in short supply and that this is the reason why nests are dismantled. However, nests from which young have flown, or even nests which have failed, often remain into the autumn, as long as the reeds stand, so the explanation does not seem very convincing. One other cause of failure concerns the way that some of the nests are built. Nests are woven round a varying number of reed stems, both live and dead. Occasionally one point of attachment on a living reed is immediately above a leaf. Reed growth is so rapid that some of these nests are tilted, or so distorted, that eggs or young fall out.



### Parasitism by Cuckoos

Following the 1964 chance finding of a young Cuckoo in a Reed Warbler's nest no more were found for 10 years. Presumably local Cuckoos were laying in the nests of Dunnocks *Prunella modularis*, or some other species, until the development of the large reed areas at Chew Valley Lake led to the establishment of Reed Warbler colonies. The results of 10 seasons' observations at Chew Valley Lake are shown in Table 4. The inconsistent pattern is difficult to explain. Lack (1963) recorded 11 parasitized nests out of the then B.T.O. nest record total of 610 (1.8%). He quotes a German study where 55% of nests in one Reed Warbler colony were cuckolded and a Nottinghamshire study where, over a 26 year period, 19% of nests were parasitized. It will be interesting to see whether the number of cuckolded nests at Chew increases during the next few years.

**Table 4.** The number (and %) of Reed Warbler nests parasitized by Cuckoos, 1974 - 83, at Chew Valley Lake.

Year	Reed Warbler nests	Parasitized nests
1974	93	2 (2.1)
1975	48	1 (2.1)
1976	74	0
1977	93	0
1978	71	0
1979	37	0
1980	37	2 (5.4)
1981	27	0
1982	56	5 (8.9)
1983	43	4 (9.3)

### Acknowledgement

I am grateful to the Recreations Department of the Bristol Waterworks Company for permission to carry out this fieldwork in an area of Chew Valley Lake which is not normally accessible to most birdwatchers.

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# THE BIRDS OF A COMMON BIRDS CENSUS PLOT IN BLAISE WOODS, BRISTOL

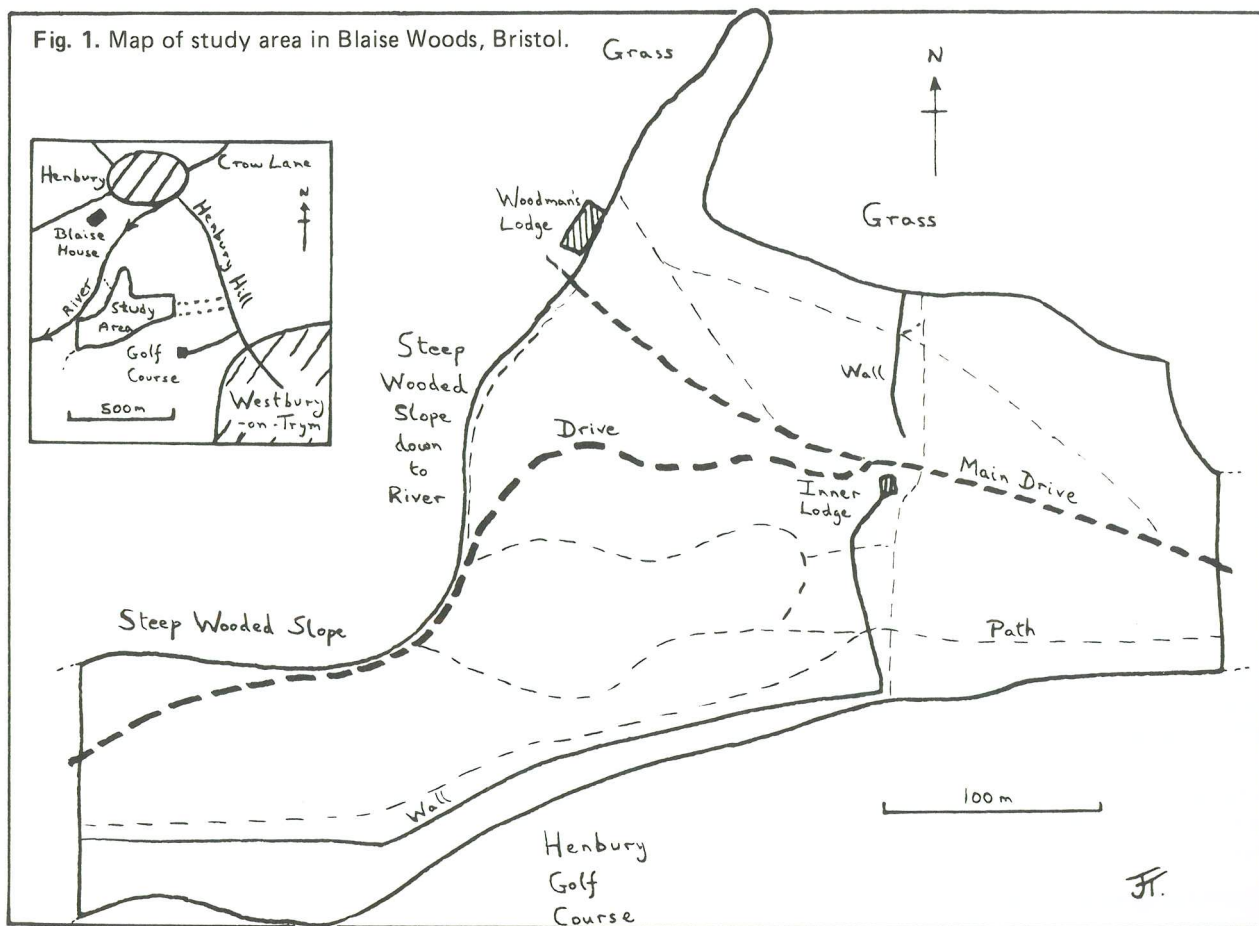
by John Tully

## Introduction

Since I moved to Westbury-on-Trym, Bristol, Avon, in the mid 60s, the nearby Blaise Castle estate has always provided interesting and varied walks. I increasingly became aware of the richness of birdlife on the estate and after a few years of informal recording decided to concentrate on an eight hectare (20 acre) plot of woodland for the more disciplined recording of the BTO's Common Birds Census. The size of the plot is below the 20 hectares recommended by the BTO, but the high density of territories (over 20 per hectare) makes up for the small area. I also decided that with a limited area I could go further than just defining territories based on singing males and look into the incidence of confirmed breeding.

## Geography of the plot

The plot (see Fig. 1 for details) is at the eastern end of the Blaise Estate and is most easily approached from the Henbury Hill entrance, under the arch of the castellated lodge. The eastern edge of the study area is where the woodland widens out, about 200 metres from this entrance, up to this point the wood being little more than a wide hedge. The southern boundary is Henbury Golf Course and the north-eastern boundary rough grassland which is mown fairly regularly by the City Corporation. The western and north western edges are the steep slopes down to the river, these not being included as they are difficult to survey with accuracy (and comfort).





The southern part of the plot is a plateau 80 metres above sea-level while the northern part slopes away to about 55 metres above sea-level. The underlying rock is complex, limestone on the higher areas and various sandstones elsewhere. The plot contains the charming bark-covered inner lodge which marks the break in the old limestone estate wall, of which a length of approximately 600 metres is contained in the study area. The height of the wall varies from very low to heights of two metres with a mean height of approximately 1.5 metres. In the main it is ivy-covered and provides nest sites for Blackbird\*, Song Thrush, Wren and Robins, but has not included Blue or Great Tit sites as these species seem to prefer natural holes in trees.

### Description of the woodland

The plot is technically mixed woodland although it contains a majority of broad-leaved trees. Most of the canopy trees are 150-180 years old, confirmed by ring counts on beeches *Fagus sylvatica* felled after the droughts of 1975/76. The canopy is almost continuous over the whole plot with the exception of about a half a hectare in the south-west corner which was felled in October 1978 to remove dead or dying beech trees from the earlier drought years. The diameter of these magnificent trees averaged 80-90 cm, with two specimens over one metre in diameter.

The majority of the canopy is mature oak *Quercus robur* (60%), with 10% beech, 10% ash *Fraxinus excelsior*, 10% various conifers and yew *Taxus baccata*, and 5% sycamore *Acer pseudoplatanus*. The ash predominates on the southern edges and the conifers on the northern edges with yew near to the main drive. Some other species in the canopy in small numbers are lime *Tilia vulgaris*, cherry *Prunus avium*, holm oak *Quercus ilex* and one horse chestnut *Aesculus hippocastanum*. Most of these trees appear similar in age and were probably planted in the Blaise estate landscaping planned by Humphrey Repton in 1795. The mature canopy trees, particularly the oaks, beech and ash, contain a large number of natural hole nest sites (see species notes).

The shrub layer contains a large area of *Rhododendron ponticum* (50%), probably planted at the same time as the trees. The remaining shrub layer is hazel *Corylus avellana* (20%), holly *Ilex aquifolium* (10%) and sycamore saplings (10%). Other bushes include hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa* and gorse *Ulex europaeus*. The field layer is absent under the rhododendrons i.e. 50% of area, otherwise bramble *Rubus fruticosus* (25%), ground ivy *Hedera helix* (15%) and grasses make up the remainder, although some bramble is cleared from time to time by the Parks Department.

The woodland is owned by the City and managed by the Parks Department. My correspondence with the Department over various aspects of the woodland's management and how it affects the bird life has always been sympathetically received. I am encouraged by the interest shown by the staff at all levels. However, problems do arise, as with the June thinning of saplings which resulted in the failure of the Garden Warblers attempting to breed in 1983.

### Periods of observation

Visits have been made throughout the year and in most cases they are in the early morning but with few in July-December (see Table 1). The Common Birds Census (CBC) visits are made from mid-March to the end of June. In the five years 1979-1983 approximately 15 visits averaging 2½ hours were made to record all the birds present according to the CBC method. Recently (1984) the CBC has been standardised to 10 visits spread over the recording period. Some visits were made before the breeding season and additional visits were made in the CBC season to record nest sites and associated behaviour. The majority of time is concentrated in the period mid-April to mid-June. The total number of territories was determined by the standard CBC method mainly based on grouping of singing males on three or more dates. The numbers are confirmed (or slightly adjusted) by the BTO using my visit sheets, hence the 1984 figures are provisional. I have always found the territorial figures frustrating, as a male bird may be holding a territory *but* did it have a mate or, more important, did they breed or attempt to breed? In order to answer these questions I set out in 1979 to determine how many pairs could be proved to be breeding using the BTO Atlas definitions. It has proved an interesting challenge and with some hole nesters I have become more successful with increasing familiarity with the woodland.

\*Scientific names of birds are given in the systematic list

**Table 1.** Number of visits and time spent in the study area each year between January and June.

Year	Visits	Time (hrs)
1979	44	67
1980	44	76
1981	50	85
1982	52	83
1983	51	85
1984	47	81

**Table 2.** Number of territories recorded for each species. Records of confirmed breeding are shown in brackets.

Species	1979	1980	1981	1982	1983	1984
Sparrowhawk	0 (0)	1 (1)	1 (0)	1 (0)	1 (0)	1 (0)
Stock Dove	4 (0)	5 (0)	6 (0)	8 (0)	7 (0)	2 (0)
Woodpigeon	8 (0)	8 (0)	10 (0)	9 (1)	12 (0)	11 (0)
Tawny Owl	1 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)
Green Woodpecker	2 (0)	1 (0)	3 (0)	3 (1)	2 (1)	2 (1)
Great Spotted Wood- pecker	1 (0)	1 (0)	1 (1)	2 (0)	1 (1)	1 (1)
Wren	17 (1)	20 (1)	23 (3)	14 (6)	22 (7)	18 (3)
Dunnock	5 (0)	3 (0)	6 (1)	3 (0)	4 (0)	2 (0)
Robin	13 (4)	11 (7)	12 (8)	15 (6)	20 (7)	18 (3)
Blackbird	28 (6)	26 (12)	23 (11)	21 (7)	24 (12)	24 (7)
Song Thrush	3 (2)	4 (2)	4 (3)	3 (1)	3 (3)	1 (1)
Mistle Thrush	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)	2 (1)
Garden Warbler	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)
Blackcap	7 (1)	6 (1)	6 (1)	6 (3)	8 (1)	9 (0)
Wood Warbler	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Chiffchaff	4 (1)	8 (5)	7 (3)	6 (4)	5 (0)	4 (0)
Willow Warbler	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Goldcrest	2 (0)	4 (0)	3 (0)	4 (0)	6 (0)	1 (0)
Spotted Flycatcher	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)
Long-tailed Tit	1 (0)	1 (1)	1 (1)	0 (0)	2 (1)	2 (1)
Marsh Tit	1 (0)	0 (0)	1 (1)	0 (0)	1 (0)	1 (0)
Coal Tit	3 (1)	3 (1)	4 (1)	4 (2)	2 (2)	2 (2)
Blue Tit	29 (7)	33 (12)	30 (17)	34 (26)	29 (23)	33 (29)
Great Tit	10 (2)	14 (5)	16 (8)	15 (12)	16 (10)	13 (6)
Nuthatch	1 (1)	2 (2)	2 (2)	3 (3)	4 (3)	4 (1)
Treecreeper	1 (0)	2 (1)	1 (0)	2 (2)	2 (1)	1 (0)
Jay	2 (0)	2 (0)	3 (0)	3 (0)	4 (0)	3 (1)
Magpie	1 (0)	1 (0)	1 (0)	2 (1)	2 (1)	2 (0)
Jackdaw (nests)	5 (5)	5 (5)	3 (3)	5 (5)	8 (8)	8 (8)
Carrion Crow (nests)	1 (1)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)
Starling (nests)	17 (17)	14 (14)	10 (10)	11 (11)	6 (6)	15 (15)
Chaffinch	5 (0)	7 (3)	2 (1)	6 (0)	2 (0)	0 (0)
Greenfinch	1 (0)	0 (0)	1 (0)	1 (1)	0 (0)	0 (0)
Bullfinch	1 (0)	1 (0)	0 (0)	1 (0)	1 (1)	0 (0)
Totals	177 (50)	184 (74)	182 (77)	183 (93)	198 (91)	180(80)
Totals/Hectare (to nearest whole number)	22 (6)	23 (9)	23 (10)	23 (12)	25 (12)	22 (10)
Number of species	31 (13)	26 (17)	28 (19)	26 (18)	30 (20)	25 (15)



Table 2 lists the territories recorded and the number proved to breed for each species. Some 466 pairs were proved to breed as follows:

Nest with young found	39	8.4%
Nest with eggs found	66	14.1%
Adult seen entering nest site with food	251	53.9%
Adults seen with food for young	40	8.6%
Recently fledged young found	70	15.0%

Approximately 150 separate holes of various sizes and heights have been used once or more over the six years.

The number of territories per hectare, up to 24.7, is high for mixed woodland. This figure is much larger than the 6.2 quoted by Simms (1971) for mixed woodlands, but even so, less than the 35.2 per hectare found by Parsons (1976) in mixed woodland in Somerset.

Other local studies on breeding bird densities in woodland have given figures of 6.2 pairs per hectare in Long Wood, Mendip (Hall 1983) and 5.1 pairs per hectare in Ashton Park (Sims 1978). The only study I have managed to locate that relates actual nest sites to CBC census results was on 150 hectares of farmland in the Tring, Hertfordshire, area (Snow 1965), where Henry Mayer-Gross worked nearly full time on nest-searching from late March to early August to obtain the fantastic total of 800 nests found. His results were used to check the accuracy of the CBC method in its early days, and showed variations from excellent to very poor depending on species, enabling the BTO to interpret the raw CBC data with more confidence.

### Systematic List

**SPARROWHAWK** *Accipiter nisus*. The eight hectares have been part of a Sparrowhawk territory in all years but 1979, with birds regularly hunting over the area. A nest a few metres outside the plot in 1980 resulted in the successful fledging of three young.

**STOCK DOVE** *Columba oenas*. Good numbers (up to eight pairs) of Stock Doves make use of the holes in the mature timber but it is a difficult species in which to prove breeding. An unexplained drop in territory numbers in 1984.

**WOODPIGEON** *Columba palumbus*. A very difficult species to survey accurately, the approximate numbers in the table being based on singing males. Five nest sites discovered but the only proved breeding was in 1982 with a bird on eggs although the outcome was not successful.

**TAWNY OWL** *Strix aluco*. Single territories were established only in 1979 and 1981 with breeding proved in the latter year when an adult was seen with a newly fledged juvenile. There are a number of suitable nest holes but no actual site of breeding has been discovered.

**GREEN WOODPECKER** *Picus viridis*. Fairly numerous (up to three territories) and often seen feeding on the golf-course fairways. One hole discovered in each year except 1981, ash being the preferred site in three out of five years, with one in oak and the other in a dead tree. In 1982-84 visits to the hole were frequent enough to confirm breeding, although the young died in the nest during the early stages of feeding in the first two of these years. In 1984 breeding was successful with the young leaving the nest in mid-July.

**GREAT SPOTTED WOODPECKER** *Dendrocopos major*. At least one territory established every year and successful breeding confirmed in 1981 when at least two young flew in the first week of June; in 1983 at least one juvenile flew at the same time. In 1984 at least two young left their nest in the second week of June.

**WREN** *Troglodytes troglodytes*. The good bramble areas and the many ivy-covered trees make the plot ideal for feeding and nesting sites of the Wren. This species is fairly easy to survey and the low figure of 14 in 1982 compared to 23 in 1981 is a genuine reflection of the previous hard winter. In the years with high numbers of territories, the species moves into the rhododendron areas for breeding sites but not wholly for feeding. Forty three nests have been found with 23 in ivy and 6 in bramble with the remainder in a wide variety of sites. Eighty one eggs were laid in 20 of these nests and at least 29 young fledged. This number of nests is only a sample as Wrens also nest in dense bramble areas where any searching for nests would destroy the habitat.

**DUNNOCK** *Prunella modularis*. The Dunnock is present in areas with little or no canopy and probably breed successfully in the bramble areas. Only one nest with eggs was found (in 1981) but failed at the early stages due to avian or Grey Squirrel *Sciurus carolinensis* predation.

**ROBIN** *Erithacus rubecula*. The Robin is numerous and well spread throughout the whole area (max 20 territories). It is a very successful breeder with many juveniles seen each year. Only eight nest sites have been found, with one inaccessible six metres up in ivy on a dead tree. In the other seven sites at least 24 eggs produced eight fledged young. Five nests were at the base of trees or in leaf litter and two were on shelves in the limestone wall. A lot of patience would be necessary to discover more nests as the ones found were very well hidden. I found the period of building the easiest time to fix their position.

**BLACKBIRD** *Turdus merula*. This is the second most numerous species in the wood (max 28 territories) and is evenly spread throughout the plot. It has a poor breeding success due to squirrel and avian predation. Seventy three nests have been found and the contents of 60 nests which could be examined produced 93 eggs and only 18 fledged young, a success rate of 0.3 young per nest. Only seven nests produced the 18 young i.e. 2.6 per successful nest. Most nests failed very early with eggs sucked or removed before the full clutch was finished. Nest sites were very variable but included 15 in rhododendron, 11 on the limestone wall, 8 in holly, 8 in oak side growth and 7 in ivy on trunks. Most nests were in the range 1 to 2.5 metres high with two on the ground and two at 6 metres.

**SONG THRUSH** *Turdus philomelos*. The Song Thrush is much less numerous than the Blackbird and appears to prefer the rhododendron areas for nesting. Like the Blackbird it is highly vulnerable to predation and of the 13 nests discovered, 30 eggs were laid and only four young fledged from one successful nest. Unlike the Blackbird most nests were in very obvious places and easy for predators to spot. Seven of the nests were in rhododendron and two each in holly and on the limestone wall. The heights were also much more consistent with all nests between 1 and 2.5 metres.

**MISTLE THRUSH** *Turdus viscivorus*. One large Mistle Thrush territory has been found each year except in 1984 when there were two. Single nest sites were discovered each year but no contents could be examined due to the height of the nests (between 4 and 8 metres). Successful breeding took place in 1979 and 1981. All the nest sites were next to the main trunk of the tree or in a fork.

**GARDEN WARBLER** *Sylvia borin*. There was a Garden Warbler territory only in 1983 based on an area of bramble with no canopy. An adult was seen carrying food to the nest in dense bramble, but unfortunately the thinning of sycamore saplings by the Corporation destroyed the nest site. Hopefully my letter to the Parks Department will result in future thinning taking place in August or later in the autumn.

**BLACKCAP** *Sylvia atricapilla*. There is a steady number of between six and nine territories each year mostly centred on areas of bramble. Breeding was usually confirmed by seeing young in family groups. Only one nest in bramble has been found but the five eggs (and the nest) were destroyed before they hatched.

**CHIFFCHAFF** *Phylloscopus collybita*. Territories of Chiffchaff appear to require the presence of low cover and small trees for song perches. Ten nests have been discovered, of which seven were in bramble, and all were between 0.3 and 0.5 metres from the ground. The 44 eggs produced 10 young but these young came from only two successful nests. The number of Chiffchaffs appears to have been decreasing each year for the last five years, ending up at the 1979 level of four pairs.

**WILLOW WARBLER** *Phylloscopus trochilus*. The Willow Warbler occurs mainly on spring passage but there was one territory in 1979, the dense canopy of the plot seeming to deter this species.

**GOLDCREST** *Regulus regulus*. The small number of Goldcrests appears to be closely associated with the yew trees, but breeding has not yet been confirmed.

**SPOTTED FLYCATCHER** *Muscicapa striata*. Mainly a passage bird in the spring but one territory established in 1983.

**LONG-TAILED TIT** *Aegithalos caudatus*. This species has established one or two territories most years and three nest sites have been found all near the edge of the woods. The successful 1980 nest was five metres up in an ivy-covered trunk of a sweet chestnut *Castanea sativa* and provided views of the beautiful hovering flight of the birds as they alighted with food. The 1983 nest was well hidden 1.5 metres up in dense holly but the eight eggs were sucked by a mouse just before they were due to hatch. I disturbed the mouse which ran off along a branch. The successful 1984 nest was 1.5 metres from the ground in a gorse bush, only a few metres from a well-used golf tee. Luckily no golfer made a disastrous slice into the bush, although one elderly golfer answered the call of nature very close to the nest!



**MARSH TIT** *Parus palustris*. A marginal breeder with only four territories over six years, the only confirmed breeding being in 1981 when an adult was seen with young.

**COAL TIT** *Parus ater*. The Coal Tit has a small number of territories each year (up to 4). Four out of the five nests found were successful and were closely associated with yew trees. The 1979 site was under the roots, the 1982 and 1984 nests were 2.5 metres up in a split in a trunk, while the 1983 nest was in rock rubble at the base of a yew tree. The fifth nest was in a hollow of the limestone wall and was a failure due to the young being removed, probably by a stoat or weasel *Mustela erminea* or *nivalis*.

**BLUE TIT** *Parus caeruleus*. The Blue Tit is the most numerous breeding species, evenly spread and at very high density. Perrins (1979) quotes densities of up to 2.5 pairs per hectare or slightly over, but the density here has reached 4.25 pairs per hectare, all are based on natural hole nest sites. An initial difficulty of the CBC visits was to sort out the records with so many birds being recorded on each visit, 58 on one occasion. I found accurate territories best fixed by locating nest sites in late May and early June, when adults are feeding young. There were 29 such sites in 1984. So far 111 nests have been recorded in this way and curiously covering 70 different nest sites. Their heights vary from 1 to 15 metres, with the majority in the 6 to 10 metre range. Oak is the most popular nest tree, containing 76 out of the 111 nests. Only one hole has been used in all six years and no sites have been found in the 'artificial' area of the limestone wall. The tree species used, direction of entrances and height of nests of Blue Tit and other hole nesters provide an interesting study and I hope to publish my findings when larger sample sizes are available. This area of Blaise Woods is clearly ideal for this species and perhaps it should be created a 'Blue Tit reserve'!

**GREAT TIT** *Parus major*. The number of Great Tit territories is approximately half that of the previous species. The nest sites are more difficult to spot and surprisingly the birds are very wary of approach to nest holes particularly when they are low down. Twenty six nests in 19 different sites have been found and only two were in non-tree sites when in 1983 and 1984 they nested in the walls of the inner lodge. Oak was preferred in 15 out of 26 sites. Nest heights varied between 0 and 12 metres with a mean of 4.6 metres; surprisingly 9 out of the 26 were over 5 metres from the ground. The most regularly used site (3 times) is 10 metres up in an oak tree. Densities of up to 2 pairs per hectare is high compared to the 0.8 pairs quoted by Perrins (1979) indicating ideal Great Tit habitat.

**NUTHATCH** *Sitta europaea*. Nuthatches are easy to detect early in the season and up to nesting time but are then quiet until the young are out of the nest. At least one nest site has been discovered each year with a total of ten varying in height from 6 to 15 metres with a mean of 8.3 metres. Nine out of ten were in oak.

**TREECREEPER** *Certhia familiaris*. My hearing does not seem to be able to register Treecreeper song and I have to rely on sightings. It is therefore possible that I have underestimated the numbers of such an inconspicuous bird. Six nest sites have been discovered but none were low enough or easily accessible for the contents to be looked at without undue disturbance. Artificial sites were used on two occasions, the others being behind loose bark of oak. Two appeared to be successful with a full range of feeding being observed and young seen in the vicinity shortly afterwards. Traditional sites seem to be used on my very small sample.

**JAY** *Garrulus glandarius*. Jays are fairly numerous but nest sites were only discovered in 1984. No successful breeding has been observed but nests have been built on ivy-covered trunks although only in 1984 was a bird seen on eggs.

**MAGPIE** *Pica pica*. Magpies regularly patrol the plot and have been seen to plunder open nests of the thrush family. I have observed Magpies trying to raid Starling nest holes but they did not appear to be successful.

**JACKDAW** *Corvus monedula*. I determined Jackdaw population numbers by nest counts. The birds use traditional holes in the central northern part of the plot, although over the last three years a new colony has been formed on the southern edge of the wood. Twenty five out of the 34 nests are in oak and heights vary from 5 to 15 metres with 26 in the range 8 to 10 metres. The proportionately high number of 26 entrances face north or north-west.

**CARRION CROW** *Corvus corone*. Crows regularly patrol the area but the numbers in Table 2 are based on nest sites within the plot. The nests found in 1979 and 1983 were 18 metres and 25 metres high, right at the top of the canopy. Unfortunately personal observation confirms that crows like other members of their family are efficient plunderers of nests.

**STARLING** *Sturnus vulgaris*. Starlings use the wood for hole nesting and also resting in the high canopy. The numbers recorded in Table 2 are based on nests where feeding of young was observed. They show a wide variation from 17 in 1979 to only 6 in 1983. Significantly two second broods were noted in 1983, the only year so far with such broods. Seventy five nests were found over the six years in 37 different sites, with few nest sites being overlooked because of the presence of noisy young prior to fledging. The majority of the 75 nests were in oak and ash with heights varying from 5 to 20 metres; of these 56 were in the range 8 to 12 metres. As with the other hole nesters a more detailed analysis of site information will be produced when a larger sample is available.

**CHAFFINCH** *Fringilla coelebs*. The number of Chaffinch territories has been variable, with a range from 0 to 7. The disappointing nil for 1984 may be due to disturbance by tree thinning in early April in the northern part of the area which is their usual stronghold. Four nest sites have been found with only one, low down in dense bramble, probably successful. The others were 2.5 metres high in ivy or side growth on oak trunks and all fell to predators.

**GREENFINCH** *Carduelis chloris*. Single territories of this species were noted in three years, all were on the edge of the wood but no nests have yet been found.

**BULLFINCH** *Pyrrhula pyrrhula*. A single territory occurred in four years out of the six with successful fledging of three young being proved in 1983 from a nest in bramble. The areas with little or no canopy and good ground cover are favoured by this species.

#### Other birds observed in the breeding season

A single Grey Heron *Ardea cinerea* rested in the high canopy in April 1982. There have been three single Kestrel *Falco tinnunculus* sightings, in April 1979 and 1982 and in May 1983. In all three cases the bird was perched high at the edge of a large clearing in the west, waiting for suitable prey. Collared Doves *Streptopelia decaocto* have been recorded on three dates in the six years.

A Cuckoo *Cuculus canorus* was on the plot once in April 1980 and again in May 1981. The Lesser Spotted Woodpecker *Dendrocopos minor* has dropped in during the springs of 1980 and 1984, but hammering in both years was not sustained. I would hope some time soon they will stay and breed. An encouraging trend of the last two years has been the occurrence of a male Pied Flycatcher *Ficedula hypoleuca* in April 1983 and a male and female on separate dates in April 1984. Numerous suitable holes are available should they decide to stay and breed.

#### Acknowledgements

My thanks to the Bristol City Parks Department for sympathetically maintaining such an interesting woodland habitat. Also thanks to the many members of the public who use and enjoy the woodland and who contribute wildlife observations of their own as well as show interest in the birdlife. Finally thank you to my daughter for typing the manuscript.

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## NOTES

### Albinism in Pied Flycatcher

Early in October, 1981, gale force winds from the Atlantic, with accompanying torrential rain, caused great numbers of birds to seek shelter on the Isles of Scilly. I was there to see some of these, and I especially remember one in particular, because it took me to the 'heights' - I thought it was a rarity - and then later settled me back on my flat feet. As I reached the Low Moor, St. Mary's on 4 October, I had fleeting glimpses of a rather small and unfamiliarly plumaged passerine. It was flitting about high in the branches of a well foliated Sycamore *Acer pseudoplatanus* but because the bird kept within the canopy it was difficult to see. At first, all I was able to note was a bird with an upright stance and with plumage which was very white and dark grey. The possibility that it was a warbler (Sylviidae) seemed to be ruled out because of its erect perching stance. I waited patiently and quietly for well over 30 minutes, just getting glimpses of the bird. Not until a batch of flying insects came near the trees was the bird induced to leave the canopy every now and then, to sally forth into the open to feed, though maintaining its high elevation. In consequence I managed to obtain the following.

Undoubtedly a flycatcher. Its bill was rather small and pointed, and very yellow in colour. Whole of head pure white; back and mantle pale grey. Upper surfaces of both wings pale grey in centre, otherwise all white, thus making these symmetrical in appearance. Tail - greyish white. Underparts - all white. Colour of iris and legs not noted.

It was a most strikingly plumaged bird. Its general shape and body size, and habit of not returning to one or two favourite perches after catching insects indicated it was a Pied Flycatcher *Ficedula hypoleuca* and not a Spotted Flycatcher *Muscicapa striata* (though the possibility of it being a very rare Collared Flycatcher *F. albicollis* cannot be ruled out). Bryan Sage records, in his papers on albinism and melanism in birds, nine instances of albinism in flycatchers in Britain, the Spotted Flycatcher being the only species (of the five British ones) involved (*Brit. Birds* 55 (1962): 201-225 and 56(1963): 409-416). This record, therefore, would appear to be the first of albinism in the Pied Flycatcher in Britain.

Bernard King

### Feeding behaviour of a Barred Warbler

I was fortunate to observe a juvenile Barred Warbler *Sylvia nisoria* with interesting feeding behaviour at Peninnis Head, St. Mary's, Isles of Scilly on 5th and 6 October 1979. The Barred Warbler is normally shy and skulking (*The Handbook* 2:71) but this bird was found feeding in the open along a thorn and bramble hedge supported by a stone wall. I found its feeding behaviour unlike that of any warbler I had previously encountered. For instance, by stretching its body outward and downward in a rather precarious manner, with its head and bill towards the ground, it slowly picked off aphids *Hemiptera* and winged insects *Diptera* which had rested on the hedge, as well as other unidentified items. It was a feeding behaviour which was frequently repeated.

In addition to the above, the Barred Warbler occasionally sought food at ground level when visiting a grass field, but it kept near to the base of a hedge. Small earthworms (Lumbricidae) were thus obtained and quickly swallowed. Less often the warbler sought concealment in a nearby coniferous wood. However, it reappeared at intervals to return to the places and feeding behaviour which I have described.

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Gull Cry, 9 Park Road, Newlyn, Penzance, Cornwall. TR18 5DZ.

## Dusting by larks (with a comment on 'snow-bathing')

Dusting (dust-bathing) is relatively uncommon amongst passerines, having been reported from larks (Alaudidae), wrens (Troglodytidae), Australian mud-builders (Grallinidae), Old World sparrows (Passeridae), New World sparrows (Emberizinae), troupials (Icteridae), and a few other groups. I know the behaviour best in the House Sparrow *Passer domesticus* (see *Ibis* 96 (1954): 478-481) and have observed it also in the Spanish Sparrow *P. hispaniolensis*, the Wren *Troglodytes troglodytes* (see separate note in *Bristol Orn.* 16 (1983): 38-40), the Skylark *Alauda arvensis*, and the Mongolian Lark *Melanocorypha mongolica*. My notes on the larks are given here.

The habit is well-known in the Skylark, the *Handbook of British Birds* (ed. H. F. Witherby, Vol. 1, 1938) for instance noting that it 'Often takes dust baths on roads or light soil'. I watched a Skylark dusting on a gravel track by Burghfield Gravel-pit, near Reading, Berkshire, on 23 April 1957 (a warm day). It settled down in the dusting hollow with side-to-side movements of the body, feathers loose and erected (especially those on the rump) and wings drooped, rubbed its bill and the side of the head in the soil, and then shuffled itself about, apparently scraping with its feet. From time to time quite frequently, it raised its head to look-out for danger. The Mongolian Lark, watched in the Tropical Bird House of the London Zoo on 1 January 1960, dusted in a sand-tray in much the same manner. It settled down on bent legs, flicking sand away to either side with its bill while shuffling round. Leaning forward on its breast, it scraped backwards with its feet, then started bill-flicking again; its wings were drooped but were used hardly at all for distributing the dust.

On 16 November 1954, an injured Skylark was brought to me to look after. At first, it was kept in a cage indoors at my parents' house in Tilehurst, Reading, where I was still living at the time. On the 18th, after I had heard loud pecking noises, I released it in the room for some exercise. It ran into a corner and, feeling safe there, started to peck at and rub its head on the linoleum, then settled down with wings drooped and feathers ruffled. It obviously wanted to dust, having found some light household dust there, and had probably already attempted to do so in the cage among the scattered food on the floor, so I provided grit in a tray for it and placed that in the corner. Unfortunately, the bird would not dust while I was close but it did so when I withdrew my head; I could hear it performing but could not see exactly what it was doing - either then or on a few other occasions when I gave it the opportunity to dust again! Later, that winter, it was transferred to an outdoor aviary where it remained until I released it on 11 April 1955. During mid-January of that year, there was some heavy snow and the lark was seen dusting in the snow, using obvious dusting movements not bathing ones - rotating and scraping with its feet. There are a number of records in the literature of birds of various species 'snow-bathing'; this is not a homogeneous category, however, being sometimes referable to dusting (as in the case of the Skylark, a species which bathes only in the rain) and sometimes to true bathing (as, for example, in the case of two Blue Tits *Parus caeruleus* that I saw bathing in snow on top of a flat roof in Leicester on 24 December 1981).

From my limited observations, I deduced that larks differ from sparrows and wrens in lacking any well-defined wing-movements when dusting. In this I was mistaken, however, as shown by the account of dusting in the Skylark by J. D. Delius (*Behaviour* 33 (1969): 135-178). He described the following sequence: (1) the bird gives 'some scattering pecks at the ground': (2) it squats 'with the plumage fluffed, the wings drooping down to the ground, the tail fanned and depressed', then (3) 'scratches with the feet so that it pushes itself forward', (4) 'shakes the wings side to side, beating the ground with them - perhaps with one wing at the time', and (5) scatters the sand with pecking; (6) adopts 'a sun-bathing like attitude' (presumably lying immobile with one or both wings extended); and (7) starts the sequence again, the dusting bout sometimes continuing 'for minutes at a time'. Thus, it would seem that my observations covered merely the preliminary movements functioning mainly to loosen the dust and form the dusting hollow; however, it is still not clear from Delius's account exactly how the lark drives dust up into its plumage, distributes it, and expels it, so further observations are needed.

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## Dusting by a Hoopoe

Recently, while preparing material for the forthcoming *A Dictionary of Birds* (in press), I had cause to look out the notes I made at close range on the dusting behaviour ('dust-bathing') of a tame Hoopoe *Upupa epops* (family Upupidae) in the Copenhagen Zoo, Denmark, in June 1967, while being shown round by the Curator of Birds (Dr Holger Poulsen).

The sequence of behaviour was as follows. (1) The bird stood and started digging at the ground just in front of it, using its bill as a pick-axe to loosen the sandy soil (*hoeing*). (2) It settled down into the dusting hollow thus formed, drooping its carpal joints so that they rested on the rim of the hole and lowering the rest of the partly open wings (with the tips of the primaries still touching the back, at the base of the tail); its body feathers were ruffled, especially those of the rump (*wallowing*). (3) It scratched up earth with its feet, sending up spurts on each side of the body near the flanks, thus showering itself with dust and driving dust up into its plumage (*dust-tossing*). (4) Rising slightly, it hoed with the bill all round in front of its breast, digging into the soil while rapidly opening and closing its lower mandible, pecking up earth with a flicking action directed towards the breast (*raking*). (5) It moved forward with quick little mincing steps and re-settled over the new-loosened earth before wallowing and dust-tossing as before. This sequence continued thus: hoe/rake, shuffle forward, wallow and dust-toss (these two elements alternating a number of times), hoe/rake again, and so on; the bird would also periodically preen briefly and occasionally body-shake, distributing and expelling the dust in and from its ruffled plumage.

The 'sandbathing' of wild Hoopoes was observed by C. J. Skead in South Africa (*Ibis* 92 (1950): 459-460). His description differs somewhat from mine so is given here for comparison. Typically a dusting bird would: (1) crouch and make a small hollow with 'sharp sideways flicks of the beak'; (2) shuffle into the hollow and continue to flick sand away on either side while 'rotating the body slowly in the hole and lying half on its side'; (3) quickly half bury itself with 'this alternate rotating and shuffling'; and (4) 'with three or four convulsive body-shakes and wing-beats' shower 'sand all over and in amongst its ruffled feathers'. This sequence is repeated several times, 'the bird hopping out of its first hole and making another for itself'.

As noted in the *Handbook of British Birds* (ed. H. F. Witherby, Vol. 2, 1938) and *Handbuch der Vögel Mitteleuropas* (eds U. R. Glutz von Blotzheim and K. M. Bauer, Vol. 9, 1980), dusting is a common habit of the Hoopoe (which is not known to bathe). It also occurs in other near-passerines including the hornbills (Bucerotidae), rollers (Coraciidae), bee-eaters (Meropidae), and motmots (Motmotidae).

K.E.L. Simmons

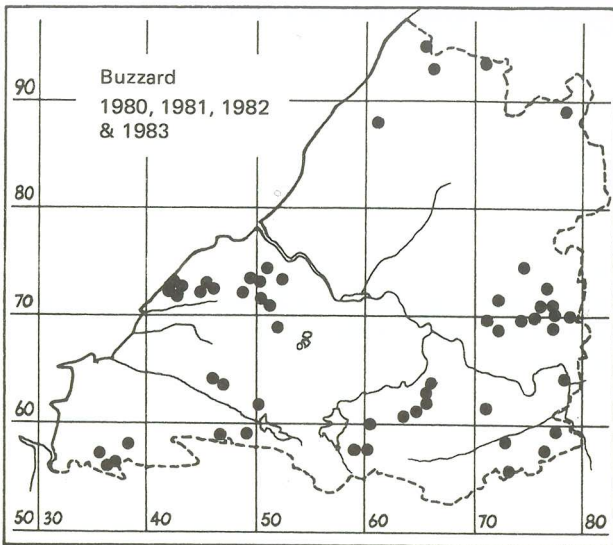
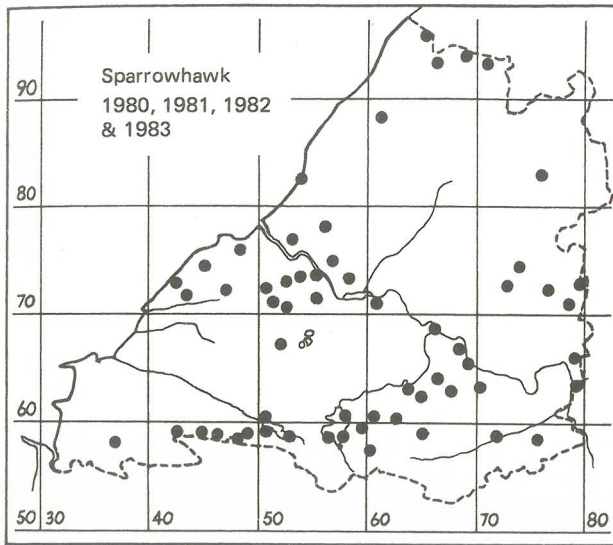
c/o Department of Psychology, The University, Leicester LE1 7RH.

## FIELDWORK, 1983

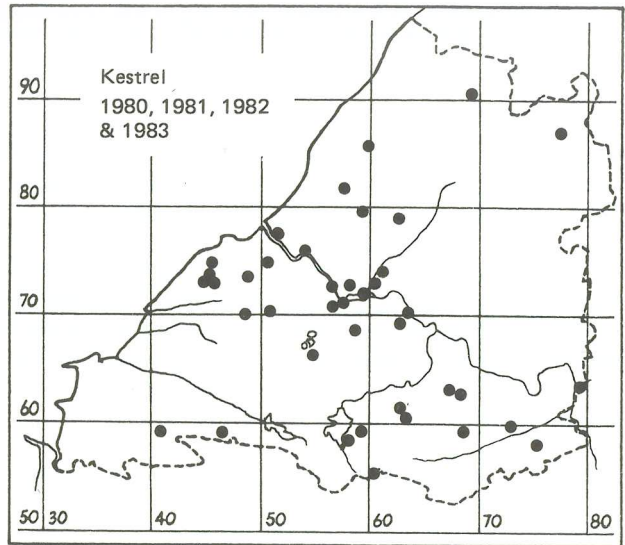
### Breeding season Sparrowhawks, Buzzards and Kestrels

This note reports on the fourth season of this Club survey which is scheduled to run for five years. The objective is to map the pairs of Sparrowhawks *Accipiter nisus*, Buzzards *Buteo buteo* and Kestrels *Falco tinnunculus* in Avon during the breeding season. A definition of those records which qualify and details of the information asked for from members was given with the account of the first years' results (*Bristol Orn.* 14 (1981): 138-9). Many people sent in their records on the usual reporting slips and a few others, who are particularly keen on birds of prey, sent in additional details.

The results for the year were very good, and in the case of Buzzard they were boosted by the special effort put in for the National Buzzard Survey which I organised locally for the British Trust for Ornithology. The results, for Avon, of that one season survey, which are published elsewhere (*Avon Bird Report* 1983:45-46), did show that most sites checked in the other years of our Survey were still occupied. It should be remembered that the records shown in Figs 1, 2 and 3 (and detailed below) are for the four years combined and may not reflect the



Figs 1, 2 and 3. Breeding season records of Sparrowhawks, Buzzards and Kestrels respectively, in Avon 1980, 1981, 1982 and 1983. Each dot indicates one pair of birds and is centred on the general area of their apparent territory. (Not all territories are occupied every year.)



number of territories occupied in 1983. At the time of writing the final season's work is almost over. Let us hope it added yet more to the mass of information already provided by this survey. I would like to thank, once again, all those members who have helped with the field work and taken the trouble to send in their records.

**SPARROWHAWK.** Records from March to July were asked for. Fig 1. shows 59 definite pairs (12 for 1980, plus 24 for 1981, plus 15 for 1982, plus eight for 1983). Add to this 25 suspected sites (a net increase of three). New sites have been found more easily than suspected sites confirmed; let us hope that the final year resolves some of the latter.

**BUZZARD.** Records from February to July were asked for. Fig 2 shows 55 definite pairs (22 for 1980, plus eight for 1981, plus seven (not six) for 1982, plus 18 for 1983) and most were present in 1983. The figure for 1982 should have been 37 - the missing pair was not plotted on the map and one other was incorrectly plotted (top right hand corner of square 55) (*Bristol Orn.* 16:42-44) but has been corrected here in Fig. 2 (now in the top left hand corner of 65). There are still 17 suspected sites to add to the 55 definite (nine of last years suspected were confirmed).



KESTREL. Records from March to July were asked for. Fig. 3 shows 40 definite pairs (17 for 1980, plus 17 for 1981, plus one for 1982, plus five for 1983). Four of the suspected sites were confirmed and another two suspected pairs were found making a net total of 45 suspected sites.

Robin Prytherch.

## CLUB ACTIVITIES, 1983

It was the year when we changed our address, foresaking our traditional indoor meeting place of St. Mary Redcliffe School after several traumatic events, for the Newman Hall, Westbury-on-Trym. It was the year which saw the formation of the Avon Ornithological Group, formed to produce the annual Avon Bird Report, and sponsored jointly by the Bristol Naturalists' Society and ourselves, with a £200 donation from each body to set the venture off on a sound financial footing. It was the year of the Club's first donation (£120) towards conservation at Chew Valley Lake. And it was the year of the Club car sticker, the Pied-billed Grebe emblem specially designed by Robin Prytherch.

These were just some of the out-of-the-ordinary activities in a typically busy year which ended with the Annual General Meeting agreeing that the cost of the Avon Bird Report should be included from now on in members' subscriptions.

Many members who do not usually take part in Club activities became involved in the birds of parks survey, a check on the species and numbers to be found in the 200-plus parks or open spaces within the city environs. The birds of prey survey continued, and so did work by some members on the BTO Winter Atlas, coming to an end in February 1984 after three years of concentrated effort.

Membership, 471 at the beginning of January, had dropped to 441 at the year's end as the national economy continued to falter. Even so, interest continued high in field trips and indoor meetings — 19 of the former — while bookings were maximum for weekends in Kent (May) and North Norfolk (September). Paul Gregory, 17, became the second junior member to receive the Stanley Crick award.

### Indoor meetings

- 13.1.83            Birds through others' eyes — Nicholas Hammond
- 17.2.83            Members' evening
- 3.3.83             Birdsong for beginners
- 17.3.83            Tits and Sparrowhawks — Chris Perrins
- 15.9.83            American birds — Keith Vinicombe and Peter Knight
- 13.10.83          Herons and a hill — Bob Scott
- 17.11.83          Bird detective — Peter Robinson
- 16.12.83          Annual General Meeting

### Publications

*Bird News* continued to be published monthly, and *Bristol Ornithology* 16 appeared at the very end of the year.

John Barber *Honorary Secretary*

