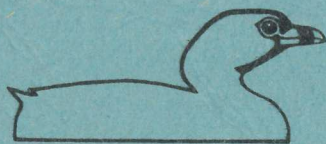


BRISTOL ORNITHOLOGY



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BRISTOL ORNITHOLOGY

THE JOURNAL OF THE BRISTOL ORNITHOLOGICAL CLUB

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PREFACE

The theme of *Bristol Ornithology 4* is the sea-birds of the Bristol Channel and Severn Estuary based on the results of the Club's investigations into their distribution since 1968 by sea-watches and boat. In addition there is an analysis of records of sea-birds prior to 1965 and also an interesting account of the physical features and tidal movements of the study area. In future numbers of the journal there will appear an occasional paper on selected sea-birds as additional information is obtained from the continuing surveys of the Bristol Channel.

Some apology and explanation is perhaps prudent for the delay in publishing *Bristol Ornithology 4*. Although it is essentially an annual publication and some features lose their relevance if not published promptly, difficulties in production and again delayed its appearance by some three months. Despite advanced planning by the Editorial Committee each stage of its production failed to meet the agreed date and it seemed inevitable that a publication produced by members from the initial writing of the manuscript to the final layout will not be ready by the agreed date of publication.

A local publication such as *Bristol Ornithology* depends entirely on the goodwill and co-operation of many contributors and voluntary helpers, and much of their spare time. The Club is greatly indebted to all who helped to produce this number.

Ray Poulding, *Editor*

Bristol Ornithological Club 1972

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A REVIEW OF 1970

by B. Rabbitts

This review analyses the large volume of records of birds seen within about 30 miles of Bristol in Gloucester and Somerset during 1970. 215 species were recorded during the year, nine less than in 1969, although this was more than compensated for by the unusual number of rarities observed. Most of the information has been obtained from the monthly reports of the Bristol Ornithological Club's *Bird News* with a few records from the 'Recent Reports' in *British Birds*.

The Committee has no panel to sit in judgement on any of the records received but most of the rare birds mentioned have been accepted by the Rare Birds Committee. In this report minimum numbers (indicated) have been used as it is very difficult to assess exact numbers of migrants involved and to distinguish between off passage birds and new arrivals.

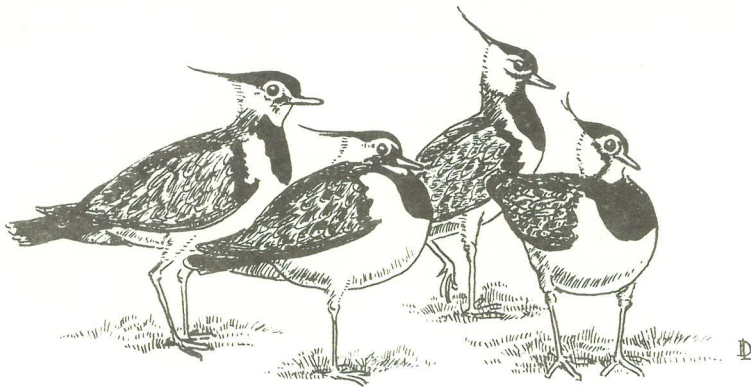
Reservoirs often referred to collectively, means those at Barrow Gurney, Blagdon, Cheddar, Chew Valley Lake (CVL) and Durleigh; W.T. signifies the Wildfowl Trust at Slimbridge, and the New Grounds refer to the adjacent river bank and estuary.

January to March

January was mainly cold for the early part but mild wet weather with overcast skies became an established pattern for several days and the whole month was generally mild, wet and dull. Winds were between N and NW for first week but with pressure rising on 7th and 8th produced strong SE winds and this air stream persisted to the 15th. A strong westerly airflow covered most areas during the first three days of February and again in the third week with frequent troughs crossing all areas. Generally an unsettled month and in many places was the sunniest on record but rainfall was above average. March was a cold month with north winds and wintry showers often occurring and snow was much more frequent than usual. Winds were strong to gale force at times.

A Red-throated Diver and Black-throated Diver were recorded at Cheddar in the first two days of January (both remaining from 1969) and were the only divers reported in both winter periods. Two Great Crested Grebes were reported at Sand Point on 5 January whilst the maximum count at CVL was 120 in February. Following gales a Fulmar was seen off Sand Point on 3 February whilst a badly oiled individual was at Cheddar on the 22nd; a Gannet was noted at Sand Bay on the 10 February. One or more Bitterns at CVL were recorded up to 21 March. White-fronted Geese were much more widespread than usual with large numbers present at the New Grounds – 7,600 in late January (previous highest count here 6,700 in February 1968) and many more parties were recorded along the coast and inland including up to 110 at Steart; 2,100 were still present at the New Grounds on 5 March but as in previous years most had left by the 8th and all had gone by the 27th. Other geese were well distributed and included an unusual number of Barnacle Geese with eight at Steart on 1 January and up to six at the New Grounds with single birds at Kings Moor/Long Load and Woodspring Bay; Brent Geese included 40 at Steart on 25 February and three Greylags were seen at Berrow at the end of January whilst a similar number was at Steart from 22 February to 8 March (three recorded here in 1969) with one at Cheddar on 11 March. A Lesser White-front was seen at the New Grounds on 1 March and single Bean Geese were present here in February and March and at Long Load at the end of February; nine Pinkfeet at Steart on 1 January, four next day with one shot later in month and one at the New Grounds on 18 February. Whooper Swans were recorded at four localities with four present at Slimbridge in February and a similar number at Stoke Moor in March. Unusually large numbers of Bewick's Swans were present in most areas and counts at Slimbridge included 404 on 8 January and 395 on 15 February; 570 different individuals were recorded during the winter with 41 (7%) immatures indicating a poor breeding season in Siberia. On the Somerset levels high numbers were seen with 170 at Long Load at the end of January and 117 at Southlake Moor and Long Load on the 22 February whilst small numbers were also recorded at the reservoirs (max. 42). The last one was seen at the New Grounds on the 19 April.

Some of the commoner ducks which winter in our area were much in evidence and according to the monthly counts of the Wildfowl Trust good seasons were recorded for Shelduck, Teal, Wigeon, Pochard and Tufted Duck. Of the less common species recorded between January and March there were 35 Gadwall at the W.T. in January with about 34 elsewhere, 25 at W.T. in February and 26 in other areas; 300 Pintail at the W.T. in January, 120 in February and 100 at Long Load the same month; large numbers of Shovelers with about 640 at the reservoirs and W.T. in January; three Scaup at the reservoirs and clay-pits January to March; five Common Scoter at Sand Bay in January, and two Long-tailed Ducks at Cheddar to 22 February with one remaining to the 8 March and one at Blagdon on 14th. Goldeneye were recorded in fairly good numbers with up to 35 at Cheddar and CVL in January and 32 at Blagdon in March; Smew, up to four at the reservoirs in January and February and about eight Mergansers were seen (up to three CVL, four Sand Point and one Cheddar) whilst Goosanders reached a maximum of 15 at CVL in January and were last seen on the 9 April.



Lapwing

Single Hen Harriers (ring-tails) were seen at Berrow and Steart, with two present at Steart from mid-February to 14 March while a male was seen near Priddy on 1 March. A Peregrine was reported at the New Grounds and single Merlins were seen at the usual coastal localities and once inland. With regard to waders preliminary results of the *B. T. O.* Birds of Estuaries Enquiry, show that based on counts for 1969/70 the Severn Estuary is the eighth most important in the country and Bridgwater Bay the 20th. Current information show that estuaries in Britain provide refuge for some on-third of the waders wintering in Europe and a quarter of those in Europe and West Africa. Hence it can be seen that the number of waders in our part of the country is very important. Up to 100 Ringed Plover were at Chittening in March and Golden Plover were recorded from the moors and coast, maximum 600 at Tealham Moors on 1 February, and a small easterly passage took place in January. Grey Plover were fairly numerous at Steart with 80 in January and 50 at the end of March. Wintering Lapwing were widespread with up to 10,000 at Tealham and Tadham Moors in January with weather movements noted in January, mainly to SW at beginning and NE or E middle of month, and February to W and SW. The usual large numbers of Turnstone at Chittening reached 160 in February, and Dunlin numbers indicated up to 20,000 in January and 16,000 in February whilst unusual numbers for the time of the year at CVL were 83 and 86 in the same months respectively. Knot were present in some quantity with about 1,200 in January and 655 in March and one was at CVL in January. Larger numbers than usual were recorded for Black-tailed Godwits with 80 at Brean on 4 January (none recorded for this month in 1969), up to four in February with numbers at Steart increasing to 97 by the end of March, whilst good numbers of Bar-tailed Godwits were seen here also with 250 in January and 155 in March. An exceptional gathering of Snipe was recorded at Long Load on 17 February with 2,800 present which by far surpasses any previous large numbers reported in Somerset (see *Brit. Birds* 63 (1970): 173). Scarcer winter species reported between January and March included Purple Sandpipers from four localities with up to five at Chittening, less than 20 Sanderling, only small numbers of Ruffs with about 20 in January and nine in February (79 same month last year), single Spotted Redshanks in

January and February, two Green Sandpipers in January, four in February and one beginning of March, two Common Sandpipers on the R. Avon in January, with one in February, five Woodcock in the three months, including one found dead in Dursley town centre, some ten Jack Snipe and up to three Avocets at Steart.

A Great Skua was recorded at Sand Bay on 3 February following gales whilst an immature Little Gull was present at the same locality on 9th and 10th February and a Iceland Gull was reported frequenting a rubbish tip at Kings Weston at the end of the month. A Kittiwake was recorded at Cheddar in January and on the coast a minimum of nine were present in February and five in March. Short-eared Owls were well in evidence with up to six at Steart in January, five in February and three in March with single birds recorded at Berrow and West Huntspill in January and February. Passerines reported included a Shore Lark at Cheddar, first seen in 1969, which remained to the 22 April (see *Bristol Ornithology* 3 (1970): 127); up to eight Water Pipits at the reservoirs with the last recorded at Aust on 14 April, and one or two Blackcaps and six Chiffchaffs reported. These two species seem to be increasing as winter visitors and according to *British Birds* (63: 4) unprecedented numbers were recorded during the winter 1969/70 with the most dramatic increases from the Avon and Severn Valleys. A Firecrest was at Frampton at the end of February and the beginning of March with possibly two there all winter, and Black Redstarts were recorded at Abbots Leigh and Brean.

No large numbers of Fieldfares and Redwings were reported as in 1969. Single Willow Tits were recorded at four localities in January and February indicating a winter dispersal from their normal haunts. Cirl Bunting were recorded with up to ten near Cheddar and a Lapland Bunting was at Kingston Seymour at the end of March. Snow Buntings were rather scarce with a few in January and February and seven in March, whilst one was at Cheddar at the end of February beginning of March, and one at Tadhams Moor on 22 January. Bramblings were scarce all three months with the largest numbers occurring at Chittening with 55 in March. Siskins were well represented with flocks of up to 40 reported whilst Redpolls were recorded in numerous small parties up to 22. Hawfinches occurred regularly on the Downs with up to three in February and four in March. A count of 110 Carrion Crows was made at Berrow on 18 January.

Spring migration

The cold weather of March continued into April. It became milder after the 11th to the last week when colder weather returned and it was a fairly wet month. On the 11th a weak cyclonic system over the British Isles resulted in the first noticeable arrivals of summer visitors. A major low complex over the West Atlantic extended NE during the 14th and 15th and a ridge of high pressure from Biscay to Germany allowed SW winds to extend across all parts and migrants arrived in strength. The weather throughout May was dominated by high pressure systems extending either SW from Scandinavia or N from Southern Europe. Winds were between E or NE except for after the 21st when they became NW to N.

A Black-necked Grebe was recorded at CVL at the end of March to 7 April and a Red-necked Grebe was present at Cheddar from 19 March to the end of the month. Fulmars were seen regularly at Brean in April and May and also three Gannets. Large numbers of southern bitterns, egrets and herons visited the British Isles in April and May (see *Brit. Birds* 63 (1970): 142-141 and 221-224), and involved in this influx was a Purple Heron which was seen at CVL in the third week of April and was last seen on 3 May. The first Garganey was seen at CVL on 5 March with up to five in the area at the end of the month, and other ducks at CVL included a single male Scaup which remained to 26 May, a Common Scoter on 30 March, with up to five at Brean in April and May, and a Long-tailed Duck to 22 May. Uncommon raptors were a Hen Harrier at Steart on 26 April, a Marsh Harrier here on 4 May, whilst Hobbies were reported from the 16 May. Of the commoner passage waders none were present in quantity or else not recorded. Maximum numbers of Ringed Plover occurred during the last nine days of May with some 380 being reported from only three localities and Sanderling in the first week of June with about 113 present including 80 at Berrow. Passage of Common Sandpipers commenced on the 30 March with some 55 being seen in the later half of April but both godwits were very scarce or not reported. The usual marked Whimbrel passage took place from 17 April with most occurring during the last week and first two in May. Of the less common waders most unusual was a Lesser Yellowlegs which appeared at Frampton at the beginning of April and stayed to at least the 23rd

Also recorded were single Little Ringed Plovers at Berrow at the end of March and Frampton on 9 May, Kentish Plover at the New Grounds on 20/21 April, Little Stint at Frampton on 11 May, small party of Purple Sandpipers at Severn Beach in April, Curlew Sandpiper at the New Grounds on 19 May, five or six Ruffs, about four Spotted Redshanks, three Greenshanks, three Green Sandpipers from the middle of March, Wood Sandpiper at CVL on 1 June, Jack Snipe there on 2 April and a single Avocet at Steart to 25 April.

An unusual number of Arctic Skuas were recorded in the channel being generally associated with the large tern movements and at Brean there was one on 19 April, three on 15 May, one on 17th and 4 June whilst at the New Grounds single birds were present on the 11th and 12 May. At least four Little Gulls were seen from 7 April and for the third spring in succession large numbers of Kittiwakes were noted, presumably on feeding movements from their colonies further west; at Brean 40 were recorded at the end of April with parties of 52 on 15 May, 70 on 17th and 12 on 4 June and a group of 20 were off Portishead on the 7th. Tern passage was very good with the first-a Sandwich Tern-being seen at Severn Beach on 21 March while one was also seen in April and two in May. The first Black Tern was at Cheddar on 17 April, about 38 were present in May and some 80 in the first week of June while Common/Arctic Terns were present in outstanding numbers. Passage commenced on the 19 April with the peak from 10th to 15 May with at least 328 being reported moving up the channel at Brean and the New Grounds and a smaller peak occurred during the first week of June with some 140 present. 17 Little Terns were recorded in May from CVL and the New Grounds and a White-winged Black Tern was identified at Durleigh during the last three days of May — one of a number of rare terns in the country during this month. Up to three Razorbills were at Brean between the 19 April and 25 May.

A Short-eared Owl was seen at Minchinhampton on 17 May. Early migrants were a Yellow Wagtail on 15 March and a Redstart on the 29th. Small influxes of the commoner passerine migrants occurred between the 11th and 14 April but then with the onset of warmer weather migrants arrived in good numbers. Scarcer species included a Hoopoe at West Huntspill on 3 May, about 31 White Wagtails in April, Savi's Warbler in Somerset in May, two Pied Flycatchers in April, a Black Redstart at Cheddar on the 8th, large numbers of Ring Ouzels in March and April with 10 at Crook's Peak on 30 March and 25 on 1 April and Redpolls were recorded in small numbers to 18 May.

Breeding species (selected)

May and June had mostly fine weather and it was a good breeding season for most species. Breeding Great Crested Grebes were reported from CVL, Emborough Pond and Orchardleigh with a count of 180 adults and 106 young at CVL on 17 July. Cormorants were observed in full courtship display at CVL (Denny Island) on 8 April and it is to be wondered with the ever increasing presence of the bird on the reservoirs whether they will ever breed. Duck breeding at CVL recorded in July included Gadwall (53 young), Garganey (eight young), Shoveler, Pochard (seven young), and Tufted Duck (171 young). The last named also bred at Orchardleigh while Garganey were present at Shapwick in June. Sparrowhawks continue to be fairly widespread and Hobbies were recorded from eight localities in May and June. Several pairs of Buzzards nested in North Somerset and flying young were seen at Blagdon in July. Partridges were reported from 26 localities and perhaps show a slight increase from 1969 (reported from 19 localities), whilst Red-legged Partridges were only noted at two places with a maximum of three birds. Quail were widespread and it was undoubtedly a 'Quail' year with 27 heard in an area of five square miles in the Marshfield, Tormarton locality in July and up to five were present on the Mendips and Somerton Moor with single birds in other localities. A single Water Rail was seen at Bridgwater clay-pits in July and a Corncrake was heard on Kenn Moor on 1 June. Redshank bred at West Sedge Moor and 'roding' Woodcock were reported at Shapwick in June while other waders undoubtedly bred but no records were received.

Barn Owls were reported from 17 places through the year, the same as in 1969, also Lesser Spotted Woodpeckers showed a similar distribution to last year. Dippers were only recorded from two localities between March and June, but breeding was proved at Midford and two young reared. A Woodlark was present near Weston-super-Mare in June and July. Whitethroats after a drastic decrease last year, apparently had not reached their 1968 numbers whilst some observers noted an apparent decrease in the numbers of Spotted Flycatchers. Grasshopper Warblers were recorded in good numbers, at least two pairs of Marsh Warblers bred, and singing Nightingales were

present in 13 localities during May (same as in 1969) while other breeding visitors appear to have had a good year. Corn Buntings were present in some numbers with records from nine localities in May, and in July a count of 79 (including a family group of eight, the rest in song) was made in the Marshfield area while Cirl Buntings were seen at six localities in May and June including three pairs at North Wootton. Hawfinches were seen on the Downs and at Rainbow Wood in May. Ravens bred at Brean Down and three young reared and a pair with two young were recorded overhead at North Wootton in June. Redpolls were noted in June and July and this species has greatly increased as a breeding bird in other parts of the country. The Siskin is another bird that is spreading and has been recorded in the breeding season in Somerset. This is no doubt due to the large areas of afforestation and exploration of such places could lead to more being discovered.

Other mid-summer observations

Manx Shearwaters were recorded in large numbers in the channel during June and July ? on feeding movements; largest numbers occurred at Brean with 74 on 4 June, 66 on 5th, 41 on 12 July and 97 on 15th. Other sea-birds seen off the Somerset coast were Fulmars on several occasions at Brean and Sand Point and Gannets, with maximum numbers in July, 11 on 12th and 34 on 15th. A Little Bittern was recorded in Somerset on 6 June staying to 13 July and was no doubt part of the earlier influx of southern bitterns, egrets and herons. Duck included Common Scoter which were recorded off-shore from May to August with a maximum of eight and also inland with six at Cheddar on 4 July and nine at CVL on 5th. A Red-breasted Merganser was present at CVL in July.

An unusual record concerned an Osprey which was at Chilton Moor on 27 June. Reports of summering waders, last two weeks of June and first week of July, were few, and those species such as Spotted Redshank which begin passage at the end of June have been included under Autumn migration. Two Golden Plover were at Brean on 20 July, ten Grey Plover at Steart on 4 July and more surprisingly a Purple Sandpiper at Steep Holm on 12 June and Sand Point on 10 July. A Great Skua was off Brean on 12 June and three Sandwich Terns were recorded here on 21st and two at Sand Point on 23rd, while small numbers of Common/Arctic Terns were seen from the middle of June to the end of July, with a maximum of ten at CVL and a Little Gull appeared to summer here. A Hoopoe was recorded at Crowcombe Park Estate on 14 June, a Red-rumped Swallow was identified on the 7 June at St. Georges Wharf and a male Blue-headed Wagtail was seen at Cheddar on 6 July.

Autumn migration

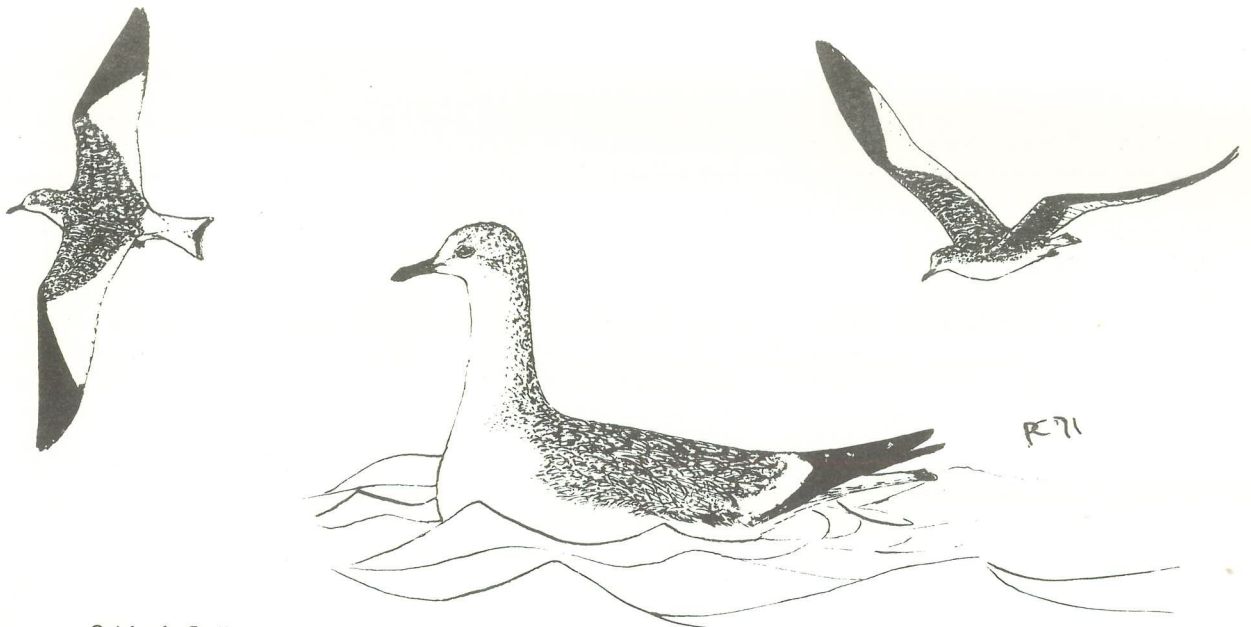
July was generally unsettled with winds mainly westerly reaching gale force at times. August was mainly fine to the 15th but then a series of depressions approached from the west and this produced gale force winds, but after the 22nd it was again fine with light winds between E and SE. After the fairly dry summer the level of the reservoirs were low providing ample feeding areas for passage waders. September was noted for the very fine weather during the last two weeks. Gale force winds occurred around the 9th and 10th. October was a mixed month but again was generally dry and the winds were mainly westerly.

At Cheddar a Black-necked Grebe was recorded in September and October with two present from 24th October to 1 November, one remaining to the 7th. Great Crested Grebes built up to 642 on 20 September and thus appear to have reached their peak earlier, 660 in early November 1969, although no counts are available for the corresponding period this year. A Fulmar was seen off Sand Point on 8 September and Manx Shearwaters were seen at Brean, Clevedon, Sand Point and Steart, with the largest numbers occurring at Sand Point with 19 on 3 August and 22 on 9 September. About 14 Gannets were seen as far up the river as Berkeley with one inland at CVL in September, three Storm Petrels at Sand Point and one at Steart in the same month and a Shag at Sand Point on the 10th. The arrival of White-fronted Geese at the New Grounds was exceptionally early with 11 present on 29 September and six Pinkfeet were at Steart on 9 October. Large numbers of Mallard were present in August and September with 2,000 at Burnham in August and up to 1,568 at CVL in September, while Gadwall reached 200 there in August and up to seven Garganey were recorded at Cheddar in the same month. An unusual number of Red-crested Pochards were seen in August and September which would appear to be unusually early for genuine vagrants, with three at

Cheddar on 31 August to 5 September and two at CVL in August to 17 September with one remaining to the 4 October. Raptors included a 'ring-tail' Harrier at New Passage on 10 October, reports of three single Peregrines in September and October, Hobbies up to 20 September and Merlins at six localities in October.

Of the commoner passage waders Ringed Plover peaked at 2,240 during the last part of August with 112 present at CVL the same month. Turnstone reached 350 at Chittening in October while 2,000 Knot were counted at Steart on 17 October and were present in larger numbers than last year. Sanderling reached a peak at Berrow on 1 August when 65 were recorded and Redshanks in the last week of August with some 920 present. Exceptional numbers of both godwits were present at Steart with Black-tailed Godwits reaching 1,700 at the end of August appearing to exceed the previous highest numbers recorded in Somerset. All the commoner waders were seen inland but an unusual record concerned a group of 30 Oystercatchers at CVL on 25 August.

Some of the scarcer passage waders were present in reasonably good numbers although most figures were difficult to estimate and some were recorded much later than is usual due in part to the low level of the reservoirs. Little Stints (min. 66) were present to 20 November with ten recorded in that month which is unusual; Curlew Sandpipers were not nearly as common as last year and with a minimum of 82 present mainly in September were recorded until the 7 November; Ruffs (min. 67 to 19 October) showed no peaks and were rather scarce; passage of Spotted Redshanks commenced on 21 June and a minimum of 111 passed through to 3 November with about 72 occurring at the New Grounds; Greenshanks (min. 94 to 18 October) were most numerous in September; of Wood Sandpipers (min. 12) one was reported in July, nine in August and two in September; Green Sandpipers (min. 83) reached a peak in August and were recorded to 22 November; the first Jack Snipe was recorded at Huntspill on 26 September (23 September in 1969) and an Avocet was seen at Cheddar in October and up to two occurred at Steart. Rare waders were well represented with some 15 Little Ringed Plover from July to the beginning of September, with up to four at both CVL and Durleigh and a Temminck's Stint visited Cheddar in late August. Several Nearctic waders were seen with two Pectoral Sandpipers at CVL from 7 September to 30th, one to 6 October and one on 30th. A Buff-breasted Sandpiper was at Steart from 7 October to 10th and another at Cheddar on 17th and 18th whilst a Dowitcher *Limnodromus spp* was seen at Steart Island on 25 October.

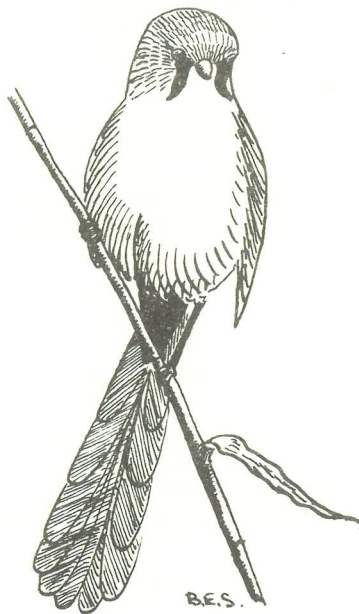


Sabine's Gulls

Unprecedented numbers of Great Skuas were seen in the channel in August and September with one between Steep Holm and Flat Holm on 15 August and at Brean the next day nine were recorded moving up channel, while one was off Clevedon on 6 September and one at Sand Point on 8th. Five Arctic Skuas were seen from the end of August to 18 October including one inland at Cheddar on 10 September. About 11 Little Gulls were recorded, but more notable was the appearance of at least two Sabine's Gulls with an adult at CVL on 6 September, an immature at Durleigh on 10th and 11 September and a bird in similar plumage was at Cheddar the next day. Few Kittiwakes were seen with about 20 on the coast and one inland at CVL. Tern passage was very good and there was a minimum of 300 Black Terns between 4 August and the late date of 1 November with a peak at the beginning of August, while Common/Arctic Terns passed mainly in August (65) and September (60) with a minimum of 130 between the beginning of August and 18 October. Sandwich Terns were scarce with about 11 between the middle of July and the middle of September while Little Terns numbered about 21 including 11 at Steart in August. Rarities were another two White-winged Black Terns, making it an exceptional year for this species, with one at CVL from 13 August to 17th and another present on 12 September and 13th.

Most of the commoner passerine passage migrants were reported in fairly good numbers. Other records included a Richard's Pipit at Sand Point on 14 October, Tawny Pipit at Clevedon on 25 August, Great Grey Shrike at Brean on 18 October and another present on the Mendips on 27th, a Chiffchaff of possibly Scandinavian origin was seen at CVL on 17 August, single Pied Flycatchers were recorded at Brean and Purdown at the end of August and beginning of September, Firecrest at CVL in October, Black Redstart at Brean, Bluethroat at Berrow on 12 September, two Ring Ouzels at Brean and a few Bearded Tits at CVL in October, part of a small irruption from their breeding areas.

The usual reports of late migrants were received: Swallows on the exceptionally late dates of 14 December and 16th, House Martin to 28 November, Grasshopper Warbler at CVL on 10 October, Garden Warbler at same place on 6 October, Whinchat to 31 October and a Nightingale at Sand Point on 30 August, although not very late, was noteworthy as very few are recorded on autumn passage. Autumn migration of thrushes and finches was well in evidence at Sand Bay on the 28 October, with 750 Fieldfare, 600 Redwing, 2,600 Chaffinches,



Bearded Reedling

300 Brambling, 900 Greenfinches, 80 Siskins, 400 Linnet and 65 Redpoll reported. Other migration watches, apart from a large movement of Chaffinches at Sand Point – 3,235 on 1 November moving W – recorded only small numbers of migrants. Redwings were recorded from 27 September and Fieldfares from 9 October while Siskins were first seen on the early date of 4 September and were well represented in October with flocks of up to 60 noted.

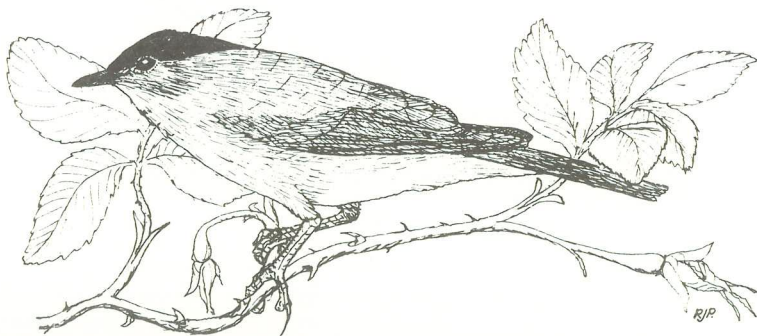
November-December

Rain, heavy at times, during the first few weeks of November soon filled the reservoirs to something approaching normal capacity. Winds remained mainly westerly and it stayed fairly mild to the last week in December when E to NE winds occurred and heavy snow fell in most places.

A Slavonian Grebe was recorded at Cheddar on 12 December to 27th, and this or another was at CVL on 20th. Great Crested Grebe numbers at CVL were fairly high with a count of 490 at the end of November. A Fulmar was seen at Sand Bay on 3 November and a Shag was recorded at Sand Point on the 6th. Cormorants were widely reported from the reservoirs and counts reached the high number of 39 at CVL at the end of December. The first White-fronted Geese at the New Grounds were recorded on 29 September earlier than usual (20 October last year), and numbers there had reached 3,850 by the end of December with about 43% being young birds representing one of the best breeding seasons recorded. Small numbers were also seen along the coast and inland at the end of the year. Eight Barnacle Geese were at the Kenn Estuary at the end of December, matching a similar number seen at Steart at the beginning of the year, and a Lesser White-front was seen at the New Grounds. The first Bewick's Swan arrived at the W.T. on 4 October (31 October last year), and numbers there had built up to 332 on 31 December, while by that date some 472 different individuals had been recorded with 18% being first winter indicating a better breeding season than the past three years. This species was also unusually numerous at the reservoirs in December with up to 76 at Blagdon and 35 at CVL while two Whooper Swans were seen at the W.T. Of the commoner duck wintering in our area Mallard and Tufted Duck appeared to have had good seasons but the numbers of Pochard were well down and it was a poor year for them. Other duck reported included 80 Gadwall at the W.T. in December, a count of 250 Pintail there in the same month and up to 265 Shoveler at CVL. Scarcer diving duck seen included two Red-crested Pochard at Cheddar on 22 December, one Scaup at the same place and four in the Parrett Estuary, six Common Scoters on the coast from the end of October, very few Goldeneye, (first on 27 September) with some 27 in the last part of December, one male Smew at CVL, ten Mergansers from four localities with five at CVL on 21 November and small numbers of Goosanders with eight present on the reservoirs at the end of the year.

A Hen Harrier was present at Huntspill on the 28 November, Peregrines were reported from Axe Estuary/Brean Down and the New Grounds and some eight Merlin were seen in the two months. The highest count of Coot at Cheddar was made at the beginning of November when some 3,000 were present. Large numbers of Lapwing were recorded on the coast and moors and a heavy passage took place at the end of December to the S and SW. The level of the reservoirs remained low during November and most of the late scarce passage waders have been included under Autumn migration. Little Stints were recorded at Sand Bay in December with two present on 7th and 20th while Purple Sandpipers continued to be well represented with about eleven in the two months including up to three at Brean and seven at Chittening. Dunlin were recorded in large numbers at the reservoirs and on the moors with up to 120 at Blagdon, 126 at Cheddar, 95 at CVL and 50 at Tealham Moor all in November. A count of 2,000 Knot was made at Sand Bay on 19 December and about 20 Sanderling were recorded to 7 December. Ruffs were seen at three localities with some 60 present at the end of November and December, only one Spotted Redshank in December, two Green Sandpipers at the end of November and one in December, two Common Sandpipers on the River Avon on 24 December and one to the end of the year, seven Woodcock including one which flew into a B.B.C. building at Clifton and four Jack Snipe.

A Great Skua was seen at Sand Point on 3 November and immature Little Gulls were noted at CVL and Blagdon in November and December respectively. Short-eared Owls were far more widespread than usual and were first seen on 11 October with about 23 in the two months including up to six at Frampton and four at Steart in December. Two Woodlarks were seen at the end of December at Sand Bay, Water Pipits (first on 25 October) were rather few, a Richard's Pipit was seen at Kenn Estuary on 22 November and 30th (almost an



Blackcap

annual visitor here), while other scarce visitors included a Great Grey Shrike on the Mendips above Wells in December with two on the 13th and five or six Waxwings in the area at Cleeve, Frampton Cotterell, Goblin Coombe and the W.T. Six Blackcaps and two Chiffchaffs were recorded in the period and a total of six Black Redstarts were seen inland and on the coast. Large numbers of Fieldfares were recorded at several places in November. Two Lapland Buntings were seen at Huntspill on 1 November and Snow Buntings were rather few with one in November and ten in December. Bramblings were scarce but Siskins and Redpolls were fairly well recorded in November with numbers diminishing in December. A Twite was seen at Chittening, a Hooded Crow at Berrow on the 14 November and a count of 200 Carrion Crows made there in December.

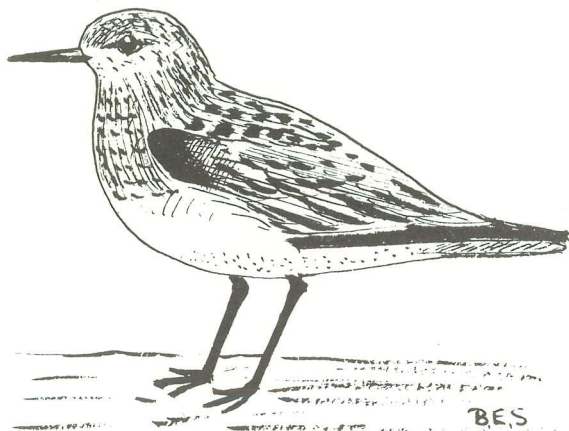
BRISTOL CHANNEL SEA-BIRD SURVEY

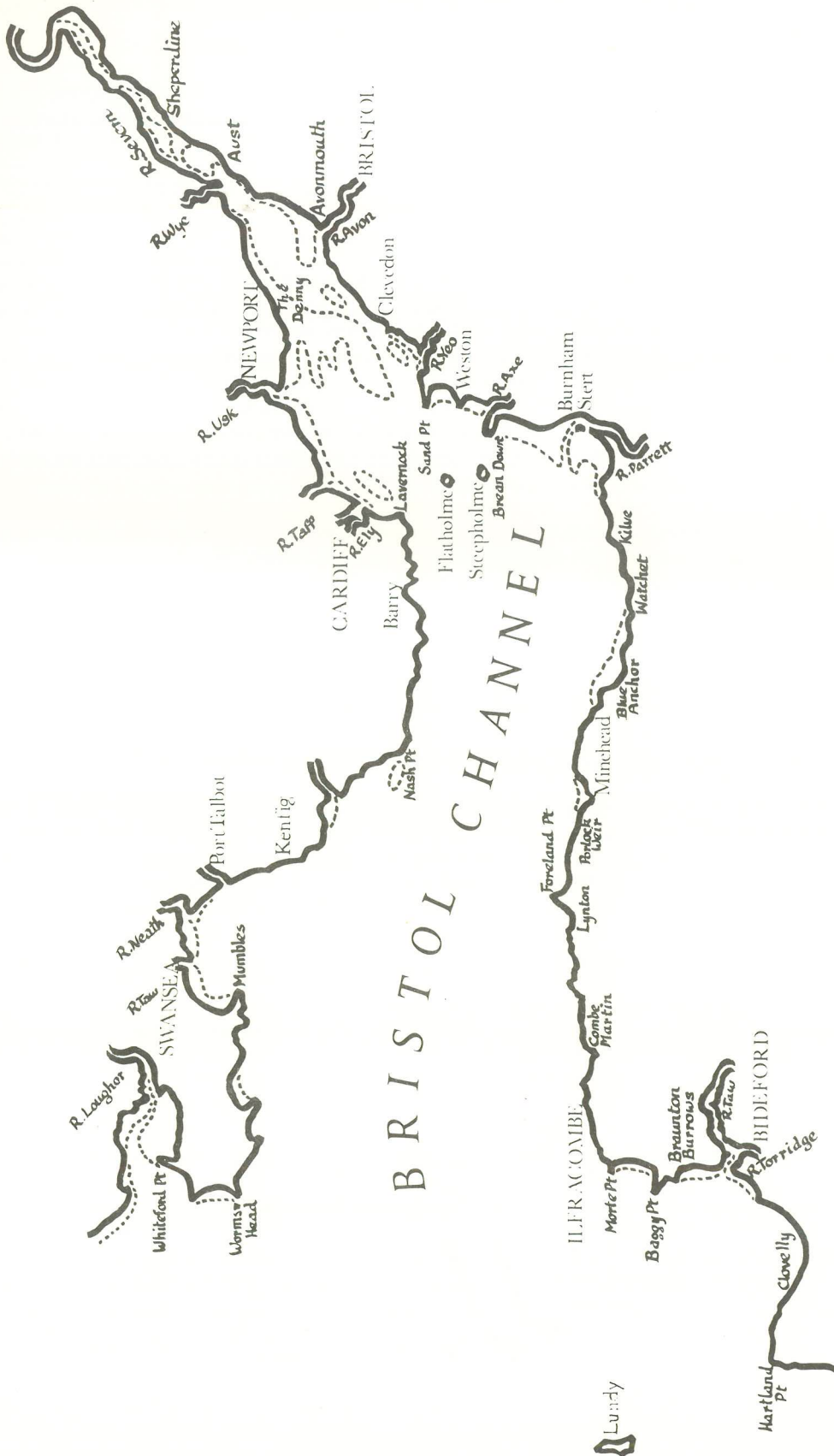
INTRODUCTION

In 1968 *BrOC* members began an investigation into the distribution of sea-birds in the Bristol Channel and Severn Estuary by a series of sea watches from the motor vessels of P. & A. Campbell's White Funnel fleet, and supplemented by coastal sea watches from the Somerset coast, notably Brean Down. One of the following papers presents the results of these observations from 1968 to 1971 and tentatively discusses the implications of some of the findings. It also summarises the records of the individual species noted since 1965, and is essentially a review of the past status of sea-bird species in the Bristol Channel.

The study area is funnel-shaped with its mouth — a line from Worms Head, Glamorgan to Lundy, and thence to Hartland Point, Devon — facing the Atlantic to the west, and its long axis running from south-west to north-east. It covers most of the Bristol Channel, and the whole of the Severn Estuary and comprises an area of some 1400 square miles. Superficially the area would appear to be unattractive to sea-birds, particularly those species preferring more open offshore water. The increasing confines of the coast leading to the narrow neck of the upper reaches of the Severn Estuary, and the turbidity of the water over much of the area, are factors which influence the sea-bird distribution. However, as the following papers indicate, some species, particularly the Manx Shearwater, Gannet and Kittiwake are now regular visitors in spring and summer to the upper reaches of the Bristol Channel.

The methods of study, largely by transects from motor vessels on regular routes to Ilfracombe and Lundy and sea watches from fixed coastal stations, will have to be supplemented in the future by better quantitative methods which cover a large area in a short period of time. Transects or patterned sweeps by motor launch of selected areas and aerial observations by low flying light aircraft are being considered to obtain more exact information on densities of certain species on feeding movements.





SOME PHYSICAL AND OCEANOGRAPHIC FEATURES OF THE STUDY AREA IN THE BRISTOL CHANNEL AND SEVERN ESTUARY

by D.E. Ladhams

The physical structure of the Bristol Channel is very much dependant on the fact that five fast rivers flow into the estuary carrying mud, sand and grit which are deposited on foreshores and banks by the shifting currents and tides. Where currents are very rapid there is little sedimentation and we find exposed shingle and rock as at Portishead and Blue Anchor, or even cliffs with no foreshore, scoured by the water as at Kilve, Lynmouth and beyond. Besides the two islands of Flat Holm and Steep Holm, which are continuations of the Mendip carboniferous limestone ridge, and Lundy which is granitic, there are intertidal banks of mud or sand, particularly about Avonmouth and in deposition areas like Weston Bay, Berrow and Steart, and between Newport and Cardiff. The rocks are mainly mountain limestone with some shale, but beyond Porlock Weir the rocks and cliffs are of sandstone and shale, the so-called Devonian rock formations (Bassindale, 1943).

Much of the scouring and erosion is carried out not by the water currents themselves but by the solids dispersed in them. There is another movement which distorts the currents, namely the tides, which are extremely vigorous in the whole estuary. When the tide approaches from the west it shows at a line from Gower to Ilfracombe a hump of water, up to 27 ft. above low water level advancing at about 50 knots. As the channel narrows, the height increases but both speed and tidal range reduce in the shallow water above the Severn Bridge and the moving mass becomes at suitable tides the bore-wave moving at about 14 knots. Near this point the wave meets the previous tide now ebbing and augmented by river water; for at least three hours of the twelve-hour cycle the total volume of water from rivers, estuary and the channel itself is ebbing rapidly seawards. The result is that a body of water sometimes over 30 miles in length is sweeping first up then down channel, twice a day. This greatly increases and distorts the strong currents, particularly in the narrows at Aust (Gibson, 1933).

As the water ebbs from the Irish Sea and from the English Channel, some turns and enters the Bristol Channel, one stream along the Welsh Coast, the other raising the level along the north coast of Cornwall and Devon. Whether the flora and fauna are different on the two sides owing to this is not known, but one interesting result of these conflicting tidal movements is that there is an area of slack water with little movement, beyond Lundy. For these reasons the area seawards of Ilfracombe is one of turbulence and changing low currents, whilst above this point enormous volumes of fresh water discharged by the rivers encounter the seawater twice a day. The Severn flow averages over one million gallons per minute, which is half the total input of fresh water; and this is violently mixed with seawater.

River water contains only traces of salts but seawater contains 35 grams per litre of various salts, principally sodium chloride — that is, its salinity is 35. These encounter each other in a brackish zone which ebbs and flows with the tide. The higher the tide the further this zone reaches up the estuary, but the greater the Severn flows, *e.g.* in the winter, the more it is held back. Hence under one set of conditions we may have slightly saline water approaching Gloucester, at other times barely reaching Arlingham. For our purposes the noteworthy fact is that there is a moving belt between Kilve and Aust where the salinity varies between 5 and 25 over the seasons, with smaller daily fluctuations; but below Kilve the salinity is fairly steady owing to good mixing, about 30 throughout the year at Porlock Weir for example, not very different from oceanic water. In some British estuaries the discharging fresh water tends to float as a layer on the denser seawater, but in the Bristol Channel the mixing is too effective for this to occur (Rees, 1939). The importance of the moving middle zone, where salinity can vary widely in a few hours, is that most animals cannot survive under these conditions: marine life and freshwater life are both damaged, whilst even brackish species cannot tolerate the fluctuation of salinity in some parts. Consequently the number of species present is very small indeed, and include euryhaline types equally at home in either extreme and mainly seasonal. Examples are salmon, three-spined stickleback, flounder and the well-known swarms of elvers. Intertidal animal life has been extensively studied but does not here concern us. On the other hand the fauna in the open channel from Aust to Lundy and beyond has been very little studied, if at all, with the

exception of the commercially valuable species such as sprats. Some of these species move up the channel and estuary periodically or on migration and others such as the shrimps drift tidally. They must form good sources of food for the sea-birds, but little is known about this.

The triangular area of the channel supports docks and harbours at Swansea, Barry, Cardiff and Newport, and on the south side Watchet, Portishead and Avonmouth. These particularly attract gulls for the fish offal, spilled grain and other foods, but other species mainly keep to the open water referred to above. Another factor which may affect feeding is the water utilised at the new power stations, particularly the three nuclear power installations. Huge volumes of water are drawn in for cooling purposes and discharged as warm water, but it is not known what effect this temperature rise has if any on the flora and fauna.

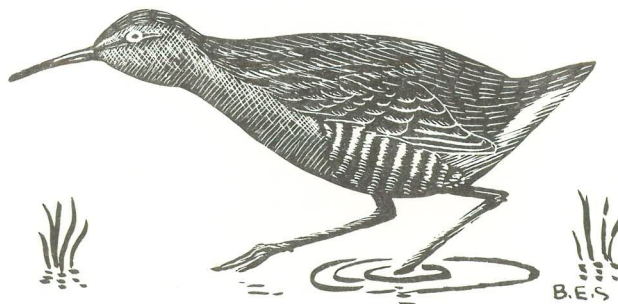
One physical factor affecting the geography also the feeding habits of visiting birds is the amount of silt carried down by rivers (Purchon, 1937). Coarse material such as sand is deposited near the river outlet, but these sandbanks may move and re-form lower down during spring tides. But mud settles less readily and may drift for miles in either direction in the channel, perhaps taking months to deposit on the foreshores or as mud-banks in areas of eddying currents. About one million tons of sediment is produced annually by the rivers. Consequently all the water is very turbid and must represent a barrier of obscurity to birds which feed by diving, such as Gannets, Cormorants and auks.

Acknowledgements

I wish to thank R. Bassindale for suggesting improvements to the original draft of this paper.

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Water Rail

PAST STATUS OF SEA-BIRDS IN THE BRISTOL CHANNEL

by A.H. Davis

This historical review of the past status of sea-birds in the Bristol Channel covers the period from 1900 to 1965 but also includes a few records from the end of the last century. The information summarised has been obtained mainly from published records in the various local bird reports, county monographs and papers. These sources are not referred to separately in the text but are listed at the end of account. For the purpose of this review the Bristol Channel extends to a line from Worms Head, Glamorgan to Lundy and thence to Hartland Point, Devon. It includes the Severn estuary as far as Frampton but other estuaries leading into the Severn and Bristol Channel are excluded.

Black-throated Diver *Colymbus arctica*

The rarest of the divers in the channel with only two recorded from Lundy, some four off the Glamorgan coast and a few from Somerset.

Great Northern Diver *Colymbus immer*

Although considered to be far less common on the north coast than on the south coast of Devon large numbers exceptionally encountered *e.g.* 120 at Baggy Point in January 1963 and about 40 in December 1964. Before 1925 an infrequent visitor to the Glamorgan coast but since then one or more recorded every winter, usually October-March. Somerset records are of odd birds mainly in winter.

Red-throated Diver *Colymbus stellatus*

Occurred annually in very small numbers off the north coast of Devon and regarded as somewhat rare around the Glamorgan coast prior to 1954, but since then one or two, occasionally more have occurred every winter, especially off the Gower with some records from higher up the channel. Considered scarce off the Somerset coast, being only noted from Watchet to Porlock areas chiefly between November and March.

Great Crested Grebe *Podiceps cristatus*

Very occasionally reported from coastal localities on the north Devon coast, also observed with some regularity off Gower, Glamorgan and was rarely noticed elsewhere in the channel.

Red-necked Grebe *Podiceps grisegena*

Vagrant with some five observed.

Slavonian Grebe *Podiceps auritus*

At the end of the last century was regarded as the commonest grebe off north Devon but is now very rare. A few noted Glamorgan and once Somerset.

Black-necked Grebe *Podiceps caspicus*

This, like all the grebes, appears to have been scarce in the channel. Very rare off Devon and Glamorgan and unrecorded elsewhere.

Little Grebe *Podiceps ruficollis*

As to be expected this grebe rarely recorded.

Black-browed Albatross *Diomedea melanophris*

Single record of one off Morte Point, Devon, 25th April 1965.

Leach's Petrel *Oceanodroma leucorhoa*

Rare in the channel and a very small number off the north coast of Devon during a 'wreck' in 1891. During gales 23 October-9 November 1952 great numbers were 'wrecked' with over 2,000 in Bridgewater Bay. More than half found dead subsequently. There were upwards of 150 found dead on the Glamorgan coast and small numbers elsewhere (see Boyd, 1954). Only 11 birds documented since.

Storm Petrel *Hydrobates pelagicus*

Numbers observed off the north coast of Devon usually small but 12 on crossing to Lundy July 1954, instead of the usual two or three, and in June 1953 several hundred were observed to the north of the island. Not been proved to nest here but several dead birds found. A few sometimes stated to occur after north west gales in summer off Ilfracombe where six in June 1947.

Apart from one or two dead 'wrecked' birds on the Glamorgan coast also observed from Lavernock Point where three singles July, August and September 1964 and two in June 1965.

Somerset records concern at least 13 with the 'wreck' of Leach's Petrels in October 1952 and some 26 since 1850 including 14 in December 1929. Noted from September to early December and once in spring. At least two with Leach's off New Grounds, Gloucestershire October 1952 and one recorded November 1964.

Manx Shearwater *Procellaria puffinus*

Stated to occur commonly off the coasts of Devon from mid March or early April to October with often large movements off Ilfracombe during May-July. A movement of c. 15,000 off Hartland Point, July 1963, whilst at Lundy occurred in varying numbers with several thousands occasionally June and July but the numbers actually breeding here considered to be very small.

Regularly recorded off the Gower, Glamorgan and from the 1960's seen much higher up the channel at Lavernock Point, these being considered to be weather movements. Mainly May-August with c. 780 off Worms Head in mid-July 1962. Similar movements recorded 1963-65, whilst at Lavernock small numbers observed June-July with considerable numbers 200-1,400 in 1964.

Status off the Somerset coast rather vague and considered to be probably of regular occurrence in small parties, at least as far as Steep Holm. More common further down the channel where groups of over 200 twice occurred in June. Rarely reported off Gloucestershire coast.

The Balearic race *P.p. mauretanicus* only recorded at Worms Head, Glamorgan, where in October 1964 up to 18 were noted and off Minehead, Somerset, where two in June 1958 were thought to be this form.

Great Shearwater *Procellaria gravis*

The only records were of birds seen in the vicinity of Lundy with two in April 1939, one or two April 1950 and two between here and Bideford in September the same year.

Sooty Shearwater *Procellaria grisea*

Only recorded at Worms Head, Glamorgan, one or two, on three dates August 1963 and again in 1964, and single birds at Lavernock Point July 1964, and Paviland July 1965.

Fulmar *Fulmarus glacialis*

Formally a vagrant off the north Devon coast it eventually bred for the first time in south-west England at Lundy in 1944. Likewise with the continued expansion of the species in the British Isles the breeding population increased here and was stated to be 27 pairs in 1965. On the mainland it first bred in 1956 and colonies at some eight sites later became established. Mainly present January or February to September.

On the Glamorgan coast birds were prospecting in 1946, and the first breeding took place in 1955 between Overton and Tears Point where five pairs were recorded in 1965. Higher up the channel there were one or two in 1963 and 64 at Lavernock Point.

Off the Somerset coast it was recorded as an occasional visitor, spring to autumn being local and scarce. About 12 off Steep Holm or Brean Down since 1951 and 11 further down the channel since 1956. Records fall in the period from March to November.

Gannet *Sula bassana*

Used to breed at Lundy but the last known eggs were taken in 1903. Stated to occur regularly off the north coast and Lundy all months with the species becoming scarcer eastwards up the channel. At Lundy maximum numbers up to 100, usually much less, were reported August, September and occasionally October.

Off the Glamorgan coast it was very rare and there were no records at all for many years from Gower until 1944 when eight were seen. Only two groups recorded to 1955 when between this date and 1962 sightings were more frequent. In 1963 a large increase noted with the maximum on one day being c. 200 off Worms Head with a total of fourteen June to July at Lavernock — the first since 1921. This increase considered to be possibly linked with the growth of the breeding colony on Grassholm which is 50 miles west of Worms Head. The small numbers off Lavernock from 1963 thought perhaps to be weather movements ahead of high winds or heavy rain storms over their feeding grounds.

Said to occur occasionally off Weston-super-Mare, Somerset in summer and autumn but only five sightings recorded since 1926. Considered to be probably regular offshore west of Watchet, March to September, small parties or singles but up to 100 noted July 1956. Only three records from the Gloucestershire coast.

Cormorant *Phalacrocorax carbo*

Stated to breed at several sites on the north Devon coast whilst at Lundy used to breed regularly but

not since 1959. Small colonies reported on Gower, Glamorgan with between 6-10 pairs in 1921 and 10 pairs in 1965. First bred Steep Holm in 1934 with 25-30 pairs since and for all the counties stated to be a fairly numerous resident.

Shag *Phalacrocorax aristotelis*

The Shag, a more maritime species than the Cormorant, reported breeding at a number of sites on the north coast of Devon and on Lundy in fluctuating numbers with 12 pairs in 1922, 110 in 1939 and 53 in 1965. The only other breeding station in the channel reported is on the Gower, Glamorgan where one or two pairs said to breed infrequently. Further up only one or two records to the east of Gower and off the Somerset coast about 30 west of Dunster.

Scaup *Aythya marila*

Considered to be a common and abundant winter visitor to all parts of the channel at the end of the last century and beginning of this. Off the Somerset coast there were 700 at Brean Down December 1903 and 200 Weston Bay January 1908. Declined after 1910, with few reported in the 1960's, exceptionally up to eight.

Long-tailed Duck *Clangula hyemalis*

Said to occur rarely off the north coast of Devon. There are a few records from the Glamorgan coast and five from Somerset.

Velvet Scoter *Melanita fusca*

Very scarce and irregular off the north coast of Devon with maximum of six at Baggy Point, December 1963 and single birds elsewhere. Off the Glamorgan coast reported in small numbers especially at Worms Head where a maximum of eight have occurred with the majority December-January. Five off Clevedon, Somerset in February 1956.

Common Scoter *Melanita nigra*

Status said to be difficult to define for Devon with fluctuating numbers, and in some years more plentiful in the summer but in others during the winter. Flocks of 100-200 said to have not infrequently been observed Morte Point/Baggy Point and the principal numbers were 300 Woolacombe Bay January and February 1947, 200 Baggy Point January 1953 and 250 Croyde February 1955.

Regular offshore autumn to spring in large numbers off the Glamorgan coast and some said to summer. Recently main concentrations are around Worms Head with c. 2,500-5,000 late July and August and c. 1,000-3,000 between November and February. In some years only a few hundreds noted.

An irregular visitor, mainly autumn to spring, off the Somerset coast and further up, only in very small numbers with 12 together on four occasions.

Eider *Somateria mollossima*

A few summering non-breeding birds stated to sometimes occur on the north coast of Devon whilst in winter small parties sometimes reported the largest being 37 off Baggy Point in February 1963. Only a few noted off the Glamorgan coast, ten off Somerset and one Gloucestershire.

Grey Phalarope *Phalaropus fulicarius*

There are some 12 records from Lundy, and for Glamorgan considered to be an occasional autumn passage migrant and storm driven winter vagrant. Stated to appear generally after gales off the Somerset coast with a peak in late September.

Red-necked Phalarope *Phalaropus lobatus*

Vagrant with a few sightings for Devon and Glamorgan.

Arctic Skua *Stercorarius parasiticus*

Records for the north coast of Devon suggest that this skua was an irregular visitor and only about a dozen recorded off Lundy since 1947, mainly in the autumn.

Formerly a rare vagrant off the Glamorgan coast with few records to 1963, but a remarkable passage of some 80 birds at Lavernock Point between 25 September and 21 October in that year. This movement may have been due to abnormal winds on 25-26 September. Small numbers, mainly singles since at Lavernock and off Gower June – late August.

Considered to a rare passage migrant or storm vagrant off the Somerset coast with some 58 between 1860 and 1963, mainly single birds between August and beginning of November with only eight spring records. Some ten observed off the Gloucestershire coast 1938-1964.

Great Skua *Stercorarius skua*

Only some 20 records from the north coast of Devon, 1900-1965, including an occurrence of six off Combe Martin in September 1964. Considered to have been somewhat irregular off Glamorgan with only some 11 birds 1926-1965, July to November with one in April. Off the Somerset coast apparently a very rare autumn and winter visitor with eight 1824-1923, and eight or nine 1957-1965, between August and January except once April and May. One Gloucestershire, November 1938.

Pomarine Skua *Stercorarius pomarinus*

At the end of the last century, and beginning of this, considered to be the least rare of the skuas off Devon coast. Since then one of the rarest, with one recorded off Combe Martin in September 1965.

In Glamorgan few observed but during the autumn of 1963 at Lavernock Point there were single birds in August, three dates in October and two on the 14th, these being associated with the passage of Arctic Skuas there. Also one in June 1965. A storm vagrant off the Somerset coast with about 30 recorded 1847-1909, including at least eleven October-November 1879 and 12 off Minehead October 1886. Only one recent record, of a bird found dead, November 1963.

Long-tailed Skua *Stercorarius longicaudus*

A vagrant with a few in 1891, when severe gales drove many on to the shores of the English and Bristol Channels. Only other records are of singles off Lundy September 1942, a possible one Ilfracombe, October 1949, and five Somerset coast, 1862-1952, with three in October and singles in May and June.

Little Gull *Larus minutus*

Difficult to assess past status but only three Lundy records and two or three Blackpill on the Glamorgan coast. Some eight off the Somerset coast to 1903 and the odd bird since.

Sabine's Gull *Xema sabini*

A vagrant with some four sightings north Devon and Glamorgan coasts and about ten on the Somerset coast 1860-1965.

Kittiwake *Rissa tridactyla*

The main breeding station in the channel is Lundy. This population has shown some variation due in part to the island being difficult to survey. In 1939 there were some 3,000 pairs, 2,026 occupied nests in 1951 and 1,225 pairs in 1965. Elsewhere on the north Devon coast occurred in varying numbers in all months especially in autumn when numbers sometimes driven inshore by gales.

The only other breeding station in the channel is at Worms Head on the Glamorgan coast where breeding was first proved in 1943 and by 1965 had increased to about 100 pairs. Groups of 250-300 off here in August but not often seen elsewhere in Gower and considered to be infrequent east of Swansea. Many were found dead during the 'wreck' of this species January/February 1957. From 1963 frequently observed from Lavernock Point at times of strong winds, occasionally up to 20 and most in June.

Off the Somerset coast considered to be an occasional visitor, chiefly as a storm vagrant with large wrecks occurring in the winter during adverse weather conditions. Excluding 'wrecks' about 150 recorded since 1929 with most February, April and August. A few small wrecks and a much larger one occurred in mid-February 1957 when there were some 65, most found dead. Following severe SW gales February 1962 some 490 passed west off Minehead. A few have been seen off the Gloucestershire coast.

Black Tern *Chlidonias niger*

Appears to have been very rare off the north coast of Devon and three were seen on crossing to Lundy in September 1956. Very few Glamorgan and from Somerset considered to be a fairly regular spring and autumn visitor to coast between 1844 and 1900. Since then only odd birds in spring and commoner in the autumn with exceptionally 190 at Hinkley Point September 1957. Off the Gloucestershire coast small numbers since 1950 mainly in the autumn and in May 1954 during an exceptional influx 292 were recorded flying up the channel at Sheperdine and c. 50 at the New Grounds the same date.

Common Tern *Sterna hirundo*
Arctic Tern *Sterna macrura*

Status difficult to define for Devon but probably occurred regularly along the north coast. Parties of up to six at Lundy where in bad weather, October 1958, an unusual number of c. 140 noted. Probably few on Glamorgan coast prior to 1958 but since when numerous records on both spring and autumn passages off Gower coast and Lavernock Point. Usually small numbers but up to c. 40-80 in a day and occasionally up to c. 150-180 off Worms Head.

Off the Somerset coast large numbers appeared in the channel in May 1842 and apart from a group of 43 Sand Point May 1959, very few records in spring and only four sightings of more than ten on the coast. In the autumn fairly regular Dunster/Minehead with the highest coastal count of 75 in September 1951. Fairly regular

since 1950 off Gloucestershire coast especially in May with larger numbers recorded being 86 Severn Beach 1950, 61 Sheperdine 1954 and 29 New Grounds 1964. As with some of the other terns greater numbers appear in the estuaries off the channel.

Roseate Tern *Sterna dougallii*

Only described as a vagrant with very few recorded.

Little Tern *Sterna albifrons*

Formerly bred on the Glamorgan coast and at Steart Island, the last here in 1930. Probably rare off the north coast of Devon but a group of c. 30 terns mostly this species Bideford Bay, September 1958. Quite small numbers rarely reaching double figures from 1961 at Lavernock and Gower coast. Off the Somerset coast the majority in autumn with some 135 Dunster/Minehead with largest number being 25 in August 1948, and occasionally recorded off Gloucestershire coast with exceptional number of 15 Purton, September 1954.

Sandwich Tern *Sterna sandvicensis*

Difficult to assess previous status off the north coast of Devon but apparently few records with only a few being recorded from Lundy. First recorded off the Glamorgan coast in 1933 and from 1963 small numbers from both Gower and Lavernock Point on both spring and autumn passages. Off the Somerset coast noted as a passage migrant mainly in September, — local and scarce with the main numbers Dunster/ Minehead and Porlock Bay with exceptionally 56, September 1963.

Razorbill *Alca torda*

Breeds along the north coast of Devon with a population of some 250-300 pairs. At Lundy in 1939 estimated as 10,500 but in 1953 had decreased to only some quarter of this total. At the breeding station on the Glamorgan coast at Worms Head the population was estimated at c. 250 pairs in 1925 but only c. 50 pairs in 1959 and 20 in 1965. Single birds recorded off Gower, March/October and also occasionally higher up the channel at Lavernock. Off the Somerset coast recorded as an occasional visitor and in recent years very few seen alive anywhere but off Steep Holm and coasts west of Dunster. Noted on seven occasions since 1929 near Steep Holm or Weston Bay, and 23 records of 46 birds west of Dunster since 1926. Majority September/October and April/August.

Little Auk *Plautus alle*

Recorded as a storn driven vagrant mainly in the autumn and winter months. A number of 'wrecked' birds recorded and in February 1950 a large wreck occurred when many were found on the coasts including some 18 around Burnham-on-Sea, Somerset.

Guillemot *Uria aalge*

On the north coast off Devon the population was estimated at 20-50 pairs 1948-58 but increased since to some 200 pairs. At Lundy the breeding population was estimated at 19,000 pairs in 1939 decreasing to 5,000 in 1951 and 3,560 birds present in 1962. The only other breeding station at Worms Head on the Glamorgan coast, has shown a decline from c. 300 pairs in 1925 to 80 in 1948 and c. 50 in 1965. Elsewhere in Gower single birds often seen and two singles recorded from Lavernock Point. Off the Somerset coast some 27 seen alive since 1928



Plate 9. Female Sparrowhawk at nest, Blagdon, Somerset, May 1970. The clutch of three eggs was deserted after incubation for two months. (Photo: Maurice R. Tibbles)



Plate 12. Juvenile Golden Eagle, Outer Hebrides, June 1971. (Photo: John A. Eatough)

but many more found dead or exhausted. It was stated that Razorbills were about three times as common as Guillemots as far as living birds were concerned but this ratio almost reversed for 'wrecked' corpses. Birds of the northern race, *U.a. aalge* reported on a number of occasions.

Black Guillemot *Uria grylle*

A vagrant with only some four records including four flying W off Dunster Beach, February 1954.

Puffin *Fratecula arctica*

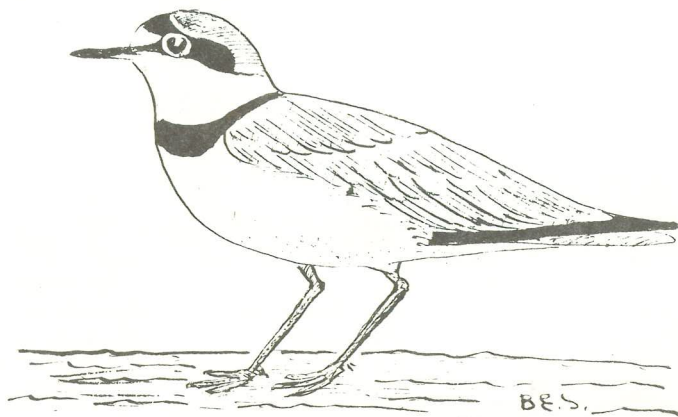
On Lundy the breeding population: has decreased. It was stated to be 3,500 pairs in 1939, by 1950 less than 400 and in 1965 perhaps only 33 pairs left. Individuals and storm driven birds said to be not infrequent on mainland coast. Formerly used to breed at Worms Head with some six pairs in 1925 — odd numbers since though breeding not positively proved. A few off Gower and one or two higher up the channel. One or two Steep Holm prior to 1936 and apart from these birds said to have been recorded only four times this century alive and uninjured off the Somerset coast including 12 off Minehead August 1951. About 12 found on coast dead or injured.

Acknowledgements

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Little Ringed Plover

BRISTOL CHANNEL SEA-BIRD SURVEY – PRESENT STATUS OF SPECIES

by B. Rabbitts

Since 1968 increasing attention has been paid by members of the Bristol Ornithological Club to sea-birds in the Bristol Channel and this interim report covers the observations made and summarises the results so far obtained. The study area is that part of the channel enclosed by a line drawn from Worms Head to Lundy to Hartland Point and extends as far up the Severn estuary as Frampton. Basically this report concerns itself with records from the Bristol Channel and Severn estuary and not the many river estuaries leading into them.

The main source of information has been obtained from members travelling on the motor vessels of P. & A. Campbell's White Funnel Fleet, and also from a series of watches made from Brean Down in the spring to early autumn in 1970 and again from the spring to the present date (15 August) in 1971. Only steamer trips where full details have been available are included and these have been tabulated (Table 1) to give some idea of that part of the channel most traversed. As can be seen only two trips have been undertaken along the South Wales coast to Worms Head but observations from this coast, mainly Lavernock Point, are detailed by Jones (1966). Generally watches from the steamers have been continuous, mainly from the bows to both port and starboard and on most days of reasonable visibility a transect of perhaps a mile or two miles is made the length of the trip. Observations from Brean Down have been made about twice a week mainly from early morning to midday and occasionally later. Additional records have been obtained from the various County annual reports (see References) and also from W.E. Jones (*in litt.*)

DIVERS *Colymbus sp.*

An immature Red-throated Diver in flight off Combe Martin, north Devon, on 18 May 1968, flew parallel with the steamer gaining height before being lost to sight over Rillage Point.

At Brean Down two flew high up channel on the 15 May 1971, and another diver, probably this species was present on the 18th.

No large numbers of divers have been recorded recently from the north Devon coast and they are fairly local in the channel but are observed with more regularity off the Gower coast and recently off Ilfracombe. A few Great Northern Divers seen in autumn and winter and one or two in May and September. Red-throated Divers are observed slightly more, mainly in winter, but more off the Gower coast in March and April. Higher up the channel singles have been seen at Lavernock Point in April, May and October and at the New Grounds in May. It would appear that occasional birds are not unusual in this month. Black-throated Divers are very rare and the only sightings are from the Gower coast on three occasions and once off Lundy.

GREBES *Podiceps sp.*

An interesting record was of a Red-necked Grebe seen on the 28 September 1969 in Welsh waters between Barry and Ilfracombe. The only other sighting of any grebe on steamer trips was a Great Crested Grebe off Lundy on the 4 October 1970.

Grebes are rarely seen in the channel and the record of 17 Black-necked Grebes off Kenfig, Glamorgan, one December is exceptional. The occasional Great Crested is seen and one or two Little Grebes.

LEACH'S PETREL *Oceanodroma leucorhoa*

Very rare visitor to the channel and only three sightings recorded in the period, with all in 1968 during a time of strong to gale force west winds. One Morte Point on 20 September and two at Steart on the 29th with one on the 30th.

STORM PETREL *Hydrobates pelagicus*

About 17 on seven of the trips with 12 of these recorded in 1970. One in Minehead Bay area, 11 August 1968, and three on return journey; 3 August 1969 – one, again in Somerset waters from Ilfracombe to Weston. The following sightings were made in 1970: – 7 June – one in the Porlock area, also one in the same locality on the return journey and two in Devon waters off Morte Point; 18 July – one in Welsh waters between Ilfracombe and Barry; 24 July – four in the Bideford Bay area; 23 August – one off Clovelly and one Devon waters between Ilfracombe and Weston; 6 September – one between Lundy and Ilfracombe. Variable weather conditions for these records.

On 29 September 1968 at Brean Down six were seen on a day of gale force west winds. None observed there during 1970 but two or three were present on the 24 April 1971 in a fresh NW wind.

Several records of birds seen on crossings to Lundy with a maximum of 15 in August 1967 and ones and twos June, August and September 1970. About nine off the Somerset coast mainly in September with two single birds in December and once in June. One as far up as the New Grounds at the end of May 1967. Off the Glamorgan coast observed at Lavernock Point with two on 16 August 1967, two on 22 June 1968 and one on the 27th. Most of the above recorded during strong winds.

As can be seen from these records the Storm Petrel is fairly rare in the channel and no large numbers have been seen recently off the Devon coast but as the above show it is certainly more than a storm vagrant in the autumn to the Somerset coast.

MANX SHEARWATER *Procellaria puffinus*

Recorded on 12 of the steamer trips but in small numbers with most in Devon and Welsh waters with a few Somerset records. Most occurring from the end of June to August during fresh winds mainly in the west quarter.

Devon records: 11 August 1968 – six from Ilfracombe to Morte Point and return, and one from Ilfracombe to area off Lynton; 17 May 1969 – Ilfracombe to Barry, 11; 3 August 1969 – Weston to Ilfracombe, six; 7 June 1970 – Baggly Point to Lundy, two, also one off Lundy and one on return; 18 July 1970 – Ilfracombe to Barry, 16; 24 July 1970 – Ilfracombe to Braunton Burrows area, 15; 23 August 1970 – one off Clovelly; 27 June 1971 – Weston to Ilfracombe, two with five on return and some 133 Ilfracombe to Lundy and return with the majority being near the island; 23 July 1971 – 35 with 30 being observed from Ilfracombe to Lundy and return and on the 25 July some 51 were recorded from Ilfracombe to Braunton Burrows and return and four from Ilfracombe to Barry.

Somerset records: 3 August 1969 – Ilfracombe to Weston, three; 18 July 1970 – Ilfracombe to Barry, seven; 24 July 1970 – one off Bossington Beach; 27 June 1971 – Weston to Ilfracombe, five and on the 25 July the same year four were recorded from Ilfracombe to Barry.

Glamorgan records: 18 July 1970 – Barry to Ilfracombe, 15 flying south and another 14 in small groups; 3 August the same year, 14 (two Swansea Bay and 12 Gower coast) and also a few on the 21 August.

The following were observed off Brean Down in 1970, the larger numbers in anticyclonic weather with fresh winds – 26 May, eight; 4 June, an early morning movement of some 74 and on the following day

about 66; 15 July, 97. In 1971 the first was observed on the 16 April and small numbers occurred throughout June and July to the first week of August with a maximum of 225 on the 20 June and about 200 on the 1 August.

During the period few records of large number from the Devon coast but in 1971 systematic watches from Ilfracombe produced variable numbers through the summer occasionally from 1,000-3,000 and one good weather movement of 6,700. Small numbers off Lundy, exceptionally 1,000 in June 1969, the same year when a survey showed some 100/150 birds coming ashore at night and probably breeding. Fairly regular off the Somerset coast with most in Minehead/Porlock areas where up to 97 have been seen in June and over 150 in August and Bridgwater Bay where up to 80 seen. Smaller number other times and most in windy conditions but during the early morning at Steart on 25 June 1967, 237 were counted flying S or SW. There was a calm sea but visibility was poor due to rain and some birds were moving as close inshore as ten yards. There are a few sightings as far up as the New Grounds.

On the other side of the channel noted fairly frequently at Lavernock Point from end of May to July with maximum numbers in June – 296 on the 25th in 1967 (note date in relation to record at Steart) and in 1968, 374 on 13th in anticyclonic conditions with moderate NE winds and again from 22nd to 29th with maximum of 356 on 22nd and 329 on 27th. (a period of unsettled weather when birds appeared to have moved up channel ahead of rain). In other years only a few seen. Larger numbers further west with 1,451 off Worms Head in August 1968 and 350 in Swansea Bay in July the same year.

Manx Shearwaters occur with regularity in the upper reaches of the channel. Most are weather movements either in anticyclonic conditions or in areas of low pressure with depressions when birds move up channel to avoid them. Occasionally they are seen to search for food. On the 10 July 1971 observations from a launch from Weston to Steep Holm revealed small groups (largest 11) widespread from about one mile off Weston to Steep Holm searching lower over the water for food.

GREAT SHEARWATER *Procellaria gravis*

The only records are of one on the crossing to Lundy on 16 July 1966 and a report of two in the Morte Point area on both outward and return trips to Lundy, 10 July 1971.

SOOTY SHEARWATER *Procellaria grisea*

One seen on the steamer trip made on the 24 July 1970 in the Braunton Burrows locality (the same area as one seen on the 20 July the preceding year).

Again this shearwater is rarely seen and single birds have been reported off Worms Head in August 1969, Lundy and Hartland Point in August 1970 and a remarkable record of one off Brean Down on the 19 June 1971. Single birds on three occasions off Ilfracombe, end of July to mid August, 1971.

FULMAR *Fulmarus glacialis*

Observed regularly with about 340 sightings in 23 trips with the most (314) in Devon waters and the remainder in Somerset waters (18) and Welsh waters (8). Highest numbers on any single trip being 54 on 29 March 1970, followed by 48 on 7 June and 41 on 1 June 1969, with no records at the end of September and beginning of October. This is to be expected as most birds move out to their wintering areas by this time.

The sightings from further up the channel occurring in March and May to August in variable weather conditions, with the most on 1 June 1969, when six were seen on the outward journey from Weston to Ilfracombe, with one just off Weston, one off Steep Holm and four further down channel, and four were seen again on the return journey. Wind for this trip was westerly force 3-4 moderating in the afternoon. On 17 May 1969 two

were off Roose Point, Glamorgan, in gusty gale conditions and one was near the Breaksea Lightship on the 13 July the same year in very calm and misty weather.

Observed regularly from Brean Down in 1970 on nine dates between 28 April and 15 July in variable weather conditions but occurring on days of complete calm. Singly or two together with an absolute minimum of two on several dates. A considerable increase in 1971 being recorded on 16 dates from the 16 April to the 7 August. Largest numbers in unsettled weather, and on the 12 June with a fresh NW wind 35 sightings were recorded during the watch (maximum of nine together).

Colonies on the north Devon coast continue to increase, and in 1969 a count of 74 pairs was made in early June from Bull Point to Combe Martin Bay and some 60 pairs in the Woody Bay area. On the 7 June the same year a count of 69 estimated breeding pairs was made by members from a small boat from Lynmouth to just beyond Highvear Point. On Lundy a count of 44 nests was made in 1967 and 1969. It has increased off the Somerset coast especially in west where records are mainly March to December with a maximum of six July and March. Further up there are sightings from a few places mainly May to September, but there are records outside this period even as far up as the New Grounds, these usually appearing in unsettled weather. Breeds in small numbers on the Gower coast and a count of 32 was made in the Mewslade/Fall area in March 1968. Occurs fairly regularly off Lavernock Point mainly in May and June, also off Flat Holm. Birds are now showing more interest in possible nest sites in this part of the channel (Glamorgan Annual Bird Report, 1969).

The Fulmar is a bird that has increased and can be seen with some regularity higher up the channel from such places as Brean Down and Lavernock Point with the majority appearing here in May and June.

GANNET *Sula bassana*

Recorded on most trips with a total of 676 sightings and as to be expected most off the Devon coast (483) with the fairly high number of 176 in Somerset waters and the remainder (17) in Welsh waters. The majority were seen at the end of July and in August and counts in these two months include 96 on 11 August 1968 (54 in Somerset waters from Ilfracombe to Barry, with many of the birds resting on the water); 24 July 1970, 66; 23 August 1970, 60; 23 July 1971, 85 with 48 in Somerset waters and 26 of these off Porlock; 25 July 1971, 64 with 28 Somerset sightings. The only other large number is of 61 on the 8 September 1968. Seen on the only trip made in March and the others from the middle of May to October when the trips end. Sightings off the Somerset coast come mainly from further down the channel but several observed just to the south of Steep Holm.

Up to four were recorded off Brean Down on several dates from the end of April to the end of August 1970 in variable weather conditions. Larger numbers occurred in July in very windy conditions when up to 34 were seen. A considerable increase in 1971 being noted on 17 dates from the 6 May to the 8 August. Largest numbers appearing at the end of July with about 100 on the 25th, 28 on the next day and 37 on 6 August. For these three days the wind was SW light to moderate but pressure was low with heavy rain clouds and it appeared to be raining at times down channel.

As the Gannet occurs regularly off the Devon coast, only exceptional numbers are recorded in the County report. Most July to September with up to 180 which passed west off Combe Martin in September 1966, otherwise up to 80 but not in 1968-70 but watches from Ilfracombe in 1971 have produced numbers far in excess of these. Off the Somerset coast many records from the Minehead/Porlock area April to October with up to 130 in September 1967 during strong NW winds and occasional sightings from various places further up, May to September and isolated records other months. Singles as far as the New Grounds in May 1967 and Undy, Monmouthshire in April 1968. Fairly widespread on the Welsh side with most off Gower coast with up to 90 off Worms Head. Sightings from Lavernock Point are from May to July and September of generally small numbers but 43 were present on the 3 July 1967 and 35 flew down channel after rain on 19 July 1969.

The status of the Gannet has probably changed little with regard to records from further down the

channel but observations have shown that it is more regular now higher up from such places as Brean Down and Lavernock Point. Larger numbers tending to appear here during unsettled weather in July and August but the odd birds wander up channel in very calm conditions.

CORMORANT *Phalacrocorax carbo*

Frequently noted on all parts of the coast usually singles or twos but larger numbers at Penarth where up to 22 seen.

The Cormorant is widespread in the channel all the year round and small numbers breed north Devon coast, Steep Holm and the Gower Coast.

SHAG *Phalacrocorax aristotelis*

Apart from one in Welsh waters, Ilfracombe to Barry on 8 September 1968, (very infrequent on this part of the Welsh coast) all others in Devon waters, usually ones or twos but as to be expected larger numbers off Lundy where 16 recorded on 23 August 1970, and 21 on 23 July 1971.

Breeds on north Devon coast and larger numbers on Lundy with a very few on the Gower coast. The occasional birds are noted infrequently further up the channel with most in September.

SCAUP *Aythya marila*

The Scaup is rarely reported in the channel. On the 22 December 1966 about 20 were present at Peterstone Wentloog on the Monmouthshire coast and on the 5 January 1970, 14 were recorded at Blackpill Glamorgan. Apart from these up to four observed on some 12 dates during the period from all except the north Devon coast, October to March and once July.

VELVET SCOTER *Melanitta fusca*

Very rare with about 10 records including three singles off the Monmouthshire coast, all end of October to January, but on the 4 January 1970 on outer edge of area at Worms Head a flock of 17 recorded.

LONG-TAILED DUCK *Clangula hyemalis*

Few observed in the channel. One off Brean Down January 1966, two Undy on the Monmouthshire coast November 1967 and one same place in February 1968 and two recorded off Blackpill, Glamorgan October 1970.

COMMON SCOTER *Melanitta nigra*

Only seen on five trips: 11 August 1968 – Ilfracombe to Barry, one in Devon waters and two Somerset; 29 March 1970 – Weston to Ilfracombe, eight Somerset waters and on return 13 seen; 24 May, same year, five recorded, 18 July, three off Weston and on the 3 August one was off Clevedon.

Common Scoters were observed at Brean during 1970 from the end of March to the end of August in small numbers with a maximum of eight on the 27 June moving up channel towards Flat Holm and there were three sightings in July. In 1971 again from the end of March with a maximum of seven and up to five several dates in June and July.

The odd birds are seen occasionally off the Devon coast with large numbers in December especially from the Croyde area with exceptionally 140 in 1969. Small numbers seen with fair regularity off the Somerset coast with exceptionally up to 22 Brean Down, February 1967 and 20 off Clevedon in November 1968. Mainly seen October/March with a few June and July. A few sightings from the New Grounds and from a few places on the Monmouthshire coast, maximum five. Off the Gower coast up to 700 have been seen in March and 350 in August whilst elsewhere on the Welsh coast there have been sightings from several places including Lavernock Point where about 50 were present in June 1966 and up to eight have been seen in other years.

The Common Scoter is a bird whose numbers fluctuate from year to year and its movements are fairly irregular.

EIDER *Somateria mollissima*

On *BrOC* trips one record of a male flushed from the water by the steamer just to the south of Steep Holm on the 27 June 1971.

Occurs off the Devon coast in small numbers with a few sightings in summer and also off the Welsh coast. Numbers very small up to 18 on the rare occasion. It is exceptional off the Somerset coast.

GREY PHALAROPE *Phalaropus fulicarius*

Some ten recorded usually after gales from Hartland Point to the New Grounds. Once in December in Minehead Harbour the rest either September or October.

ARCTIC SKUA *Stercorarius parasiticus*

None seen on *BrOC* trips in 1968 and 1969 but in 1970 observed on two trips – 23 August, Lundy to Ilfracombe, a single and later three together harrying Kittiwakes, and from Ilfracombe to Weston one was seen off North Hill, Minehead. On the 6 September two passed very close over the steamer from Lundy to Ilfracombe and an immature was chasing gulls in Ilfracombe harbour.

An interesting number were recorded in the spring of 1970 at Brean Down – 19 April, one; 15 May, three; 17 May and 4 June, one. All these were moving up channel and to coincide with these observations one was seen at the New Grounds moving to the north on the 11 May and a different bird the next day. This increase continued in 1971 with some 13 between the 18 April and 20 July on eight dates mainly singles and twice two together.

Very few off the Devon coast but recently watches by W.E. Jones from Ilfracombe have produced many more. Four, 2 October 1970, five the next day and in 1971 some six from the end of July and the first two weeks of August. Many more sightings from the Glamorgan coast especially Lavernock Point where recorded May/July and September/November in small numbers with up to three in June and July. In 1967 between 6 September and 16 October many records of birds flying down channel with a maximum of seven on 7 September. Several September 1970 with four on the 13th. Numbers variable from year to year and only two in 1969.

The Arctic Skua is now a regular passage migrant but the exceptional numbers at Lavernock Point in the autumn of 1963 have not been repeated since. The records from the Somerset coast for 1970 and 1971 indicate a spring passage up channel and the number of sightings show a marked increase over previous years. Between 1923 and 1965 only seven records are listed for the Somerset coast.

GREAT SKUA *Stercorarius skua*

Three were observed in 1968 — one in Devon waters off Lynmouth on 18 May and on the 11 August two were seen some seven miles off Minehead. None were recorded in 1969 but in 1970 some eight were sighted. 18 July — one in Welsh waters between Barry and Ilfracombe and one on the return journey; 24 July — one in the Braunton Burrows locality; 3 August — two in Swansea Bay; 21 August — one in Welsh waters; 8 September — one as far up as Clevedon and one was seen between Lundy and Ilfracombe on the 4 October.

An interesting number observed from Brean Down. In 1968 one was sighted on the 21 September whilst on the 29th four together flew up channel in a strong west wind. In 1970 one was present in very calm and misty conditions on the 12 June and on the 16 August the high number of nine were recorded in a gale force west wind. These were in groups of two, three and four roughly one and a half hours apart, the birds coming into Bridgwater Bay and then making up channel. During 1971 one was recorded on the 16 April, two on the 12th and 20th June and singles on the 21 July and 1 August.

Very few records from the Devon coast, some six during the period with two off Combe Martin in March 1966, and two on crossing to Lundy on 24 August 1968. Some 11 sightings from the Somerset coast with four in September, including two off Warren Point, Minehead on 15 December 1966, the others being in February, July and October to December. Singles near Flat Holm, 15 August 1970, New Grounds in September 1968 and Redwick, Monmouthshire late March 1968. Five single birds at Lavernock Point 1966/70 in the months of April, May, June and September with two on the 10 September 1970.

The Great Skua is now apparently a regular visitor to the channel and it has been recorded in all months except January during the period under review. Most seen in August and September, but a few summer just outside the study area and the odd bird wandering up channel in the summer months is probably not unusual.

POMARINE SKUA *Stercorarius pomarinus*

A rare visitor to the channel with an immature off Lavernock Point on 10 September 1967 (and again on next day) and one on crossing to Lundy on 31 August 1968. Seen off Ilfracombe two dates in October 1970 and Blackpill, Glamorgan at the end of November in same year.

LONG-TAILED SKUA *Stercorarius longicaudus*

Vagrant with singles at the New Grounds on 27 May 1967 and off the Monmouthshire coast on the 4 October 1970.

GULLS *Larus sp.*

The Great Black-backed Gull, Lesser Black-backed Gull, Herring Gull, Common Gull and Black-headed Gull are present in large numbers along the coasts of the channel and Severn estuary. Because of the difficulty in counting accurately the number of gulls seen on the steamer trips few counts have been made on the channel transects and similarly observations from coastal stations obtained during sea watches are scanty. There is some evidence of migration through the study area in both spring and autumn particularly of the Lesser Black-backed Gull and Common Gull but no assessment can be made of the importance of the Bristol channel as a migration route for *Larus sp.* at the present time. A review of the status of the *Laridae* is planned for a future number of this journal when breeding, roosting, migration and feeding areas will be covered.

LESSER BLACK-BACKED GULL *Larus fuscus fuscus*

Birds of this race have been recorded on six trips. On 18 May 1968, one in Somerset waters, Ilfracombe to Barry and on 8 September the same year, two were seen from Clevedon to Cardiff and one from Barry to Ilfracombe. On 17 May 1969 single birds were in Welsh waters, Weston to Cardiff and Somerset waters, Barry to Ilfracombe. In 1970 on the 29 March, one was in Devon waters, Ilfracombe to Weston and six in Somerset whilst on the 9 May one was present just before Barry with a different bird on departure from here and two near Flat Holm on the return journey. Also one on the 10 April 1971, Ilfracombe to Weston.

This race is rarely reported in the channel with most being seen in April and May.

LITTLE GULL *Larus minutus*

Occasional records from all coasts and as far up as the New Grounds in most months with the majority in September, mostly singles at such places as Hartland Point, Lavernock Point, Minehead and Ilfracombe. Larger numbers at Port Talbot with a maximum of 16 in September and off Blackpill with a maximum of 13 on 21 March 1970 and 15 on the 23 April.

KITTIWAKE *Rissa tridactyla*

Noted on all but two of the steamer trips, generally in small numbers but large groups recorded on several trips. A total of 610 seen and nearly equally divided with about 212 in Devon waters, 222 in Somerset and 176 in Welsh waters. Some of the larger numbers noted further up the channel are interesting. On 17 May 1969 Ilfracombe to Barry, 29 in Somerset waters (17 just in Welsh waters but making towards Porlock and within minutes would have been in Somerset waters), 31 (including the 17) in Welsh waters and just a little east of the Breaksea Lightship 100 at least in a compact flock. 1 June 1969 in Somerset waters between Weston and Ilfracombe, 64 with one large group of 50 between Steep Holm and Flat Holm and on the return journey again in Somerset waters, 74 seen singly or in groups of up to 25, this largest party being about 2 miles south of the Breaksea Lightship. The birds on the outward journey were moving up channel whereas those on the return were moving down. On the 7 June 1970 a compact group of 20 were recorded moving up channel off Portishead.

Most seen in June with 168 on the 1 June 1969, 59 on the 7 June 1970 followed by May with some 160 on the 17 May 1969. Birds have been seen close in at the cliffs in the Woody Bay area on the Devon coast but on the 7 June 1969 a search was made and although they were present it was not thought they were breeding. No large parties have been seen in Devon waters with the maximum being up to 21 off Lundy and on the 23 August 1970 near Ilfracombe parties of 16 and 23 passed down the channel.

Regular at Brean Down during 1970 in large groups in spring with the odd birds from 15 July and up to four in August. All the sightings in spring were of mainly adult birds with just the occasional immature. On 28 April, a compact group of about 40; 15 May, a total of 52 in six groups of one to twenty; 17 May, at least 70 in the area in large parties; 29 May, seven and on the 4 June 12 were seen. In 1971 the maximum was about 115 on the 13 March in three groups moving very quickly up channel. Smaller numbers 18 April to 12 June maximum 35. Some small parties recorded moving up channel in May in the late evening.

Large numbers off the north Devon coast are rare with exceptionally one group of 60 off Clovelly 29 May 1969 and about 30 off Lynmouth the same time, with 50 Barnstaple Bay July 1966 and 35 Hartland Point during a gale in November the same year the only other large numbers in the period. At Lundy there was a count of 1,256 nests in 1967 and 1,441 in 1969.

Off the Somerset coast odd birds most months with larger numbers at times. At Minehead/Porlock locality a steady down channel movement noted on 24 December 1966 following moderation of strong NW winds when 390 counted. Up to 42 here March to June, 83 on 25 December 1967 and 90 flying west on 3 November 1968.

Other large numbers are a group of 40 moving NE off Sand Point 9 May 1968, 40 up channel off Brean Down 31 March 1969 and off Steep Holm the same year 30 flying north at 16.15 hours on 6 May, at least 70 SW in evening on the 9th, 54 similar direction and time on 31st and 20 on sea on 14 June. At New Grounds also large numbers have been seen with 100/120 present 17 March 1968, 100 on 1 April, 270 on 31 March 1969 and 70 on the 11 April.

On the Welsh coast it breeds at Worms Head with about 150 pairs in 1966/67 and a count of 597 was made in May 1969. Regular also at Blackpill with largest numbers in May and June and about 500 in June 1969 with smaller numbers elsewhere and at Lavernock Point mostly in disturbed weather.

As can be seen from these records the Kittiwake can now be considered as fairly common in the spring in the upper reaches of the channel and especially off the Somerset coast in May when previously recorded as rarely seen this month. There are no doubt feeding movements from colonies further west and occur in varying weather conditions. Most in the morning but in May 1971 at Brean Down a few moving up channel in the late evening.

BLACK TERN *Chlidonias niger*

Recorded once at the end of July and on four occasions in August. On 11 August 1968, one between Clevedon and Cardiff moving down channel; 3 August 1969, Weston to Ilfracombe, 13 in small parties up channel, three off Porlock down channel on the return journey and nine south of the Breaksea Lightship moving up; 24 July 1970 – four flying up channel off Porlock; 21 August 1970 – eight off the Welsh coast; 23 August 1970 – Minehead to Ilfracombe one, Lundy to Ilfracombe four and Ilfracombe to Weston 18, with the largest group being ten. The majority on this trip moving down channel and one was resting on a piece of flotsam as it was being carried down by the tide.

Fairly large numbers at Brean in the spring of both 1970 and 1971. 1970 records: 15 May, 13 up channel; 4 June, 22 up channel and the next day 46 in six groups moving west to east towards Berrow. 1971 records: 5 May, three; 6 May, 42 in small groups moving west to east along south side of Down and on the 6 June six were sighted.

Very few from Devon coast. Off the Somerset coast again rarely seen in the period with most in August. Occasionally at the New Grounds, mainly singles, but up to nine in September 1966. On the Glamorgan coast seen in the autumn at a few places including Lavernock Point but in small numbers and exceptionally up to 27 off the Breakwater at Port Talbot.

Now observed with more regularity than before and the observations from Brean Down are interesting as before they were recorded as fairly rare off the Somerset coast at this time.

COMMON TERN/ARCTIC TERN *Sterna hirundo/Sterna macrura*

Observed on 14 of the trips with a total of about 430. Large numbers on three transects in 1970 and few seen from the remainder. On 7 June passage was as to be expected mainly up channel with a total of 71 as far up as Clevedon, but the majority between Baggy Point and Lundy Roads and the return. On the 21 August on one of the few trips along the Welsh coast 174 were counted from Barry to Worms Head and return either feeding or moving west. On 23 August 72 were recorded with the majority (56) moving down channel on the return journey from Ilfracombe to Weston.

During the spring of 1970 and 1971 a number were recorded at Brean Down with most moving up channel or along south slope of the Down west to east. 1970 records: 19 April, 15; 15 May, 100; 17 May, seven; 29 May, five; 4 June, 47; 5 June, 83. In autumn on 16 August in a gale force west wind 18 flew down channel. 1971 records: 17 April, nine; 5 May, 200; 6th, 140; 14th, 41; 15th, seven; 16th, 19; 19th, 13; 21st, eight; 25th, seven and 2 June eight noted.

Fairly local off the Devon coast with 36 off Morte Point in April 1968 and several small groups in the autumn. The occasional birds are recorded off the Somerset coast and larger numbers have occurred in the Minehead area with up to 50 in June 1966 and over 100 in August 1967 but not in such large numbers in 1968 and 1969. In 1970 at the New Grounds, 36 were present on 9 May and 30 moved inland; 175 on the 10th to north and 53 the next day. Off the Welsh coast seen in large numbers off the Port Talbot Breakwater with up to 400 in spring and 500 in the autumn. Smaller numbers elsewhere including Monmouthshire coast and Lavernock with exceptionally up to 100 in the autumn here.

These terns are far more widespread on the Somerset coast than past records indicate on spring passage. A comment in the 1968 Glamorgan Annual Report refers to the fact that further observations at Lavernock would seem to confirm the opinion that most of the birds that penetrate to the upper reaches of the channel in the spring eventually turn back west. This probably is not the case on this side of the channel where records from the New Grounds show that birds are seen to move inland.

ROSEATE TERN *Sterna dougallii*

Very rare with some five of Lavernock Point and a few elsewhere.

LITTLE TERN *Sterna albifrons*

One at Brean Down on the 2 June 1971, moving up channel.

Reported frequently Minehead/Porlock areas with highest numbers in August (12) and September (11) with smaller numbers June and July. Occasionally further up estuary at New Grounds, mainly in May. On the Glamorgan coast regularly seen at Blackpill, maximum 12, and a few observed moving past Lavernock Point April/June and August/October.

SANDWICH TERN *Sterna sandvicensis*

Rarely recorded with none in 1968 or 1969 but in 1970 it was recorded on three trips. On 21 August – a few off the Welsh coast; 23 August, nine were seen with three Weston to Ilfracombe and six on return near Ilfracombe and on the 6 September four were observed between Ilfracombe and Weston.

In 1970 observed at Brean on five dates between 21 June and 22 August with a maximum of three and in 1971 three were present on the 12 June and two on the 20 July.

Occurs regularly off north Devon coast in the spring and autumn. On 30 August 1966, 23 passed west at Ilfracombe and up to 15 recorded at other localities. Irregular off the Somerset coast with most in the Minehead/ Porlock areas with up to 22 in the spring of 1966 but this number has not been recorded here since. A few sightings from other places and also from the New Grounds and off the Monmouthshire coast, March to October.

Small numbers off the Glamorgan coast at several places on both passages from April to the beginning of November with most off Gower. Maximum of 21 off Lavernock and ten Blackpill and Mumbles but smaller numbers than this usually.

RAZORBILL *Alca torda*

As to be expected the vast majority of the birds seen on the steamer trips are in Devon waters with about 11 in Somerset and one single in Welsh waters. A total of some 345 seen with most just off shore along the Devon coast. This does not include some estimated 370 nests of both Razorbill and Guillemot counted on the trip made on

1 June 1969 on a cruise from Ilfracombe to Lynmouth when the steamer sailed very close to the cliffs. May and June as to be expected are the best months and few are recorded from July to September: 17 May 1969, 54; 24 May 1970, 59; 7 June 1970, 57. About 250 being seen on sailings from Barry or Weston to Ilfracombe and return, some 56 from Baggy Point to Lundy and return and smaller numbers elsewhere along the Devon coast.

A few recorded in the spring at Brean Down indicating that individuals come up the channel at this time at regular intervals: 19 April 1970, two; 15 May, three, and two on the 26th. In 1971 singles on the 3 April and 12 June with two on the 9 July. In addition a number of auks either this species or the next observed: 5 May, one; 15 May, two; 11 June, five; 19 June, two; 22 June, one.

The main breeding area on the Devon coast is Woody Bay to Heddon's Mouth where there were some 500 pairs in 1968 and 391 in 1969. At Combe Martin birds were recorded flying east on several days in March 1966. At Lundy there was a count of 1,602 birds in 1967 and 584 nests in 1969. Irregular off the Somerset coast with most Minehead/Porlock areas, maximum eight in June. A few sightings further up including two from the Monmouthshire coast and most seen in May and June and a few in winter. Breeds in very small numbers on Gower coast, 48 breeding birds present in 1969, and noted occasionally offshore in other months with a few in winter. At Lavernock Point observed in February, June, September and October with most in June. This is the commonest auk off shore here during several years of observations.

Has probably increased as a breeding bird on the north Devon cliffs and is now being observed with more regularity in spring off the Somerset coast.

GUILLEMOT *Uria aalge*

Recorded on 21 trips in smaller numbers than Razorbill but noted on more occasions. About 170 with 143 of these in Devon waters. Slightly more seen in Somerset waters than preceding species with 28 recorded including seven, Ilfracombe to Weston on 1 June 1969, 11 on 13 July the same year, all south of Steep Holm, but well in Somerset waters with three and four being the largest parties and three on 25 July 1971, Barry to Ilfracombe and two on the return. Most in June with 51 in two trips and recorded from April to October. In addition to these observations and the preceding species many have been recorded but not specifically identified.

One record at Brean Down of a single bird on the 21 May 1971.

Off the Devon coast principal breeding numbers occur in the Woody Bay area with 228 pairs in early May 1967. At Combe Martin birds were recorded flying east on several dates in March 1968. At the breeding station on Lundy a census in 1967 revealed 2,355 birds and 1,647 in 1969. Off the Somerset coast most frequent Minehead/Porlock areas with sightings most months with exceptionally 11 on the 22 June 1967 and a very few sightings from further up. Considered to be commoner than Razorbill at Worms Head and breeds in small numbers with up to 200 present in June 1967. Occasional other point on the Glamorgan coast including Lavernock Point.

PUFFIN *Fratercula arctica*

Recorded on six trips with all in Devon waters: 13 July 1969, Weston to Ilfracombe two; 7 June 1970, four off Lundy; 23 August 1970, one immature from Ilfracombe to Weston; 27 June 1971, two near Lundy; 23 July 1971, three near Lundy and on the 25th two near Baggy Point.

About 60 pairs at Lundy in 1966 and a count of 41 nests in 1969. Only one record from the Devon coast but the occasional bird off shore at Ilfracombe in 1971. Apart from dead birds only one Somerset sighting in the period. Off the Glamorgan coast birds are noted on the odd occasions at Worms Head mostly in June and there are a couple of records for Lavernock Point and off Flat Holm.

Table 1 Dates of BrOC sea-bird watches made from steamers and routes taken.

	Bristol — Clevedon — Barry, Cardiff — Worms Head — Ilfracombe — Lundy or Weston or Penarth				
18.5.68					
17.5.69					
24.5.70*	—	—		—	
18.7.70					
11.8.68*					
8.9.68*					
28.9.69*	—	—	—	—	
9.5.70					
30.5.71*					
25.7.71††					
1.6.69†					
13.7.69††					
10.4.71	—			—	
31.5.71*					
3.8.69	—	—		—	
29.3.70					
24.7.70††					
23.8.70††		—		—	—
4.10.70					
23.7.71					
3.8.70	—	—	—	—	
21.8.70					
6.9.70	—	—		—	—
7.6.70					
27.6.71					

* Additional cruise to Baggly Point/Morte Point area

† Additional cruise to Lynmouth area

†† Additional cruise to Barnstaple Bay/Bideford Bay

DISCUSSION

Some of the main findings of the sea-bird survey since 1968 are summarised and again it is important to stress the tentative nature of the conclusions derived from the first three years of the study.

The population of the Fulmar in the North Atlantic has been increasing for well over 200 years and this is still increasing (Fisher 1959). They certainly now appear with regularity in the upper reaches of the channel culminating with the high numbers observed from Brean Down in the spring and early summer in 1971. As numbers would be at their peak at this time at their breeding stations on the north Devon coast this is when they would be most likely to occur so far up the channel. Another interesting aspect is the spring and summer distribution of the Manx Shearwater in the upper reaches of the channel for food. Small parties occur regularly mainly in fine weather with fresh winds and larger numbers with depressions approaching from down channel forcing the birds up from their normal feeding grounds. Although mainly on weather flights they do at times search for food. The presence of the Gannet also in the upper reaches as an apparent normal summer distribution is also worthy of mention. They have increased as a breeding bird on Grassholm 50 miles west of Worms Head and the odd bird comes up channel in the spring and summer. Large numbers appear to occur during windy weather or with low pressure areas and rain storms over their normal feeding areas in the channel approaches.

A great deal of information has been obtained on the Kittiwake which is now of common occurrence off the Somerset coast during the spring and early summer sometimes in large numbers. These tend to group together to form one large compact flock and are probably on feeding movements from their colonies further west. Of note is a sighting of three groups totalling some 115 moving very quickly up channel on the 13 March 1971 at Brean Down. These could conceivably have migrated overland passing through the Severn estuary. Also of interest was the presence of very small numbers in May 1971 moving up channel in the late evening.

The use of the channel as a migrant route for terns in both spring and autumn is well marked at times. Although at Lavernock Point it was thought that most Common/Arctic Terns in the spring turned back west, observations at Brean Down and the New Grounds have shown that birds are seen to move inland or the north as to be expected at this time of the year. For the last two years also there has been a well marked Black Tern passage.

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Alarmed Curlew

NOTES

Birds of the old Bristol airport at Whitchurch, 1966-71

The disused Bristol airport (Nat.Grid.Ref. ST 595684) is situated two and a half miles from the centre of Bristol on the northern slopes of Dundry Hill and is surrounded by the housing estates of Knowle West, Hengrove, Hartcliffe and Rookery Farm. It seems certain that parts of the airport will be built on in future years and a record of the birdlife to be found there may be of value before the habitat disappears.

The airport can be broadly divided into four areas. At the eastern end is a small area of rough grass with bramble bushes and willow trees also a small marsh and pond which has recently been filled in. This area was once more extensive than it is at present, but a housing estate now covers a large area of what was once good habitat. Stonechats, Grasshopper Warblers and Meadow Pipits all bred in this area in 1971 within yards of the nearest houses. The second area is that on either side of the runway which consists of short grass with football and rugby pitches. This is the area favoured by the Lapwings and Golden Plover. The western end, like the eastern end consists of rough grass, with hawthorn and bramble in the north-west and south-west corners. This area is much more extensive in the west than in the east. The fourth area is that occupied by several aircraft hangers on the northern side but this is of little ornithological interest.

Probably the most important single species is the Stonechat which is present throughout the year with one or two pairs breeding. Other breeding birds include Skylark, Grasshopper Warbler, Meadow Pipit and Reed Bunting, and wintering birds include Lapwing and Golden Plover. Passage birds include Wheatear and occasional Whinchat and Yellow Wagtail. More unusual birds have been a Merlin, Partridge, Water Rail, Curlew, Brambling and two Ravens.

My own observations date from April 1966 to 1971 but were rather limited between 1968-70. The following is a list of the more interesting species recorded.

Merlin	Male, 11 January 1968
Kestrel	One, sometimes two, frequent throughout the year. Five, including two males, 2 April 1968. Probably breeds in vicinity.
Partridge	Two, March 1969.
Water Rail	Two records both in marshy area at the eastern end - singles, 3 November 1967 and 13 January 1968.
Moorhen	Pair raised two young on small pond in 1966.
Lapwing	Recorded from mid-summer to spring (extreme dates 18 June and 27 April). Peak numbers from September to January - the highest count being 126 on 17 October, 1968.
Golden Plover	Seen regularly October to November but one January and one March record. Maximum number quoted was 80 on 4 November 1966.
Common Snipe	One or two seen occasionally August to February.
Curlew	One in flight 14 November 1966.
Barn Owl	One, 3 April 1967.

Skylark	Approximately 8-12 breeding pairs and a winter population of c. 20-25. Exceptional numbers early January to early April 1968 with a maximum of 120 on 13 January.
Raven	Two flying east October 1968.
Jay	Three circling airport and eventually moving west 12 January 1968.
Wheatear	Up to five seen regularly on spring and autumn passage but 14 on 27 April 1966 and 19 including 16 males on 21 March 1968.
Stonechat winter months.	One pair present 1966-70 but two in 1971; breeding proved in 1966 and 1971. Up to six noted in winter months. Male seen to leave area flying high to the south-east on 17 October 1968.
Whinchat	Recorded as migrants (one or two) only in April, May and August 1966.
Grasshopper Warbler	Bred each year with a peak of six pairs in 1966 and at least three pairs in 1971.
Sedge Warbler	Pair possibly bred in 1966.
Whitethroat	Bred each year with six pairs 1966, five in 1967, three in 1968 and two in 1971.
Lesser Whitethroat	Males noted in late spring but breeding not proved.
Meadow Pipit	Bred each year - three pairs in 1966; two pairs in 1967 and six in 1971. Winter population up to 30.
Brambling	c. 250 with other finches feeding, 11-13 January 1967.
Reed Bunting	Pair present each year with breeding proved in 1966, 1967 and 1970. Winter flocks of up to twelve.

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Food-hiding by Scrub Jay and other *Corvidae*

Derek Goodwin in his interesting paper 'The problems of birds escaping from captivity' (*Brit. Birds* 49: 339-349) emphasises the importance of observing the behaviour of birds possibly having escaped from captivity. For instance he states (p.339) 'This article . . . will I hope stimulate bird watchers to identify and observe even those species which are obviously escapes. The behaviour and adaptability, or lack of it, of birds which find themselves far from their normal range and often far from any suitable environment, is of the utmost interest.' Also (p.346). 'Birds that are lost and starving may perch and seek food in unusual situations or show an indifference to the presence of man or other enemies.' Thus, stimulated by Goodwin's remarks I visited a farm near St. Just, Cornwall on 20 February 1965, where a Scrub Jay *Aphelocoma coerulescens* had been present for some weeks, and to make detailed notes of its feeding behaviour if possible.

According to Oliver L. Austin Jr. in *Birds of the World*' (1967, 223-226) the Scrub Jay is one of the 102 species of the *Corvidae* and is a non-migratory resident of North America. He states 'This species breaks into a number of races on the west coast from Washington to Southern Mexico, and is absent from the rest of the continent except for a population resident in the scrublands of central Florida'. So, it would appear the Cornish bird which was beautifully coloured and in immaculate plumage was an escape. A little smaller than the common Jay *Garrulus glandarius* it

Notes

was observed at close range on at least twenty-four occasions and I noted the following characters:— Head well rounded; forehead, crown, nape and side of neck deep powder-blue; mantle warm beige; tail long and noticeably rounded or graduated and the same pleasing blue as head etc; dorsal surface of wings bright blue with turquoise shading. The slight but distinctive superciliary being white or whitish; ear-coverts deep drab brown; throat and extreme upper breast whitish beige with few fleckings; an ill-defined blue band across breast extending from collar. Rest of under parts appeared off-white to beige. Bill, iris and legs dark. Flight typical — undulating and strong. When alighting inclined to dip tail by shallow up-and-down movements.

The Jay frequented the farm garden where ground-nuts had been strewn, and it invariably appeared first in a tall straggling bush situated on the perimeter of the garden before alighting among the liberally scattered ground-nuts. It sometimes collected as many as five nuts during a single visit and these would be held in its throatpouch. Then, either flying out of sight with its mouth bulging only to return some minutes later for further supplies, or to be seen burying them no more than 50 yards away by pressing each nut into soft earth and covering the holes with a quick side to side movement of head and bill. Sometimes, however, the Jay whilst on the ground would break open a nut and swallow the fragments. Other objects thought to be gritty material would occasionally be swallowed.

On a number of occasions I have watched other corvine birds hiding and burying foods, such as Jays burying acorns, and Rooks *Corvus frugilegus* at Chew Valley Lake, Somerset, hiding bread and other artificial foods in patches of grass and elsewhere. One particularly interesting occasion when in company with J.C. Rolls at Selsey Bill, Sussex, on 29 October, 1967 (*Brit. Birds*, 61: 417-418), one of the latter species, with a pronounced down curved and malformed upper mandible, was found on the beach taking Slipper Limpets *Crepidula fornicata*, then carrying them to a grass field near by. We twice watched it use its malformed bill to make a sizeable hole in the ground into which it inserted the limpets and buried then by a side to side movement of its head.

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Preen gland waxes

Those birds which spend much of their lives swimming, diving or resting on the water are able to do so because their feathers are impregnated with water-repellent organic compounds which are secreted from the preen gland or oil gland situated near the base of the tail on the rump.

Recently, detailed chemical analyses of the free flowing secretion from the preen glands of a number of species of water-fowl have been reported by Odham and Stenhagen (1971) working at the University of Goteborg, Sweden. Their findings reveal some interesting facts: thus the compositions of the waxes from individual species of a particular genus are similar, but variations are noticed between the secretions of birds belonging to different generations within the same main family. The feather wax of the Barnacle Goose *Branta leucopsis*, for example, shows distinct changes in chemical content from that of species of the genus *Anser*. Similarly, the make up of the preen gland secretion of the Magpie Goose *Anseranas semipalmata* is unlike that of waxes from other geese. Significantly the Magpie Goose is the only member of the subfamily *Anseranatinae* of the family *Anatidae*. Chemically waxes from the Shelduck *Tadorna tadorna* and the Ruddy Shelduck *Tadorna ferruginea* are approximately the same, but intermediate between those from *Anser* and *Cygnus* species. Obviously genetic factors control the composition of the waxes and thus it would be possible to use the data from chemical analysis of preen gland secretions to supplement taxonomical conclusions based on anatomical evidence.

Release of crude petroleum from tankers is a constant threat to seabirds. Exposure to the oil results in both loss of water-repellency and heat insulation. The ability to fly is lost and feeding becomes virtually impossible. When detergents are used to wash affected birds the natural waxes of the plumage are also removed and it is not possible to release the birds until these waxes have been replaced. Since the feathers contain several grams of wax and the preen glands produce only about 50 milligrammes per day, this regeneration process can be lengthy. Knowledge of the

composition of the preen gland waxes of sea birds now makes it possible to formulate synthetic cleaning agents with which waxing takes place during cleaning (rather like some types of car cleaners). Using such preparation, recently patented under the trade name *Larodan* (Larson 1970), some seventy-five birds of the *Anatidae* were successfully cleaned and released within a fortnight.

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Residents and migrants at Weston airfield, Somerset

Weston airfield lies west of the A 371 between Locking and Weston-super-Mare (Nat.Grid Ref. ST 350605) approximately two miles inland from Weston Bay. The actual airfield is much used by light aircraft and gliding enthusiasts and has a narrow strip of rough ground along its northern edge, with two small ponds bordering the east side of the main road. The area is not at all striking in bird prospects from first glance, but constitutes a small but important locality for birds of the Weston area, holding several annual breeding and migratory species otherwise rarely seen so close to the town. The locality has a surprising concentration of diurnal migration for such a small inland spot at sea level — birds presumably drawn in by the sheer expanse of a bare airfield find the only cover available is along the northern edge.

There is a small but annual breeding population of Skylark, Sedge Warbler, Whitethroat, Yellow Wagtail, Linnet and Reed Bunting. In and around the *Phragmites* of the ponds surrounding Little Grebe, Mallard, Mute Swan, Moorhen and Coot breed most years. Also, a small Reed Warbler colony survives, one bird singing as late as 14 September in 1968. From September to April, Snipe are invariably present in one small marsh; usually less than 40 although I counted 81 on 22 December 1968. Jack Snipe are becoming increasingly regular, with a well-marked passage of up to four in March and April 1970. Lapwing flocks winter on the airfield and are sometimes joined by Golden Plover. At times of flooding Dunlin and Redshank occur, whilst Stonechats are regular from September to April and Water Rail and Kingfisher make the occasional appearance in cold spells. Partridges, as in many other areas were once regular, but I have had no sightings here since March 1968.

Spring and autumn passage is marked by the regular occurrence of hirundines, Wheatear, Whinchat, Willow Warbler, Chiffchaff, and Grey Wagtail. Among less regular spring migrants have been a Grasshopper Warbler on 2 May 1968, two Ring Ouzels on 22 March 1969, and surprisingly three Cormorants repeatedly circling the runways on 23 April 1967! Autumn passage has produced several rarities — a Peregrine heading north in October 1969; a Merlin flying north and four Bewick's swans flying south on 2 November in the same year; a Stone Curlew, 11 September 1968 and two Green Sandpipers moving west, 7 August 1969. A total of 83 species has been recorded in the area since 1965.

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Buff-breasted Sandpipers in Somerset

During the autumn of 1970 exceptional numbers of Buff-breasted Sandpipers *Tryngites subruficollis* were recorded in the British Isles including seven together on the Isles of Scilly in September, with several in other parts of the country and two in Somerset in October. The Sandpiper is a rare vagrant to this country from America where it is fairly local inhabiting short-grass localities such as golf courses, airports and short grass prairies. It breeds in arctic North America and winters in the South.

On 7 October at Steart I located a wader which I suspected to be a Buff-breasted Sandpiper resting on the mud. It soon flew on to Fenning Island from where later in the day it was disturbed by a farmer. Unlike the birds which I had seen on the Isles of Scilly, which were noted for their extreme tameness, this one was very wary and difficult to approach. I next visited the area on the 9th and soon found the bird on the Fenning in company with a Spotted Redshank, but again it was very nervous with both birds flying out to the estuary and, despite staying all day it did not return. The following day the bird flew in after I had been present about 2 hours, stayed for fifteen minutes feeding and then flew off towards Huntspill. It was not located subsequently. The following is a brief summary of the description noted:

Upper-parts: back very well marked looking something like a Ruff with dark centres to feathers and sharply defined buff borders; head buffish with crown finely streaked. Under-parts: from chin to behind legs light buff shading into white; some streaking down the sides of lower neck. Soft parts: iris dark; bill blackish, straight and short; legs orange/yellow and very long.

In general it was a very small wader, about the size of a Dunlin, but with extremely long legs and buffy appearance. The carriage and pose was very much like a plover and when alarmed it would stretch its long neck accentuating the small headed appearance of the bird. In flight there was a lack of any really distinguishing features but it had a white underwing and dark centre to tail. It was heard to call on several occasions and the note was recorded as a low trill.

On 17 October during a visit to Cheddar Reservoir I was fortunate in finding another which was frequenting a large exposed island of mud and rocks. This bird was similar in most respects to the one seen at Steart but allowed approach to considerably shorter distances thereby enabling a more detailed plumage description to be obtained. On one occasion when approached by several people walking on the island it crouched down very close to the ground and adopted a 'freezing' attitude before taking flight. It was still present the next day when it was seen by a number of observers but was not located again.

B. Rabbitts

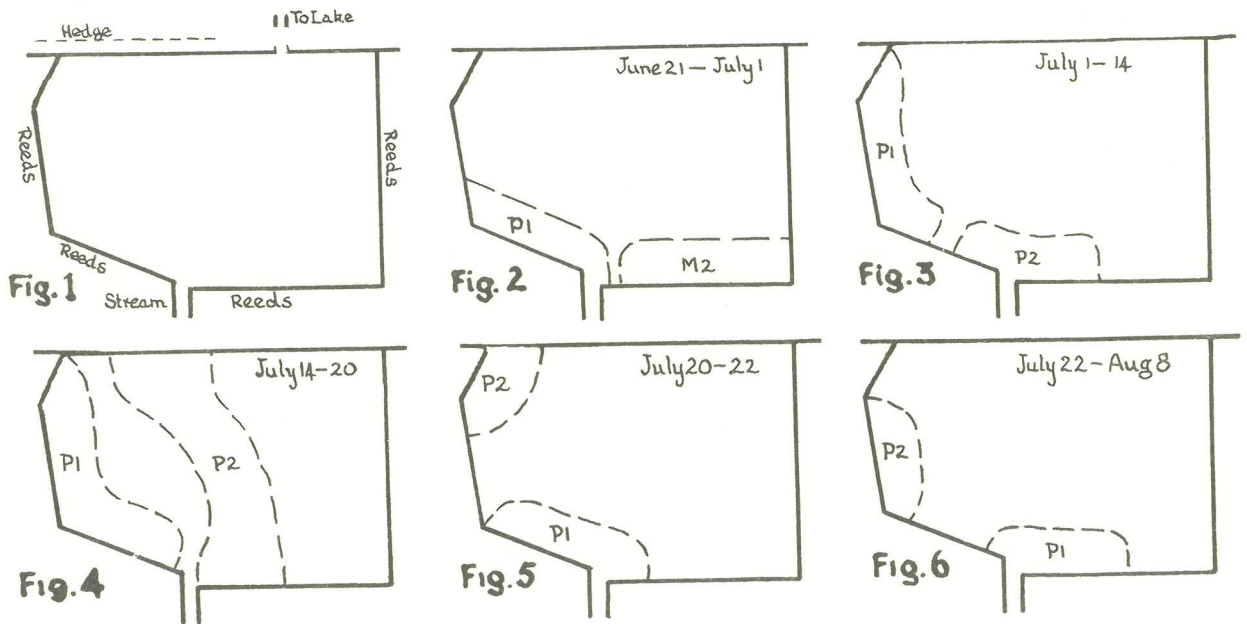
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Behaviour of Shelduck in Restricted Territory

Since breeding was first reported in 1955 by King and Poulding (Brit. Birds 38:280) Shelduck *Tadorna tadorna* have regularly bred at Chew Valley Lake, Somerset. Two families were reared in 1966 on the confined space of Herriott's Pool (see fig. 1) and the way they interacted and behaved was studied over a period of five months.

Family no.1 included ten ducklings believed to have hatched on 1 June on the shore of the lake, but when the young were three weeks old their parents M1 and F1 led them to the Pool. Only five survived the journey of almost one-and-half miles. This pool 23 acres in extent, was already serving as a feeding area for another Shelduck, M2, who had a loosely defined territory, but the first family moved freely over the Pool. However M1 and F1 did

defend a small patch near that of M2, as in fig.2; all three adults were seen to threaten other species. When 26 days old one of the ducklings took to feeding and resting away from the other four and although never seen to be molested it disappeared on its thirty-eighth day.



Meanwhile, on the thirty-first day of this brood, M2 and its mate appeared on the same pond with eight newly hatched ducklings and used M2's territory as a nursery, as shown in fig.3. Both broods moved into every part of the Pool however, only very exceptionally guarded by the parents. None of the gulls or other species of bird, were ever seen to threaten the ducklings, yet each parent occasionally attacked every bird in sight, without provocation. As would be expected the males particularly M1 were most aggressive and either would suddenly start an attack on one or two individuals, quite independently of the location of its own offspring at the time. All the commoner ducks, Coots, etc. and even their young broods were ruthlessly pursued at times though larger species such as Mute Swans and small passerines were ignored. No Shelduck attacked another, with the exception mentioned below.

The first brood were more than four weeks older than the second, yet both sets intermingled freely though rarely entering each other's territory. The adults' aggressive behaviour seemed unnecessary and often misplaced, but both broods suffered losses presumably at night.

Table 1. Losses from broods of Shelduck families

1	Family no.1		Family no.2	
	Age in days.	Number in brood	Age in days.	Number in brood
	1	10	1	8
	21	5	8	7
	38	4	10	6
	42	3	12	5
			17	3

The highest losses were during the nine days 8 - 16 July, when six ducklings disappeared. From 14 July onwards the two pairs gradually changed territories as figs. 4 and 5 indicate and the areas claimed did not alter much subsequently, as may be seen from fig. 6. Probably the incoming stream was the best food source and free from human disturbance and it was mainly claimed by M1 and F1 throughout the period.

On 25th July in the early morning, the three younger ducklings, now aged twenty-six days, were feeding by diving near their parents F2, but M2 was not in sight. Two strayed nearer the older brood and were suddenly attacked by M1 and then F1. They repeatedly dived to avoid the adults who vigorously searched for them by immersing the head and shoulders; both adults even dived several times in pursuit, staying under for about four seconds at a time. The young escaped unharmed and eventually joined their mother again. Half-an-hour later both families were feeding peacefully within sight of each other. This was the only occasion on which a Shelduck attacked another and here the duck seemed to follow the example of the drake. The Handbook of British Birds (Witherby *et al*, 1938, London) states that adult Shelduck only dive when wounded or much alarmed or at coition but there seems to be no record of such an underwater pursuit.

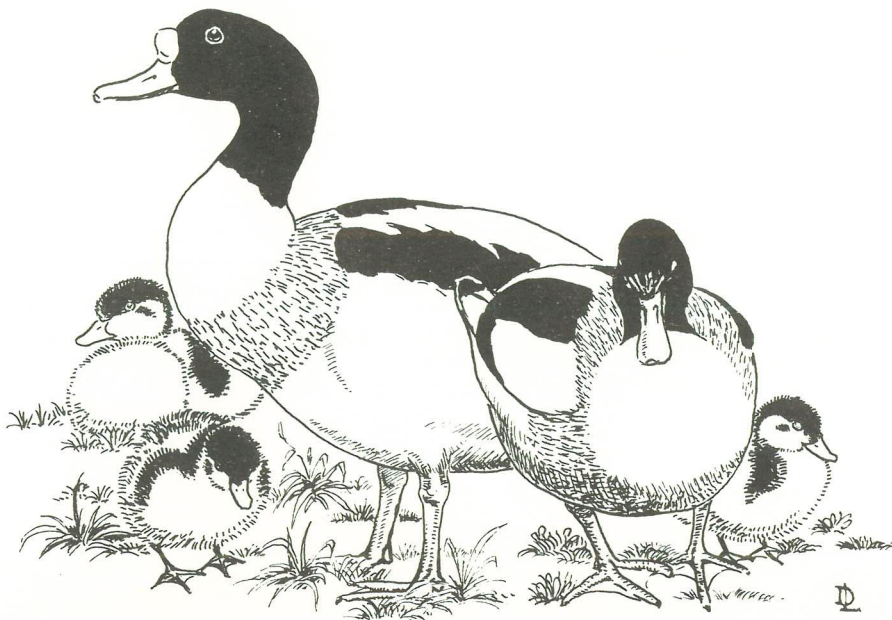
These two broods developed at very different rates, as shown by the fact that brood no. 1 began to fly twelve days before the parents departed on the moult migration, but the young of the second family could not fly until three weeks after being left on their own, in fact not until 13 September.

Table 2. Comparison of some developmental stages of the two broods

Brood of family no. 1		Brood of family no. 2	
Age in days		Age in days	
First up-ending :	37	First up-ending :	20
Last seen diving :	41	Last seen diving :	59
First flight :	55	First flight :	75

The superiority of brood no.1 may have been inherent, but it is suggested that the aggressiveness of their parents and their dominance in a better feeding territory may have affected the other brood adversely, slowing down their development.

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CLUB ACTIVITIES, 1970

The year was again a period of expanding membership. The average attendance at indoor meetings was 75 and, considering all meetings were held in Bristol and that a large proportion of members live in neighbouring counties, this high level of attendance was gratifying to the officers and committee members who were responsible for the programme. Field meetings attracted very variable numbers because each meeting had a specific objective which interested only a particular section of the Club's members. The policy of the Club to promote not only birdwatching as such but also a more detailed study of individual species or groups in relation to their environment continues, with beginners and the more experienced co-operating in joint projects. Field trips away from Bristol and the immediate neighbourhood can be expensive especially for junior members but it cannot be too strongly emphasised that valuable and interesting work is being done locally within a ten mile radius of Bristol.

Publications

Bird News which is compiled and published monthly by voluntary help is becoming more complex, and to continue this unique service at its present high level more commercial assistance has been necessary. *Bristol Ornithology*, the Club's 'year book' takes, like most journals, a long time to prepare for publication and at all stages seemingly inevitable delays prevent early completion. The Editorial Committee considers that these delays though irksome to contributors are far less important than the maintenance of a reasonable standard. Contributions are required for both publications and members are asked to consider sending material to either editor at any time during the year.

Indoor Meetings

The following seven meetings were held at St. Mary Redcliffe and Temple School, Bristol where the arrangements proved very satisfactory.

22 January	Operation Seafarer	D. Saunders
26 February	Members' Evening	
26 March	Recording Birds	L.C. Shove
17 September	Film Evening	
22 October	Bird Song Recordings	
26 November	East Anglian Wetlands	M. Allen
10 December	Annual General Meeting and Christmas Social	

Field Meetings

Field excursions were arranged for almost every weekend of the year and included, from spring to summer, seawatches in the Bristol Channel from the White Funnel steamers, breeding season visits to various 10 Km. squares in support of the *B.T.O.* Atlas project now in its third year of the planned five year project, and a very successful week-end trip to East Anglia in September.

European Conservation Year

As 1970 was specially designated as a year for drawing public attention to conservation the Club assisted in a number of ways mainly by members lecturing, and helping conservation societies with their various projects. The Club started a novel nest box scheme by raising money through a jumble sale for the purchase of materials to make nest boxes for Kestrels. These were made by members and placed in a number of selected sites but none were occupied by breeding birds, possibly because the first ones available were not in position until the start of the breeding season.

D.E. Ladhams
Hon. Secretary

