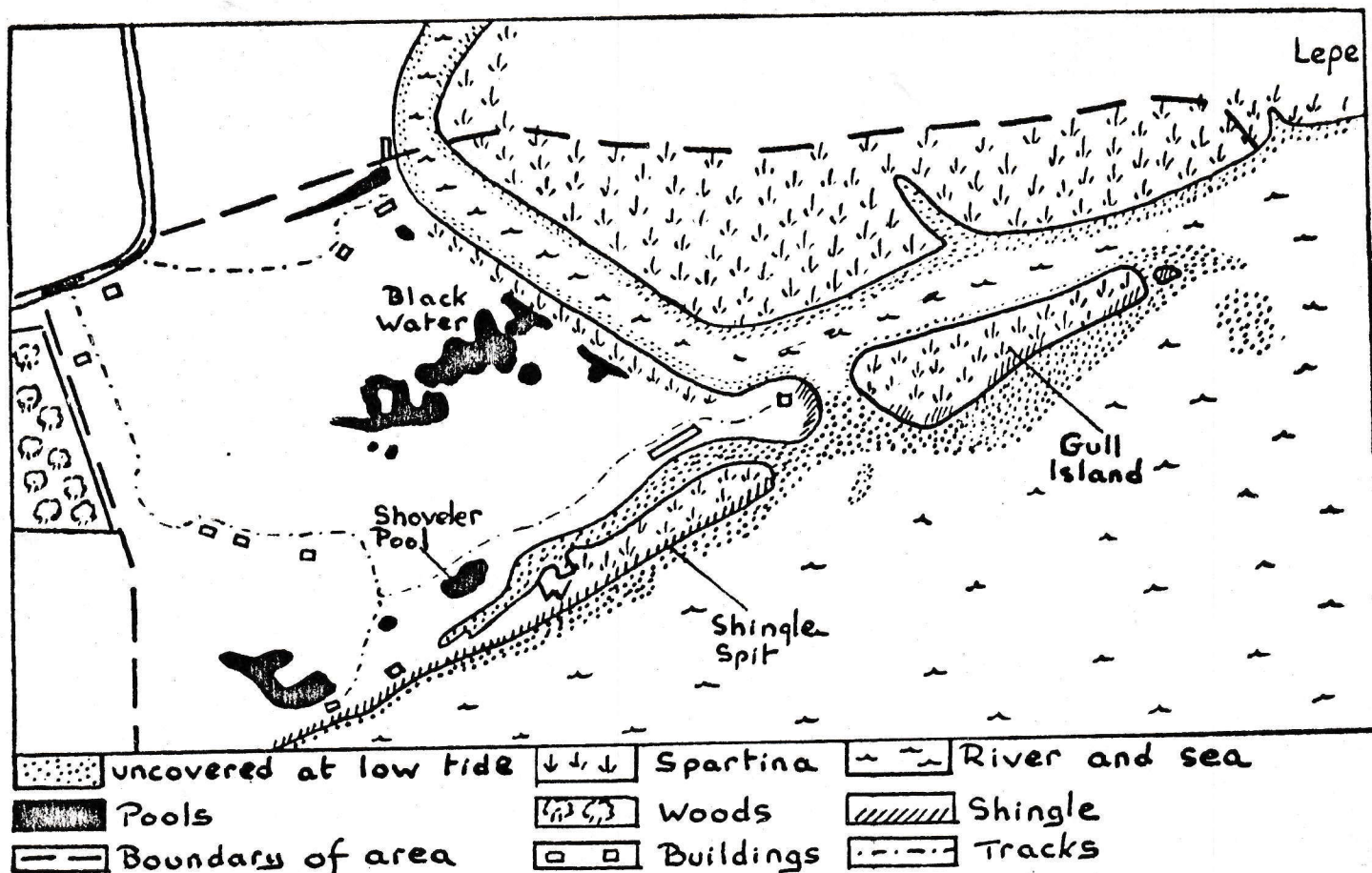


Birds of Needs Ore 1958-1978

By J H Taverner



This report is a summary of a survey I made of the Needs Oar area (see above map) in the period 1958/78 inclusive. During that time I made 661 visits (see Table 1) representing some 3000 hours of watching and each time I carried out as full a census as possible, counting all the species of wildfowl, waders and sea-birds. Other observers visited the area during this time of course, but I have mostly used my counts so that observer error is likely to be fairly constant. The only records used that are not my own are of one or two particularly high counts that were obviously important and records of rarities that I did not see such as the White-throated Sparrow.

The years 1958/60 inclusive were a preliminary survey where I got to know the area and the particular places used by different species. The main survey then occupied the years 1961/73 inclusive and this was followed by a five year checking survey (1974/78) when I surveyed the area with the aim of checking the conclusions I had reached.

When I first started, the area was very little known from the ornithological point of view; no-one had covered it systematically. Then, together with Freddie Reynolds (then secretary of the Hants and Isle of Wight Naturalists' Trust), I approached Lord Montagu to see if he would allow a system of wardening to start and with his permission we started wardening in 1962. Wardening was carried out by myself, Norman Pullen and Joe Spedding. This meant that during the breeding

season, the shore area was permanently covered by Joe Spedding from his house on the shore at Lepe, but the rest of the area (and the whole in winter) was only covered when either myself or Norman could be present, which was only for a minority part of the time. However, this degree of protection was obviously effective for the breeding birds, and numbers of winter visitors do not show any decreases due to interlopers, so that the area can be viewed as reasonably free from human interference. Of course, full time keepers were also in the area to challenge trespassers.

The main forms of human activity in the area cause little disturbance to the birds. There is a certain amount of shooting, though this is carefully controlled, whilst farming, summer Girl Guide camps, yachtsmen, residents and a small number of visitors together create a negligible threat. There have been a few trespassers who have caused damage, in particular one or two who have trampled Little Tern nests and the occasional raid of Gull Island for eggs. Before wardening started, however, it was not at all uncommon for people to land on Gull Island for the purpose of collecting a few dozen gull eggs, whilst once the eggs were hatched a trespasser in the colony could do much damage by causing young birds to leave their nesting area when they were subject to a number of hazards.

Now the area is in the hands of the Nature Conservancy, wardened by James Venner.

PUBLICATIONS ON BIRDS OF THE AREA

- THE NEEDS OAR GULLERY AND TERNERY. J.H.Taverner. 1965 Hampshire Bird Report, pp32/45.
- THE IMPORTANCE OF THE GINS AND NEEDS OAR POINT TO WADERS. J.H.Taverner. 1968 Hampshire Bird Report, pp45/53.
- OBSERVATIONS ON BREEDING SANDWICH AND COMMON TERNS. J.H.Taverner. British Birds vol 58, pp5/9.
- MEDITERRANEAN GULLS NESTING IN HAMPSHIRE. J.H.Taverner. British Birds vol 63, pp67/79.
- A PRESUMED HYBRID MEDITERRANEAN x BLACK-HEADED GULL IN HAMPSHIRE. J.H.Taverner. British Birds vol 63 pp380/382
- MEDITERRANEAN GULLS IN HAMPSHIRE IN 1970/71. J.H.Taverner. British Birds vol 65, pp185/186.
- VOICE, BEHAVIOUR AND DISPLAY OF MEDITERRANEAN GULLS. J.H.Taverner. British Birds vol 69, pp4/8.

ADDITION TO SYSTEMATIC LIST

Little Ringed Plover. 2 in the late summer/autumn of 1980, around Blackwater, were the first records for the area.

John Taverner

SYSTEMATIC LIST

Throughout the text, the following words are used with the specific meanings outlined below:

REGULAR. Seen every year at the appropriate season.

ERRATIC. Appearances are somewhat haphazard; for a time the species is present, and then it disappears for a spell for no obvious reason.

IRREGULAR. Does not appear every year.

RARE. The species is unexpected; one is surprised to see it.

SCARCE. One is not surprised to see the species in that it appears almost annually in Hampshire, but it occurs at Needs Oar at infrequent intervals. A bird worth seeing in the area.

UNCOMMON. Occurs in most years, but on only one or two dates per year.

A FEW. 0 to 20.

SMALL NUMBERS. 0 to 20.

SEVERAL. Over 20 but under 100.

MODERATE NUMBERS. Over 20 but under 100.

COMMON. 100 to 1000.

HIGH NUMBERS. 100 to 1000.

ABUNDANT. Over 1000.

Black-throated Diver. A very scarce winter visitor. Only 4 birds have been seen over the whole survey period and 2 of those were corpses in the severe winter of 1962/63. The other 2 were in February 1964.

Great Northern Diver. A very scarce winter visitor. Only 4 birds have been seen over the whole survey period, 1 in November 1961, 2 in the very severe winter of 1962/63, and 1 in November 1970.

Red-throated Diver. A scarce winter visitor. There have been only 15 sightings over the whole survey period, 10 of which have been birds on the water, 3 were corpses, and the remaining 2 were birds flying east in spring. The records have all been in the period November/April inclusive and the last was in February 1976.

Diver spp. Table II shows the occurrences of all divers (i.e. those given under the previous species and unidentified divers). It will be seen that there have been 40 sightings, and 25 of those were in the first four years compared with only 15 in the last fourteen years, which (along with evidence from the rest of Hampshire) suggests a recent decline in numbers. There were no records at all from 1977 and 1978. All records have been in the period October/April inclusive, apart from a corpse in May, a bird flying east on May 4th 1974, and a very unusual record of an unidentified diver flying past in June 1962.

Divers seldom come into the estuary of the Beaulieu River, preferring the open waters of the Solent. Judging from numbers seen passing nearby Hurst in Spring (flying east) it is clear that the numbers passing out in

the Solent on migration are a good deal higher than those suggested by this survey.

Great Crested Grebe. A regular winter visitor, counts seldom reaching double figures. Apart from 1 on Oct.22nd 1972 and 2 on May 7th 1978, not seen in the period May/October inclusive, and there are not many April records, the last birds usually being seen at the end of March. They occur on the open sea and in the estuary, but I have never seen the species on Blackwater. The date of the winter peak almost certainly depends on the weather conditions, and 14 in February 1973 is the highest count. Table III shows monthly maxima, and it does not seem as if the species' status has changed over the survey paeriod.

One would expect to see Great Crested Grebes fishing in the area on any visit during the period December/January inclusive. It would be unusual if there were none present.

Red-necked Grebe. A very scarce winter visitor. 6 birds have been seen in the whole survey period, 2 together in December 1962, 1 in January 1967, 2 together in January 1972, and 1 in late November 1974, so all records have been in the depth of winter. In all cases the birds were seen on one date only, although the last of the above was almost certainly the same bird that was seen on nearby Sowley Pond for a time.

Slavonian Grebe. Probably a regular winter visitor in very small numbers. Small grebes on the Solent can easily be missed, so that this and the following species may well be underrecorded. Only 1 was seen in the years 1961/71 inclusive, but subsequently birds have be seen every year although the total for the years 1972/78 was only 20. It is possible that Slavonian Grebes have become slightly more frequent as winter visitors in the past few years, but they could well have been overlooked in the earlier years. All records have been in the period October/March inclusive, with December/February being the months when the birds are most likely to be seen. Most records have been of birds out on the Solent, but they have also come from the lower parts of the estuary. The most seen on any one day was 3.

Black-necked Grebe. A scarce winter visitor. Since in southern England this species prefers more sheltered waters than does the Slavonian Grebe (i.e. harbours and estuaries) it is less likely to be overlooked. Only 8 have been seen in the whole survey period, the last of these as long ago as March 1970. All were seen in the months of November, December and March.

Table IV summarises the occurrences of the last three species.

Little Grebe. A regular winter visitor in small or moderate numbers. Apart from one May record, the species has not been seen after mid-April

(as often as not the last record has been in March), and whilst the first returns are sometimes in August (17th the earliest) they are more likely to be in September. The winter's peak is usually in October/November, but on four occasions it has been in January. When they first arrive, the birds are generally on Blackwater or its surrounding pools, and the peak counts have generally been from that area. As November passes, numbers nearly always decrease and birds are seen more often on the river — could this be due to the disturbance caused by shooting on Blackwater, or due to hard weather causing ice on the pools, or some other factor ?

Gannet. 2 corpses are the only records.

Cormorant. Present throughout the year and almost certain to be seen on any visit. Outside of the breeding season, they may be seen on the south shore of Gull Island drying their wings, and they use other convenient perches for the same purpose. They fish in the Solent, the estuary, and occasionally on Blackwater, and at any time of the year they will be seen flying along the Solent. Some birds head inland, possibly to Southampton Water or the upper reaches of the Beaulieu River. Numbers in the area may well reach double figures, the most recorded at any one time in the survey being 26 in March 1971.

Shag. Surprisingly, a rare spring visitor. The only record was of a single bird fishing off the shore on Apr.26th 1970

Heron. A regular visitor in all months in small numbers. The species almost certain to be seen on any visit, but the most regular are immatures in the summer months (presumably from the Sowley heronry). Blackwater is much used, as are the other pools and ditches, because of the abundance of eels there, but Herons also hunt around the estuary shores and in the spartina channels. Numbers rarely reach double figures, 17 in mid-July. 1960 being the highest count.

Little Egret. A rare visitor. 1 was in the fields around Blackwater on May 21st and 28th 1972 (and probably between those dates as well), and presumably the same bird was seen at various points along the Hampshire coast on adjacent days. It was accepted by British Birds Rarities Committee.

Bittern. A very scarce winter visitor. Single birds were in the reeds at Blackwater on Feb.28th 1965 and Aug.27th 1973.

Mallard. A regular and common winter visitor, moderate numbers remaining through summer with a few pairs breeding. Table VI shows monthly maxima. It will be seen that apart from a count of 123 in June 1965, numbers have not reached three figures for the period March/August inclusive, though summer numbers must be somewhat higher than those given because sitting females are seldom seen and broods of ducklings tend to hide ; around 15

pairs — probably more — will nest around the estuary each year. All counts of 300 or more have been in the period October/January inclusive, which makes the typical winter peak a little later than that of Teal and spread over a longer time than that of Wigeon. The drop from high winter numbers is rapid and early in spring, taking place throughout February so that by March the highest count during the survey period was only 60. Mallard move between this area and nearby Sowley Pond, so that on any one visit numbers may be far from typical depending on how the birds are spread between the two areas; if there has been a shoot at Needs Oar, then the birds will be on Sowley, whilst disturbance by fishermen at Sowley will result in high counts at Needs Oar.

In winter, the birds are mostly found by day on the south shore of Gull Island and the shore of the shingle spit, or on the sea off those places. Once on the Solent, they move up and down between Lepe and Warren Shore with the tide. They also sit in the spartina flats, and some will be on Blackwater and the pools. By night they flight into ditches around the whole area to feed. Numbers seem to have remained fairly stable over the survey period.

Teal. A common and regular winter visitor (once reaching abundance); in summer its appearances in small numbers are erratic and at that time of year it may well be absent. I have not recorded breeding during the survey period.

The winter peak is a little earlier than that of Mallard, the highest count usually being in the period November/December, although in two recent years (1974 and 1975) the highest counts were in September and in both cases the number involved was very high (750 and 800). This reflects a recent trend for the winter numbers to start building up in August rather than September; in the main survey period, the winter build-up quite clearly started in September in all thirteen years, but in the last few years the build-up has sometimes gathered pace through August. After Christmas numbers start to fall and three-figured counts in March are few and far between. No three-figured counts have been recorded in the period April/July inclusive; indeed, 36 is the highest count for that period and even double-figured counts for the months May/July only occurred in 1963. As often as not, Teal will be absent in May/July. As with Mallard, birds commute between this area and Sowley Pond and so numbers will vary from visit to visit according to which water is being used. Table VII shows the whole survey pattern for the species.

Winter peaks suggest a possible increase in numbers over the survey period but to some extent this could be due to my better knowledge of their whereabouts. By day in winter they are likely to be distributed over the whole area, by far the most widespread of the duck with the most catholic choice of habitat. They use the pools, ditches, marshy patches, spartina,

creeks, mud-flats, and even the open sea on occasions, though they sit on the Solent much less than the other surface-feeding ducks. This widespread distribution makes the possibility of error in counts rather high because birds could so easily be missed or counted twice as a group is disturbed and moves to another patch.

Garganey. An irregular spring and autumn migrant in very small numbers, more likely to occur in spring than autumn although plumage makes the possibility of overlooking the species much more likely in autumn. All records have been from around Blackwater. Table VIII shows that no more than 3 have been seen on any one date and that birds have been seen in eight of the eighteen years. With one exception (a bird in June), all were seen either in March/May or August/September.

Blue-winged Teal. 1♂ (possibly accompanied by a ♀) was over Blackwater on June 4th 1972. It was seen on adjacent dates at Pennington and was the first to be seen in Hampshire. It was accepted by British Birds Rarities Committee.

Gadwall. A very erratic and irregular visitor in small numbers. Apart from the 5 in 1978 (Table VIII shows all records) there have been no records for the period June/October inclusive but sightings have been scattered through the months from November/May with no apparent pattern. 6 is the highest count for any one day and the species has been seen in ten of the twenty years on a total of twenty six dates. Eleven of these twenty six dates have been in the last three years, and until the last three years all records were of 1/2 birds (cf 4 and 6 in 1977 and 5 in 1978) which suggests a very small increase in numbers, which is the general picture from the whole of Hampshire in recent years. All records have been from the Blackwater area.

Wigeon. A common and sometimes abundant winter visitor with isolated records of odd birds in summer. Table IX shows the monthly maxima for the survey period. Apart from the abnormally cold conditions in early 1963, there has been only one winter in the survey period when the peak was not in December or January, and often that peak has been in the last two weeks of December or the first two weeks of January. This makes the peak period very narrow and a little later than those of Mallard and Teal. Nearly every December sees a sudden and marked influx, sometimes right at the end of the year, and the peaks do not indicate any overall increase or decrease over the study period. Typically the last three-figured count is in the first half of March, and April numbers are low (the 55 in 1964 was very early in April, on the 4th). Very few are seen after the second week in April or before the third week in September. Some of the summer records have been of injured birds.

Wigeon do not normally come into the fields in any numbers until some

time after their return, staying at first on salt water. Indeed, by day throughout winter, the bulk of the birds will be seen in the estuary and its creeks, on the shores of Gull Island and the shingle spit, or on the sea off those places moving up and down with the tide. There is some movement between the area and Sowley Pond.

The highest count of 2000+ was in the severe cold of the 1962/63 winter. Pintail. A regular winter visitor in moderate numbers, possibly becoming common. There is no doubt that this species has much increased in the area during the survey period. At the start of the survey, it was unusual to see a Pintail — now it is surprising if numbers are low in winter. The peak is clearly in the first two months of the year (later than that of any other surface-feeding duck), and in ten of the eighteen years the highest count has been in January. Only four winters have had their peak counts falling outside of this January/February period, two of those peaks being in December and two in March. A handful of birds may be seen in April because the birds drift away through March, but there have only been two records in May (both of single birds), no records for June or July, and only four birds seen in August. The return dates are rather erratic; October generally sees reasonable counts, but the first returns are quite likely to be in September.

Pintail use Blackwater a great deal, but in recent years when their numbers have grown they have taken to using the spartina and shore of Gull Island by day, flighting into the marshes to feed by night. Like so many duck, Pintail move between the Gins and Sowley Pond.

Shoveler. A regular winter visitor in moderate (sometimes small) numbers that has nested in at least four years. There is some evidence of a small spring passage.

The winter's peak is usually in December/January. Only once has the peak been earlier (31 in November 1962) whilst in four winters the peak has been in February/March. In the winter of 1964/65 the peak was not until April (i.e. outside of the winter period) but numbers were so low that this is not significant. Table XI suggests that there may be a small spring passage moving through in March/April because numbers sometimes increase at that time. There is no month in which the species has not been seen (though only one year has July records), but more often than not Shovelers are absent for June/August inclusive and may well be missing in May, September or even October. Like other duck, they move between here and Sowley Pond.

The nests of a single pair in four consecutive years were in spartina in front of the coast-guard cottages, in the heart of the gully. Otherwise, Shoveler are mostly found on Blackwater and the other pools (especially "The Shoveler Pool"), flying to the shore when disturbed.

Scaup. A rare winter visitor, almost a vagrant. There have only been three records: ♂ ♀ in the estuary in the extreme cold of Mar.2nd 1963; ♀ on Blackwater on Feb.19th 1967; ♀ on Blackwater on Feb.27th 1977.

Tufted Duck. An irregular and erratic visitor that may possibly be becoming more regular in small numbers. Table XII shows all records during the survey period. In the first sixteen years of the main survey, nine years had no records at all, and what sightings there were in the other years were all isolated appearances of 1/3 birds apart from a gathering in the estuary in the severe cold of 1962/63 when Tufted Duck frozen out of inland waters moved to the coast and numbers in the estuary reached 115. However, in the last two years of the survey, Table XII shows records becoming more frequent, reflecting the general increase in Hampshire, and its status here may be changing. Apart from the 1962/63 birds, nearly all have been on Blackwater.

Pochard. An irregular and erratic winter visitor which, like the Tufted Duck, may be becoming regular. In the first sixteen years of the main survey, six years had no records at all and sightings in the other years were nearly all of 1/2 birds. In the very cold weather of early 1963, numbers in the estuary built up to 91, which were Pochard frozen out of inland waters, and the 25 flying west in November 1972 were doubtless part of the movement between Pennington and Fawley refinery reservoir which has been a regular feature of recent years (the 45 flying east in October 1978 were the same). However, Table XII shows that Pochard have appeared more regularly in 1977 and 1978, and this (cf Tufted Duck) may well reflect the increase in numbers in Hampshire as a whole.

Apart from the 45 flying east in October 1978, there have been no records for the months May/October inclusive. Most sightings have been in the period February/April which suggests that they appear in the area as they disperse from their main winter quarters. They are regular on nearby Sowley Pond, for instance.

Apart from birds in the cold of 1962/63, or birds flying past, nearly all records have come from Blackwater.

Goldeneye. A fairly regular winter visitor in small numbers, possibly becoming less frequent as Table XIV shows, and such a decline would NOT reflect the situation in Hampshire. Apart from a single bird in April, and another in October, the species has not been seen in the period April/October inclusive.

Most records have been of birds in the estuary or on Blackwater; very few are seen out on the Solent since Goldeneye prefer more sheltered water. The severe cold of early 1963 brought the highest counts and the most regular series of sightings.

Very few adult drakes have been seen.

Long-tailed Duck. A very scarce winter visitor, perhaps rare. 1♀/imm. on Blackwater on Dec.3rd and 24th 1972; 1 imm. ♂ on Blackwater on Nov. 18th 1973 and Jan.13th 1974.

Velvet Scoter. A very scarce winter visitor, perhaps rare. 1 ♀ on three dates in Jan./Feb. 1963 during the very severe cold of that time. 1 flew east on Jan.23rd 1964. 1 ♀/imm. on Dec.17th 1967. All were in the estuary though the 1963 ♀ landed on the shingle spit.

Scoter. A very scarce or rare winter visitor that is more likely to be seen moving east in spring. Apart from sightings of 1/4 in the estuary during the extreme cold of the first three months of 1963, birds have only been seen on three winter dates (2 and 1 in Nov.1961 and 1 in Jan. 1964) and once in autumn (2 in Sept.1963). All other records are in spring, of birds moving east, and although the main movement passes south of Wight, some do move through the Solent and only sustained sea-watching (such as has taken place at Hurst) would reveal the true numbers. In this survey, where visits were on only one day a week and when even on those visits a limited time was available for sea-watching, most moving Scoter must be missed so that the following total of records is of limited significance. Nevertheless, it shows what happens.

76 moving east	April 1962
2 moving east	April 1962
34 moving east	April 1963
765 moving east	April 1966
1 moving east	April 1970
2 moving east	May 1975
14 moving east	May 1976

There have been no records for June/August inclusive, nor for October and December.

Eider. A fairly regular winter visitor with occasional records in summer. This is typical of the Hampshire coast since the Eider started its post-war population expansion in Europe. Table XV shows all records. Numbers have nearly always been in single figures and the 48 flying east in February 1969 was a particularly good Eider winter on the south coast when around 100 wintered off Hill Head, and the 48 flying past were probably a part of that flock. They occur in the estuary but mainly out on the Solent, very often accompanied by Herring Gulls which try to pirate the Eiders' catches. Indeed, Eiders out on the Solent can often be located by the behaviour of Herring Gulls.

Only 2 adult drakes have been seen; the others have been females and immature birds.

Red-breasted Merganser. A regular winter visitor in small numbers. The last are usually seen around mid-April, and apart from 2 flying east

on May 11th 1975, 1 on June 6th 1973, and 1 on Aug.12th 1962, there have been no records for the period May/October inclusive. The return therefore is not until November (even December on occasions) and only in one winter during the survey period has the peak count been before the end of December, though numbers are so low that the peak is perhaps of limited significance. The highest count is nearly always in January/February, and during those months it is unusual to visit the area without seeing the species. Occasionally one will be on Blackwater, but mostly they are seen out on the Solent or anywhere in the estuary as far up as Southampton Yacht Club. Redheads easily outnumber adult drakes, though the latter are far from unusual.

Counts seldom reach double figures and the numbers of March 1963 (see Table XVI) were due to the extreme cold of that time. During that March, visits gave counts of 35, 30+ and 28 apart from the 55, the last figure including over 30 flying east, probably returning after the cold. Goosander. A rare winter visitor. There is only one record, a redhead on the river on Jan.19th 1963 in the extreme cold of that time.

Smew. A very scarce winter visitor. During the extreme cold of 1962/63, a group of up to 7 lived on the river from mid-January to early March, mainly in the stretch by the Royal Southampton Yacht Club. The group included 2 adult drakes. Apart from those, the only records are of a redhead on Blackwater through much of January 1964, and another redhead on Blackwater on Nov.29th 1969.

Shelduck. A regular resident in moderate (occasionally high) numbers. Adults drift away to moult in the second half of June/early July, and typically the first returns are in late October (occasionally early October or even November). December numbers are nearly always lower than those of January which suggests the continued return of adults from the moulting grounds after the year's end. Counts of over 100 are unusual and the highest recorded count of 177 in January 1966 consisted for the most part of birds on the Solent that had probably come from elsewhere along the coast.

Sometimes birds breed in the reeds around Blackwater and not in a hole (rabbit holes abound in the area so there is no shortage of nesting sites). The chicks often move away from the area fairly rapidly so that summer gatherings are not as high as one would expect with such a breeding population. Table XVII shows monthly maxima and breeding numbers.

Herring Gulls have at times taken quite a heavy toll of the small ducklings.

Grey Lag Goose. The status is difficult to ascertain because most birds

are probably feral and not truly wild. 4 were by Blackwater in November 1963. 3 birds of the eastern race were present for a period in March/April 1973. 1 (possibly the same bird) was present on May 18th 1975, Oct.12th 1975, Dec.21st 1975, Feb.15th and 28th 1976, and again on Mar. 20th 1976. 2 were in the area on Feb.27th 1977.

White-fronted Goose. An irregular winter visitor in small or moderate numbers (numbers once exceeded 100), appearing especially in cold weather. The birds in 1963 (see Table XVIII for all records) were typical of cold weather appearances, as were the 10 in February/March 1971. Indeed, in a really cold snap it is one of the species that one expects to find in the area. The collection of tame geese at Blackwater House might also attract birds dispersing from the Avon for the flock of 37 in January 1973 were in a field next to the garden where the collection is kept.

With the exception of a single bird (possibly injured) in April 1969, there have been no records for the months April/November inclusive.

Brent Goose. Until the winter of 1972/73 a scarce winter visitor. Now a regular and common winter visitor. The species has completely changed its status over the survey period, for in the first five years not a single bird was seen whereas in the last four years of the survey it was unusual to visit the area in winter and not see Brent Geese and the peak count in the last four winters went into three figures (see Table XIX). This reflects the population explosion that has taken place in Hampshire/Sussex where the wintering population in the Chichester/Langstone/Portsmouth group of harbours has expanded to the point where the numbers can no longer be contained within those waters so that the species has moved out into nearby coastal areas, Needs Oar being one. The Hurst/Pennington area was the first of the other Hampshire areas to receive the overspill population and the birds flying west late in 1972 were doubtless moving there. The first regular appearance as winter visitors to Needs Oar was in the winter of 1973/74 and each successive winter has also seen regular gatherings. There is much interchange of birds between the various Solent localities west of Southampton Water that are now used by Brent.

The flocks feed on the shore and the creeks of the lower half of the estuary, coming out onto the spartina flats to graze as well as feeding on the creek beds at low tide. All the birds that have been seen close enough to see well enough for identification have been dark-bellied.

As the increase has continued so the return dates have become earlier, and now the first may be expected in October.

Barnacle Goose. The status is difficult to assess because it is seldom possible to say whether a bird is truly wild or feral. Probably most (if not all) have been feral. Records are as follows: 1, Mar.17th and

Apr.7th 1974 and in the same year 2 from Apr.14th/May 4th; 4, May 21st 1978. The small collection of wildfowl at Blackwater House contains Barnacle Geese and this may attract passing birds.

Canada Goose. A resident in moderate (sometimes high) numbers. 47 were released in July 1964. Up to that point, the only birds seen were in January/March 1963 in the very severe cold of that time when all inland areas were frozen tight. After the release, they increased slowly up to 1968, presumably from natural increase rather than influx, but from that point onwards numbers remained remarkably stable until August 1978 when there was a sudden increase due to the arrival of a second flock. The stability of numbers was rather surprising because pairs bred every year (see Table XX for numbers and for monthly maxima) and although from 1969 one of the farmers destroyed nests (nearly all were destroyed in 1971) there were a large number of young reared each season. This suggests that birds moved away from the flock to other areas, and perhaps a flock of around 100 is all the area will support.

Canada Geese are nearly always present, but on occasions outside of the breeding season there will be no birds in the area and it is clear that at times they move to other coastal places such as Hatchet and Sowley Ponds, and Newtown on the Isle of Wight. Similarly, some birds move away for the moult.

Mute Swan. In most years, only a very occasional visitor, sometimes not recorded from January to December. A few birds (often only a pair) were regular through 1966, 1967 and 1968, and a pair bred in 1967, but since the 1960's the species has been missing on most visits. Every now and then a group will appear in autumn/early winter and the two largest gatherings have been at that time (i.e. 17 on Oct.15th 1960 and 12 on Nov.6th 1966).

Bewick's Swan. A very scarce winter visitor. Only two records, the first of 5 which flew into the river on Dec.21st 1963, and the second of 2 flying east on Feb.17th 1968.

Whooper Swan. A rare winter visitor. Only one record, an immature on Mar.5th 1969.

Buzzard. An uncommon visitor. The species has been recorded in thirteen of the survey years on a total of eighteen dates, all records being of single birds apart from two occasions when 2 birds were together. Mostly they have appeared soaring over the area but on one occasion a bird was chasing rabbits in a field. Thirteen of the eighteen records were in the months August/November inclusive, so autumn dispersal from the New Forest may account for most of the sightings. The other records have been in January (2), April (1) and June (2).

Sparrowhawk. An annual but somewhat erratic visitor, being recorded on fifty eight dates in the survey period, but being an elusive species this is almost certainly an under-recording. There were no records for the first six months of the year up to and including 1965 (cf Kestrel) which could have been due to the species suffering from chemicals. There have been no records for either May or June, and only eight records (14% of the total) for the five month period April/August, whilst almost half the sightings have been in the period September/November inclusive. Table XXI shows all records. The pattern is very much like that of the Kestrel, that is not many in the summer months, a few in winter, and the bulk of the birds in autumn.

Honey Buzzard. A rare migrant. 1 was around Blackwater on Sept.30th 1979, the only record, but birds leaving the New Forest presumably fly over on occasions.

Marsh Harrier. A very scarce visitor. There have been five records of single birds, on Mar.21st 1959, Sept.12th 1959, Oct.24th 1959, June 4th 1966 and June 9th 1968. Just before the survey started a pair attempted to breed on Blackwater.

Hen Harrier. A very scarce winter visitor. Single birds have been recorded on Dec.1st 1962, Jan.5th 1963, Jan.18th 1964 and from Nov.6th 1966 to Jan.7th 1967.

Montagu's Harrier. A rare visitor. The only record is of a male on May 17th 1968.

Osprey. A very scarce, but not unexpected, autumn migrant. The records are: 1 on Sept.14th 1963; 1 on Oct.15th 1967; 1 on Sept.21st 1969 followed by 3 together (? a family party because 1 was an immature bird) on Sept.28th 1969; 1 on Sept.18th 1971. They have been seen hunting successfully in Blackwater and the surrounding pools.

Hobby. A rare visitor. The only record was of a single bird on Sept. 11th 1965.

Peregrine. An irregular and rather scarce visitor outside of the breeding season. There have been eight records of single birds, those being on Feb.8th 1958, Oct.24th 1959, Mar.23rd 1969, Apr.4th 1971, Jan.14th 1973, Dec.5th 1976, Feb.13th 1977 and Nov.27th 1977. Several of the birds have been hunting waders and duck in the shore and field areas and have remained for an hour or so.

Merlin. A rather infrequent but not uncommon winter visitor. There have been nineteen sightings of single birds in the survey period, one each in January, February and March, none in the months April/August inclusive, and then two in September, four in October, six in November and four in December. Several of the birds have remained in the area

for an hour or so, hunting passerines.

Kestrel. An annual visitor with an overall pattern very much like that of the Sparrowhawk but more frequent in occurrence having been seen on one hundred and twenty five dates in the survey period. There were no records for the first seven months of the year up to and including 1964 (cf Sparrowhawk) which may have been due to chemical poisoning. There have been only fifteen records for the months April/July inclusive (12% of the total - cf Sparrowhawk) whilst forty six of the records were in September/October (37% of the total). Table XXII shows all the records. The pattern is of a few records in late spring/summer (no breeding proved) increasing to a peak in September/October with quite frequent sightings through winter.

Red-legged Partridge/Chukar cross. A regular resident in moderate numbers. The status of game birds at Needs Oar is largely dependent on 'releases' and 'shooting bags' and census counts have not been made very carefully because of the artificial situation. It is usually possible to obtain a count of Red-legs in the 20's or 30's on any visit just by counting birds that happen to appear during a walk around the area. The situation is now confused by releases of Chukar-crosses so that on some visits the birds seen are all or mostly Chukar-crosses whilst on others the birds are apparently pure Red-legs (e.g. 37 on Oct.14th 1973 were Red-legs; 20+ on Sept.15th 1974 were Chukar-crosses; nearly all the birds seen in 1976 were pure Red-legs; all the birds seen on Feb.12th 1978 were Chukar-crosses).

Partridge. A regular resident in small/moderate numbers. This species is noticeably less numerous than the previous one. The largest covey I have seen was of 14 birds and it is unusual to obtain a count of 20 even if one particularly looks for the species.

Pheasant. A common resident. Several hundred are present on occasions and the estate rears and releases large numbers for shooting. Recently, many of the birds have been of the black variety.

Crane. A rare vagrant. One record only, of an adult that lived in the fields around Blackwater from Nov.5th 1959 until it was found dead with a broken neck on Nov.29th (it was alive on 28th). It could have been killed by cows; they were seen attempting to butt the bird on the 28th.

Water Rail. Probably a regular visitor in small numbers from September/March inclusive. The highest recorded count was 10 on Dec.3rd 1972, but the elusive nature of the species makes count figures of little importance and Water Rails could be far more numerous than recorded numbers suggest. Most have been seen or heard around Blackwater and its surrounding pools and ditches.

Corncrake. A rare vagrant. One record only, a bird in the gorse by the shore on Oct.7th 1961.

Moorhen. A regular resident in moderate numbers, with its population being increased outside of the breeding season by arrivals from elsewhere. In winter counts may rise to over 100, for example on Dec.22nd 1966, Jan.15th 1967 and through December 1972.

Coot. The status of this species has changed, for throughout the last years of the survey it was a somewhat erratic visitor in small numbers, and quite often none were present at all. Through the early and middle years of the survey, Coots were usually present on Blackwater and the other pools, but almost invariably in numbers below 20 and often with single-figured counts. The largest count I have recorded was one of 25 on Sept.9th 1963. The habitat has probably been less suitable for the species over recent years due to the lower water levels in Blackwater and the pools, because many of the pools have wholly or partly dried up in late summer and autumn and even Blackwater has shrunk so that much of it has become mud and what water is left is so shallow that medium-sized birds such as Redshank could wade over most of the area.

Oystercatcher. A regular resident in moderate numbers, common outside of the breeding season. The species first bred on the Hampshire mainland in 1934 (on this part of the Solent shore) and throughout the survey period Oystercatchers built up their foothold at Needs Oar until it now represents the most concentrated breeding population in the county. This is probably due to wardening and the secluded nature of the estate. The birds mostly breed on Gull Island, on the shingle spit, on the grassy area at the base of the spit, and a few pairs have taken to nesting in the farm fields (one on fresh plough).

Outside of the breeding season there would seem to be a double peak, one in late summer/autumn (passage) and one in winter. Although the species has increased its breeding strength, it has most certainly decreased as a wintering bird. Peaks of around 200 (maximum 240) were not at all unusual, but over the past ten years peaks have only been around 100 and in 1973 (a well-covered year) no count reached three figures. Winter counts in the Portsmouth area - especially in Langstone Harbour - have increased in recent years; is that area drawing in birds from other parts of the Hampshire coast? Table XXIII shows monthly maxima and breeding numbers.

Lapwing. An abundant winter visitor remaining to breed in moderate numbers. The majority of winters have had counts in excess of 1000. Cold weather brings large movements past Needs Oar, and sometimes such weather results in a build up within the area, though the extreme cold of 1963 drove most away, presumably to points south or west. Sometimes,

return movements after cold weather bring large counts (e.g. the largest ever for the area, of ca.3000 on Jan.21st 1968). Very wet conditions also bring very large counts on occasions (e.g. 2900 on Dec.23rd 1968, 2400 on Dec.1st 1968, 2500 in Nov.1970 and a count equal to the highest ever of ca.3000 on Jan.16th 1972). When numbers in winter are very high, birds tend to mass along the edge of the spartina flats on the eastern side of the estuary.

No accurate count of breeding numbers has ever been made, but 33 pairs found in 1966, 40/50 pairs estimated in 1967, and 25+ pairs located in 1968 suggest the size of the population. Being mostly left by farmers to grass, most of the field area is suitable breeding habitat.

Table XXIV shows monthly maxima.

Ringed Plover. A resident, usually in moderate numbers. Birds breed all along the shingle shore, sometimes in places much subject to human interference such as gravel patches by the Sailing Club clubhouse. Numbers found breeding are probably a little below the true population, but the counts that we have show Needs Oar to be one of the main breeding sites in the county which makes the rather low numbers outside of the breeding season surprising. Not many counts have exceeded 50, and only four have exceeded 100, these isolated high counts occurring mostly in August/November and to a lesser extent in December/February, indicating that the area is used more by passage birds than by wintering flocks. Occasional high counts at high-tide roosts are probably due to birds flying in from other parts of the Solent coast where they have been disturbed. Table XXV shows the pattern of counts.

Grey Plover. A regular winter visitor in moderate numbers that can possibly be classed today in the 'common' category (numbers have generally increased in Hampshire). A few are seen in summer, though on many visits from May/August inclusive the species may well be missing. Unless they are seen at high-tide roosts, numbers are impossible to estimate as the birds are so strung out along the shore. The peak count is most likely to be in January/February, though Table XXVI shows that it may occur in November/December, and 1978 had the highest counts yet recorded (121 and 140) in March and September respectively, this obviously being due to passage. In winter, birds have been seen coming into the high-tide roost from places along the coast to both east and west.

The species is occasionally seen in the pools away from the shore, or even in the fields if they are very wet.

Golden Plover. A common and regular winter visitor, though somewhat erratic in its appearances. The species moves between Needs Oar and other coastal sites so that sometimes there may be none present. Apart from three single birds in May, none have been seen after mid April and the last are very likely to be in March. The species has been absent

from June/September inclusive apart from 1 on Aug.18th 1974, 122 on Aug. 20th 1978, and 1 on Aug.27th 1978, the first returns normally being in October or even November. In winter the birds have mostly used the fields, but in the past few winters they have taken to assembling in the spartina flats to the east of the river, gathering either by themselves or amongst the Lapwing. Most birds in summer plumage have been of the northern race (e.g. ca.300 on Apr.8th 1963 and most of the 123 in April 1964), but one or two have been of the southern race (e.g. singles in April 1974 and May 1977). Table XXVII shows monthly maxima.

Dotterel. A rare vagrant. 1 on the shingle on Aug.21st 1971 is the only record.

Turnstone. A regular winter visitor in moderate numbers with small numbers present through summer. The species very difficult to count accurately as birds disperse so widely around the shore at both high and low tide. Table XXVIII shows monthly maxima. There is some evidence for a peak in August/November, followed by a second peak in February, whilst sometimes numbers increase in April and early May; this would be the expected pattern with passage in autumn and spring together with a peak of wintering birds. High-tide roosts form on Gull Island and the shingle along the mainland shore.

Dowitcher. A rare vagrant. 1 was in the area, mostly in the pools around Blackwater, from Oct.5th/Nov.2nd 1963. It called like a quiet Greenshank and was therefore almost certainly Short-billed. It was accepted by the British Birds Rarities Committee as a Dowitcher, though they would not accept Short-billed on the rather curious grounds that no-one has ever proved that Long-billed does not sometimes call like Short-billed !!!

Snipe. A regular winter visitor in moderate numbers. Apart from 1 on May 12th 1974, absent from May/July inclusive, which is a little surprising. Numbers have never matched those of October/November 1960 when the figure rose to at least 125; the normal winter peak appears to be in the neighbourhood of 50. Counts in August/September are usually in single figures, and sometimes single figures or not much above will be the pattern to the year's end, but typically numbers have risen to near their peak by late December. The birds are very well spread over all the damp areas.

Jack Snipe. A scarce and erratic winter visitor that I suspect is very much under-recorded. I have only had a handful of records, all of single birds, mostly from the marsh behind Lord Montagu's shore bungalow where the species might be much more frequent in its appearances than past records suggest.

Curlew. A regular and common winter visitor and passage migrant, generally with only moderate numbers from April/June inclusive. The pattern is well marked. January/February nearly always sees the winter maximum, the October counts of 1963, 1968 and 1970 probably being boosted by late migrants. Numbers drop off in March and in April/May a count of 50 would be high (often counts are only in single figures during those months and at times there may be none at all). June sees the first returns and then there is a marked autumn passage with the peak probably in July but perhaps in the period August/September or even in October. Typically however, numbers in October/November are below the autumn peak, and December sees the winter build up to the January/February peaks already mentioned (cf. Turnstone). Table XXX shows the monthly maxima.

Birds use the grass fields on both sides of the estuary, and to a lesser extent they feed in the spartina flats and the creeks. They also feed on the tide-line.

At one time, a regular morning flight took place from Newtown to Needs Oar, regardless of the state of tide, but this has not occurred in more recent years.

Whimbrel. A spring and autumn migrant, usually in small numbers though higher counts must occur when birds migrate over or past the area; such movements would probably be at night for none have been seen that involved any numbers of birds. Needs Oar does not seem to be particularly attractive to Whimbrel, which is a little surprising in view of its attraction to Curlew and Black-tailed Godwits, and although the species is usually present at times of passage, numbers are usually in single figures. They are strictly birds of the mud/spartina flats and the tide-line; I have never seen them in the fields or around the Blackwater series of pools.

Black-tailed Godwit. A regular but erratic winter visitor and passage migrant, moderate numbers remaining in the summer months. The overall pattern is decidedly erratic and weekly counts are even more so (e.g. in 1966, between counts of 390 on Feb.27th and 296 on Apr.24th, the counts were 180, 0, 2, 2, 10 and 130. Also, between the 1966 counts of 320 in November and 280 in December, there were two counts of 0). Sometimes, winter visits reveal a string of high numbers for weeks on end; at other times, high counts alternate with moderate or low numbers, or even a complete absence of the species. Flocks clearly commute between Needs Oar and elsewhere (? Titchfield Haven, since birds are seen flying past Calshot on occasions and flocks have been seen arriving at Needs Oar from the east).

One strange feature of the pattern that emerges (see Table XXXI) is that whilst almost all the three-figured counts have occurred in the

period September/April inclusive, most of the nil or single-figured counts have occurred during the same period. On the other hand, there have only been four months during the survey in the period May/August inclusive when counts reached three figures, but during those same months there have been very few single-figured counts. It seems as if the non-breeding summer population is more stable than the wintering one.

The birds mostly use the fields, but a few also feed in the creeks, the mud flats and the spartina.

Bar-tailed Godwit. An erratic winter visitor and passage migrant in small numbers except for the spring when passage is more regular and can involve a considerable number of birds. The species is more likely to be missing than present, having been recorded in about 25% of all visits. The only large numbers occur in April/May when birds are seen passing to the east, and as this passage is usually concentrated into a few days, it can be missed in some years by week-end visits. This passage can be quite outstanding, 1307 passing in about three hours on one morning in April 1962, the birds moving along the Solent in flock after flock. This erratic picture is typical of most of Hampshire where the species is very much centred on Langstone Harbour.

There has only been one single bird in July, the first returns being in August or September, and 16 has been the highest count for winter. Table XXXII shows all records.

Birds are mostly seen on exposed mud along the estuary and are not seen in the fields.

Green Sandpiper. A scarce autumn migrant. In the survey period, only 6 birds have been recorded, all from June to early October and all from the Blackwater complex of pools. However, the lower water level of recent summers, which has resulted in pools and ditches wholly or partially drying up, are possibly more to the species' liking for 2 appeared together in 1978 and in 1979 (outside of the survey period) 2 were also present through part of the autumn.

Wood Sandpiper. A very scarce autumn migrant. There have only been two records, 1 flying east on Oct.12th 1975 and 2 in the pools around Blackwater on Aug.13th 1978. As with the previous species, the lower water levels of recent summers may be more suitable for Wood Sandpipers, because following the 1978 birds 2 were also present in the autumn of 1979 (outside of the survey period).

Common Sandpiper. Probably a regular autumn migrant in very small numbers, a scarce spring migrant and a very scarce winter visitor. A few occur every autumn between July/October inclusive, mostly in July/August. I have only once recorded double figures, that being 12 on Aug.29th 1960. During my visits, I have only seen singletons in spring,

all in April/May, and the only winter record was 1 on Jan.30th 1972. At low tide, the birds particularly feed along the mud of the main estuary, but they also use the minor creeks and at any state of tide they may be found in the pools and ditches. As with the previous two species, the lower water levels of recent years have seen Common Sandpipers using Blackwater itself.

Redshank. A common autumn migrant, wintering in moderate (sometimes high) numbers, and a regular breeding species in moderate numbers. Table XXXIII shows monthly maxima. There is a fairly clear autumn peak in August/September (sometimes as early as July or as late as early November) that may be due in part to locally bred birds since many immatures are present at this time. 400 is the maximum count, but the peak is usually between 150/300. High numbers may drift on to the end of year, but counts are nearly always below 100 in January/February and there is no evidence of an increase in numbers in spring. Breeding counts are difficult because the nests are so widespread in the Spartina of the gullery, in the fields, in the marshy areas and indeed in almost all the open habitat, but 20 pairs a year is probably a conservative estimate of the population. Numbers at any time of year do not appear to have increased or decreased over the survey period.

At high tide the birds use the pools both as feeding and resting grounds (especially in autumn), mostly moving out to the Spartina flats and creeks at low tide and flighting into the pools with the flood.

Spotted Redshank. A regular autumn migrant in moderate numbers, and regular in winter and spring in small/moderate numbers. Table XXXIV shows monthly maxima. This is one of the birds of the area for Needs Oar is possibly unrivalled in the British Isles as a haunt of Spotted Redshank. There is a very marked autumnal passage from mid June through to the first part of November, the peak count having been in the period August/October in all but one year. 70 has been the most at any one time, though numbers reached 75 in the autumn of 1979 (after the survey period). Counts then fall, but even in winter they may exceed 20. There is some evidence of a small passage in spring because numbers have shown an increase in April on occasions. Birds are typically absent in late May/early June, but otherwise one would not expect to visit the area at any time through the year and not find Spotted Redshanks; they are almost always there.

Even more so than Redshank, they fly into the Blackwater complex of pools with the rising tide (especially in autumn), the particular pool used depending on the water level. There they sometimes feed vigorously or rest. The pools immediately east and west of Blackwater used to be

the most favoured spots, but in 1978 and 1979, when the water level was particularly low, the birds mainly used Blackwater itself when they typically fed in densely packed flocks.

Greenshank. A regular autumn migrant in small/moderate numbers with fairly regular appearances of very small numbers through the rest of the year. Table XXXV shows the pattern through monthly maxima. The autumn peak is usually in August/September (once each in July, October and November) and there have only been two autumns when the maximum reached 20 (highest ever, 33). Autumn passage begins in July, though sometimes not until August, and goes on well into October and occasionally November. In the period December/February, up to 4 birds have been fairly regular in the last seven winters of the survey, but prior to that wintering birds were rather unusual with none at all in the winters from 1963/64 to 1967/68. Could this have been because the cold of 1962/63 damaged food supplies that supported wintering birds and that these food sources have now recovered, because before the 1962/63 winter Greenshank were fairly regular in January/February.

There has been no suggestion of any spring passage until a quite unprecedented count of 20 in April 1978. In the period April/June, fifty of the months (79% of the total) had no records at all.

The birds feed along the creeks at low tide, especially the one in front of the coast-guard cottages, and the autumn numbers fly into Blackwater and the pools on the flood tide along with other shanks.

Knot. Up to the winter of 1965/66 an erratic winter visitor appearing occasionally at high-tide roosts but with most visits producing no records. Since then a sudden decline (not general in Hampshire) and it is now a scarce winter visitor and passage migrant (Table XXXVI shows the pattern). Before the decline, birds sometimes appeared at high-tide roosts, only two counts reaching three figures with ca.300 the maximum. The decline is inexplicable but it was very sudden and definite. The birds that appeared at roosts came from elsewhere; they had not come from low-tide feeding grounds at Needs Oar, so the cause of the decline must lie in another part of the county coastline (? could it be reclamation of land suitable for Knot in Southampton Water). Since the decline, most records have been of passage in April/May or August/October in very small numbers (maximum 11 in spring and 34 in autumn), but in those periods the species has only been recorded on sixteen dates in the last twelve years of the survey. In those same twelve years, there have been no records for January/February, 1 single bird in March, 2 single birds in November and two records of a single bird and a flock of 15 in December. Throughout the whole survey period, there have been no records for June and a single bird in July.

Usually the birds are seen on the shore, but in the autumn of 1978

a flock stayed for a few weeks and mainly used the dried up pools round Blackwater.

Purple Sandpiper. A rare visitor. 1 on Aug.29th 1960 is the only record.

Little Stint. A rather scarce or uncommon autumn visitor. It is almost certainly underrecorded, for the area is extremely hard to cover so that all small waders are seen, and it could easily have been missed in weekly visits. I have records for six years only, all in August/November inclusive (latest on Nov.2nd), and all of 1/2 birds except for 1960 when there were up to 6.

Dunlin. A regular and usually abundant winter visitor, a common passage migrant with a few remaining in summer. The pattern is very clear. In June numbers are very low, usually in single figures and frequently with none at all. In July counts may be in the 20's and in August/September they might possibly reach three figures, though 60/70 would be more typical. October sees regular counts of 300/500 (1600 in 1965) and by November the numbers will typically be 700/800 (1200 in 1963), and then in December/February counts of over 1000 are to be expected (the highest ca.2500 in January 1969). All these high counts are high-tide roosts, many of the birds coming in from other parts of the Solent coast, including Wight. The shingle opposite the coast-guard cottages has been used as a roost site (regularly before a hover-craft went across it) but the eastern end of Gull Island and the Spartina to the east of the river right down towards Lepe are the most favoured spots. Numbers drop off in March to 300/500 (1000 in 1966 and 1400 in 1978) and 200/300 would be a typical peak for April. Three-figured counts are unusual for May, but during April/May there is an easterly daylight passage that may involve 100+ birds a day.

A few birds use the pools and marsh areas but most are found on the shore.

Curlew Sandpiper. A scarce autumn migrant. I have records for six years, all of them in August/October and never more than 5 birds on any one date.

Sanderling. A regular spring migrant in small/moderate numbers and a scarce autumn migrant. Apart from a handful in April and 8 in June, all spring records have been in May, usually of birds flying east. In fact, during May a few Sanderlings flying east are one of the most typical features of Needs Oar, and though I have not seen more than 16 pass east in any one day, records from other Solent localities that are fully covered for migration suggest that the total of birds may be well above my shorter counts. I have only seen birds on five autumn dates, all in August/September with a daily maximum of 7. There have

been no records for the period October/March inclusive, or for July. All the birds have been on the tide-line or flying past.

Ruff. An erratic visitor whose status is hard to describe (Table XXXVII shows all records). The species has been recorded on forty three visits (6.5% of the total), and of those twelve have been in March/April and sixteen in August/September (i.e. 65% of all records have been at times of peak migration). All other months have had from one to four records except June, when no birds have been seen at all, and the only January record (that of 140 on Jan.29th 1978) was particularly unusual because only four counts have been over 10. The highest gathering was 140/150 on Feb.15th 1976, and these two counts of over a hundred could well have been birds from the Pennington area a few miles to the west, for that is the main Ruff locality in Hampshire. All birds have been either in the fields or in the pools.

Avocet. A rather scarce migrant. All records have been in March, May and September/December (half of the records have been in March). Records have been as follows: 1, Mar.21st, 1959; 1, Mar.10th, 1969; 1 flew east, Mar.23rd, 1963; 1, Sept.24th and Oct.8th, 1972; 1, Dec.24th, 1972; 1, Oct.28th, 1973; 1, May 3rd/4th, 1974; 2, Mar.30th, 1975; 2, Nov.16th/30th 1975; 2, Mar.27th, 1976; 1, Mar.6th, 1977. Apart from the bird flying past, all have been in the pools, mostly around Blackwater

Red-necked Phalarope. A rare visitor. 1 ♀ on June 19th 1977 is the only record.

Arctic Skua. A regular spring and autumn migrant in small/moderate numbers. In spring, nearly all records are of birds flying steadily eastwards in April/May, though on one occasion a bird came in over the gullery as if it were examining the area. In autumn, some are seen harrying terns but most are flying westwards, in August/October.

Great Skua. One or two pass along the Solent in spring and autumn in most years and so might be seen passing Needs Oar. However, if you sea-watched continually through the year, you might well see fewer than 10.

Pomarine Skua. I have only recorded 1 from Needs Oar, flying east on Apr.22nd 1971. However, nearly every year sees a small eastward passage of Pomarine Skuas along the Solent in late April/early May, sometimes in small flocks, and these birds must pass Needs Oar.

Great Black-backed Gull. A regular summer visitor in moderate numbers, with a few seen through the rest of the year. The species has bred in the area. A gathering (mostly of immatures) develops in summer on the shore of Gull Island, and numbers may reach or exceed 100 (max.120). I have never seen these birds harm the nesting gulls/terns in any way, and

birds do not desert nests near the Black-back gathering, but it seems suspicious that such a large group assembles next to such a large potential food supply.

A pair held territory in the fields, but did not nest, in 1971, but they nested in the same place in 1972 and were shot in 1973. In 1974 a pair nested on the islet in Blackwater and another pair nested on the shingle in front of the coast-guard cottages in 1976.

Lesser Black-backed Gull. Occasional records from spring to autumn (rarely in winter). The species has no particular connection with Needs Oar (though for a few weeks in 1976 a bird stayed in the gullery in the breeding season), all the records being of birds passing or ones that had dropped in for a while.

Herring Gull. Now a regular breeding species in moderate numbers (see Table XXXVIII for breeding counts) with moderate numbers likely to be seen through the rest of the year. The first nest was in 1966 on shore shingle (this was only the fourth year ever in which the species had nested on the Hampshire mainland, the first being in 1938 not far from Needs Oar). 2 nests on shingle followed in 1967, 1 in the marshy fields near Blackwater in 1968, 4 (3 in marshy fields) in 1969, 5 (4 in fields) in 1970, and then most of the 18/23 pairs in 1971 and most of those in 1972 and 1973 were in the fields. In 1974, all the nests were either on shore shingle or in Spartina, and such has been the case ever since. They have been shot by one of the wardens, their nests have been destroyed, but still they seem to prosper. When they do nest on the shingle or in Spartina, Black-headed Gulls leave their nests for a radius of perhaps thirty yards or more, though I have never seen a Herring Gull attack the smaller gulls. Most of the nests in recent years have been scattered throughout the area, but there is usually a small concentration about half way along the shingle spit in front of the coast-guard cottages.

A summer gathering of around 100 (mostly immatures) develops with the Great Black-backs on the shores of Gull Island.

Common Gull. Absent at the height of the breeding season, but present in moderate numbers through the rest of the year. The species has no special attraction to this part of the Hampshire coast; birds feed on the tide-line and in the fields, or rest on the shore as they do elsewhere. Moderate numbers may also roost in the area at night in winter, flying in from inland or other parts of the coast.

Mediterranean Gull. Now a regular summer visitor in small numbers, occasionally nesting. The history of this species in the area has been thoroughly recorded in papers named at the beginning of this publication, and in Hampshire Bird Reports. In brief, the first was an adult seen on July 18th 1966, followed by an adult from April 23rd/30th 1967. In 1968

a pair raised two young, another bird bred with a Black-head or a hybrid, another paired with a Black-head and raised three young, and other birds appeared through the summer. Birds appeared every year from then until 1976, 2 of them being males that regularly held territories around the original nest site (presumably they were the young of 1968) but failed to attract mates, and then in 1976 a pair produced one egg and raised the chick. The next breeding was in 1979, outside of the survey period, when a pair produced three eggs which were washed by high tides, whereupon the pair left. A hybrid male nested every year from 1968/1974 inclusive, each time paired with a ♀ Black-head; no chicks are known to have hatched so the bird was presumably sterile. All nests, other than the one in 1979 which was washed, were on Gull Island. The 1979 nest was in Spartina east of the river.

Little Gull. A scarce visitor if judged only by my visits; I have seen 1, for instance, in the past five years, on Aug. 25th 1974, but if one looks at records for the Hampshire coast as a whole, birds migrate along the Solent every year in moderate numbers and they must pass Needs Oar.

Black-headed Gull. A very abundant resident and common outside of the breeding season. Table XXXVIII shows how breeding numbers have soared over the survey period and then suffered a slight decline. The increase must be due in large part to wardening, since the coincidence of the onset of wardening and the increase in breeding numbers of all species is surely significant. On the other hand, the species is increasing generally in the south for a number of reasons; for instance, ringing has shown that some of the birds breeding at Needs Oar were born in other English colonies, and at least one was hatched in France, so the increase has also been due to an influx from elsewhere. The recent slight decline is doubtless due to the shrinking size of Gull Island, due to marine erosion. The colony is centred on Gull Island, but smaller numbers breed in Spartina in front of the coast-guard cottages, east of the river, and behind the sea-wall to the east of the river.

The first return to the colony much depends on the weather for if it is very cold or wild the birds will not return; it may be early February or as late as the first week in March. The first eggs usually appear in the first days of April, but the last half of that month sees the mass laying. Egg-collecting then makes the timing of the cycle rather artificial, but the first chicks generally appear around May 20th and the colony is usually hatching well by the second week of June. The first week of July typically sees the first flying young and by early August the birds have mostly left. Between that time and their return the following season, a few hundred will roost at night in the Spartina and birds will always be seen flying past or feeding, but such numbers are never high.

Kittiwake. A scarce visitor except in spring when records suggest (and they are supported by reports from other parts of the Hampshire coast) that there is a small/moderate easterly passage in the last half of April/May. At that time, in the last few springs, Kittiwakes have appeared moving eastwards at Needs Oar, most of them being adult birds but with a few immatures as well.

Black Tern. A regular spring and autumn migrant along the Solent; scarce in summer. Only on two occasions have I seen birds over Blackwater and the pools; the records have been of birds flying past (eastwards in spring and mainly westwards in autumn) or fishing off-shore. Most of the birds have been in April/May and July/September, and whilst most years will have a total well below 100 both in spring and autumn (possibly well below 50 on occasions) there are some years when passage is heavier and over 100 may pass (e.g. spring 1974). In 1971, 3 stayed in the area for most of June, which is most unusual.

Common Tern. A common resident and a common/abundant passage migrant. Table XXXVIII shows how breeding numbers have increased, and along with all the shore-nesting species, this increase has largely happened since wardening started in 1962. Nearly all the birds nest on Gull Island, where until 1972 they sited their nests entirely in Sea Purslane that grows along the sides of gullies, ignoring the shingle. In 1972 a few started to nest on the shingle and within the last five years the vast majority of the birds have moved out from the Sea Purslane to three patches of shingle on the island's southern shore. This movement to shingle is possibly due to overcrowding of gulls on the island due to its erosional shrinkage. A few have nested in Spartina in front of the coast-guard cottages, and possibly on the islet in Blackwater. The first birds appear in the colony in mid-April, the first eggs in the third week of May, with the main laying towards the end of May. The first chicks therefore appear in early June and there are many flying young by mid-July. Breeding success has been very high in most years, high tides being the major threat once wardening kept off trespassers. Birds from the colony feed largely off Lepe.

Passage birds, depending on weather conditions of course, are a feature of both spring and autumn, and in autumn feeding groups (possibly in excess of 100) are regularly seen off the shore.

Arctic Tern. A regular spring and autumn migrant, mostly in April/May and August/September, in unknown numbers since most of the large movements have been of Common/Arctic Terns too far out to specify identity. The species has been seen over Gull Island in summer, but has not been proved to breed.

Roseate Tern. An erratic and scarce resident and a spring migrant

(possibly regular) in small numbers. Single pairs bred on Gull Island in 1969, 1970, 1974 and 1975 (possibly 2 pairs in 1975), two of the nests being in Spartina and two on shingle. Birds have been seen in summer in other years (e.g. 1973 and 1976) and may have bred. The first may well appear in April (22nd the earliest at Needs Oar), but early May is the time when they are most likely to be seen flying east. Records for the whole Solent show this to be a regular though small movement, but my limited time sea-watching at Needs Oar has only produced a flock of 8 flying east on May 2nd 1971.

Little Tern. A regular resident in moderate numbers (small at first) and a regular passage migrant in moderate (sometimes high) numbers. Table XXXVIII shows breeding numbers, the increase being due almost wholly to wardening and site maintainance, because apart from high tides the main threats to the species were trespassers (the colony is very concentrated and many nests are liable to be destroyed by trespassers) and erosion of the shingle. When this survey started, the birds bred on thrift-covered old shingle at the base of the spit, but most eggs disappeared (? mammals). Since then, although a few pairs have tried to nest there again and on the extreme end of the spit, nearly all nests have been on one patch of shingle on the eastern end of Gull Island. Unfortunately, trespassers landing for pic-nics and so forth prefer shingle to mud and Spartina for obvious reasons, and so there were times in the early days when the colony suffered considerable damage; it was once almost wiped out by trespassers with a dog. Since wardening has made trespassing almost a thing of the past, breeding success has nearly always been very high, and tides have only caused limited damage. Breakwaters have helped to build up the shingle and prevent erosion. The first eggs usually appear in the second week of May, the main laying occurs around the third week of May, and the first chicks at the end of that month. By the first week in July most of the young are flying, whereupon they spread out along the surrounding shore. This is now the largest concentration of the species in the county and one of the largest on the English south coast. Birds from the colony fish the river, the creeks, Blackwater and the pools, and parts of the sea closer in than Common Terns.

Sandwich Tern. Status as a resident now uncertain. At the start of the survey period none were nesting, and none nested in 1978 (or 1979, outside of the survey period), but from 1962 to 1977 a thriving colony built up almost solely due to the security given by wardening, we believe. All nests have been on Gull Island, sometimes in Spartina and sometimes on shingle, but always in dense, concentrated groups. There was some loss due to high tides in 1972, but up to and including 1976 the colony had an enormous success rate (e.g. 179 pairs raised ca.250 young in 1969, and 242 pairs reared 250+ young in 1971). The decline is inexplicable on a

local scale. After building up fairly steadily, the number of pairs dropped from 213 in 1975 to ca.100 in 1976, the latter being a very good year in terms of breeding success. However, only 15 pairs appeared in 1977 (the other Hampshire colony was also down to similar numbers), and those few nests were destroyed by high tides. It remains to be seen whether the blank of 1978 and 1979 becomes the norm, or whether the birds recolonise. Birds from the colony forage further afield for food than the other resident terns.

They are well able to hold their own with neighbouring Black-headed Gulls, driving the larger birds from their nesting sites with ease, and I believe that the protection given by the mass of gulls has helped the breeding success of the terns in the colony.

The first are seen in March and there is an easterly passage of several hundred mostly in April/May. In autumn there is a more protracted passage when groups also stop and feed along the shore-line.

Razorbill. A very scarce visitor. There have only been two live birds in the years 1969/1978 inclusive, 1 on Nov.14th 1971 and 1 on Apr.4th 1972. Oiled corpses appear from time to time.

Guillemot. A very scarce visitor. There have only been two live birds in the years 1969/1978 inclusive, 1 on Feb.23rd 1969 and 1 on Nov.14th 1971. Oiled corpses appear from time to time.

Stock Dove. A regular resident in small (perhaps moderate) numbers and an erratic winter visitor in moderate numbers. The species is almost always present just outside the area in the ruins at St. Leonards where there is a colony (the most seen there was 27 on May 26th 1968) and a few pairs nest in the area in the larger trees. In winter, flocks sometimes appear in the fields (e.g. 40 on Feb.27th 1972, 80+ on Nov.28th 1971, and 110 on Feb.12th 1978) but these records are highly erratic and such flocks are usually absent.

Woodpigeon. A common (occasionally abundant) winter visitor, breeding in small (possibly moderate) numbers. Every winter sees counts reach 300/500 but in cold they might be higher. 1000+ on Dec.20th 1970 is the highest count actually in the area, but in the extreme cold of early 1963 4120 flew east on Jan.12th. During that cold period, passing birds stripped the kale fields bare.

Turtle Dove. A regular summer visitor, breeding in small numbers. In autumn counts may be around 20 or more, and at that time birds are seen on the areas of older shingle that are covered with vegetation.

Collared Dove. As yet an erratic visitor in small numbers. None were seen in the early years of the survey period, but in the past few years they have been recorded from time to time. They have appeared most

regularly round Blackwater House and the nearby farm buildings, but they have also appeared in the October coasting movement of passerines and others have moved past in spring (e.g. 5 flew east on Apr.21st 1974). The most seen on any one day in the area was 5 on Aug.10th 1975, but 14 flew east on Oct.14th 1973.

Cuckoo. A regular summer visitor in small numbers.

Barn Owl. A pair bred in a hollow tree for several years, and from time to time birds are seen hunting in the area.

Little Owl. There have been occasional reports from trees in the shore area, where the species has possibly bred. It is also probably regular in the ruins at St. Leonards, just outside the survey area.

Tawny Owl. Status unknown, but it has been heard at night.

Short-eared Owl. An irregular winter visitor. In some winters there are no records; in other winters a bird may appear on isolated dates; in yet other winters, 1/2 birds may be regularly present for weeks on end. They are mostly seen in the open shore area where they hunt amongst the gorse and bushes. The last date I have is Mar.25th and the earliest return on Nov.3rd.

Nightjar. I once heard a bird churring in summer, but that is my only record.

Swift. A common and regular passage migrant. It is not known whether any have ever bred in buildings in the area.

Kingfisher. A fairly regular winter visitor with occasional records for summer. 1/3 birds are seen with some regularity outside of the breeding season, the latest date being Apr.6th and the first return (apart from summering birds) on July 9th, though returns are normally in September. I was present through the summer of 1965 and between the dates given above there have been birds on June 21st 1970 and June 20th 1971. Birds are seen mostly around the pools and ditches, with one or two much favoured perches, but they sometimes hunt the Spartina and the shore. In recent years, the very low water levels of the autumn period (when the birds return) seem to have prevented them staying.

Hoopoe. A very scarce visitor. The only record was 1 in the vicinity of the coast-guard cottages on Oct.1st/2nd 1967.

Green Woodpecker. Occasional records, especially from the shore area during autumn, suggesting passage. It may well breed regularly in the woodland to which I have had no access.

Great Spotted Woodpecker. An erratic visitor though it may well nest in the woodland. Odd birds seem to appear late in the year in the shore bushes (e.g. single birds on Nov.29th 1969 and Nov.22nd 1970), and in

spring (e.g. 1 on Apr.24th 1966) suggesting passage.

Lesser Spotted Woodpecker. One record only, a single bird in the shore bushes on Aug.27th 1978, though it could well breed in the unvisited woodland.

Skylark. A resident in moderate numbers with regular autumn passage (especially in October) when numbers fly past as a part of the passerine movement at that time. Birds breed in fields all round the area.

Swallow. A resident (numbers unknown) and an abundant passage migrant. A few pairs nest in the buildings but autumn sees the heavy passage when hundreds (sometimes several thousand) pass in one day. At that time of year, Swallows also feed in numbers over the fields and coastal marshes.

House Martin. A resident in small/moderate numbers and a common passage migrant. A few nest on buildings in the area (e.g. the buildings around Blackwater House) but there has not been a complete survey of the area. In autumn, several hundred may pass in a single day and birds gather on telegraph wires prior to migration, especially those near Blackwater House.

Sand Martin. An abundant migrant. In autumn, although none nest in or near the area, numbers mass on telegraph wires, especially near to Blackwater House (e.g. ca.1500 on Aug.24th 1971), and numbers passing in a single day at the height of autumn migration may total over a thousand, though hundreds would be more usual.

Golden Oriole. A rare summer visitor. The only record is of a singing ♂ on June 9th 1979 (outside the survey period), in a wood to the west of the track leading to Needs Oar Point.

Carrion Crow. Being a game area, this is not a species much welcomed by some. Pairs have nested in the trees around Blackwater, and small (occasionally moderate) numbers might be seen at any time outside of the breeding season, on the shore, in the Spartina, or in the field area.

Hooded Crow. A very scarce winter visitor. 1 on Feb.5th 1967. 1 on Apr.18th 1971 which was subsequently shot by the keeper. A hybrid Hooded x Carrion was seen on July 4th 1971.

Rook. There is no rookery in the area, though there is a small one very close by at St. Leonards. All birds seen are merely feeding or flying over. Rooks are very often absent. They certainly pass Needs Oar on their way to and from the Isle of Wight, a flight line which seems to be fairly regular. Rooks are sometimes seen feeding in the fields (very often in those fields just east of the river and just outside the survey area) and can often be seen in the skies around.

Jackdaw. In summer a few are nearly always in the gullery, and although

they are known to take eggs, the gulls do not seem to be much worried by their presence and they are not ruthlessly driven away. Outside of the breeding season Jackdaws may be seen feeding in the area, and they pass Needs Oar on their way to and from Wight.

Magpie. One or two birds are often recorded all round the area (Blackwater itself is a much favoured spot for one pair) but I have never had a count of double figures.

Jay. Nearly all records have come from the shore area in autumn, numbers always being 6 or less. October sees a good deal of Jay movement in Hampshire and such is the case at Needs Oar for that is the time when they are most likely to be seen on the shore (e.g. 6 flew east on Oct.12th 1975 in a huge passerine movement). Presumably birds also arrive in the wooded areas to which I have no access, but since that is the centre of Pheasant rearing they would not be very welcome.

Great Tit. A resident in the area. Numbers are highest in the autumn when Great Tits arrive in the shore area as part of the general tit movement of that time.

Blue Tit. A resident whose numbers are much increased in autumn by arrivals in the shore area. At times the gorse seems to be alive with Blue Tits in October (e.g. 50+ on both Oct.17th 1964 and Oct.8th 1966 in a very limited area). This is typical of the whole Hampshire coast at that time of year.

Coal Tit. Status unknown in the wooded area. From the shore I have only two records, those being single birds on Sept.5th 1971 and Oct.10th 1971.

Marsh Tit. There have been very infrequent records of 1/2 birds in the shore area from August/January, most of which are doubtless part of the autumn tit movement along the Hampshire coast.

Long-tailed Tit. Occasional parties occur outside of the breeding season, mostly as part of the autumn tit movement. The largest parties have been 28 on Oct.14th 1973 (high numbers were recorded in other coastal localities that autumn) and 20 on Oct.16th 1977. The species may well breed, but I have never found a nest.

Bearded Tit. An erratic autumn and winter visitor. ALL records are given. 12 on Oct.22nd and 31st 1972 were the first to be reported from the area, with smaller numbers remaining until 3 on Jan.7th 1973. 2, Mar.18th, 1973. All these were in reeds on or around Blackwater. 3 flew east on Oct.12th 1975 in a huge passerine passage. The very first birds in 1972 were part of the largest influx ever recorded in Hampshire up to that time.

Nuthatch. A resident in small numbers, the odd bird being occasionally seen in trees along the shore area.

Treecreeper. A resident in small numbers, odd birds being occasionally seen in trees along the shore area.

Wren. A widespread resident. Outside of the breeding season, the bushes along the shore are sometimes subject to marked influxes. Extracts from the Hampshire Bird Report quote me as saying that the area was "seething with Wrens" on Nov.12th 1967, and that Wrens were "all over the place" on Dec.4th 1966.

Mistle Thrush. A resident in small numbers, with birds likely to be seen in the area on every visit through the year.

Fieldfare. Recorded every winter from September/early April, but numbers depend very much on the weather. Birds do not seem to stay in the area for any length of time but appear presumably as part of a passage, or birds from a large feeding area in the surrounding New Forest sometimes visit Needs Oar. On one visit the observer may see no birds at all; on the next there may be hundreds in the fields. Obviously cold weather movements result in influxes of birds migrating through or over the area.

Song Thrush. A resident, seen in small/moderate numbers throughout the year. The species has been recorded passing along the shore in autumn (especially October) as part of the passerine movement of that time.

Redwing. The status is exactly the same as that of the Fieldfare; when one species is present the other is usually there as well, and when one is absent so probably is the other. On the other hand, there are times when one species dominates the gatherings.

Blackbird. A resident in moderate numbers, ever-present through the year and a good deal more numerous than the Song Thrush. As with the Song Thrush, some Blackbirds have been seen in the autumn passerine movement along the shore.

Wheatear. A spring and autumn migrant in small numbers; rather scarce in spring, when the Isle of Wight seems to intercept passerine migrants, but much more frequent in autumn. I have never had a count of double figures for the area, the highest count being 9 on Apr.8th 1963 followed by 8 on Aug.13th 1978 and Sept.29th 1968. There would seem to be suitable nesting habitat on the shore but I have never found a breeding pair. Indeed, they are unusual between passages.

Whinchat. A regular autumn visitor in small numbers but very scarce in spring. The only spring record I have is of a ♂ on May 1st 1977. From August/early October however, Whinchats in the fields are typical features of the area, the highest counts being 11 on Sept.15th 1962 and 9 on both

Aug.27th 1973 and Sept.7th 1965. They are found particularly in the fields between Blackwater and the coast-guard cottages, either sitting on the fence posts or feeding in the fields with cattle.

Stonechat. A regular winter visitor in small numbers. I have not recorded the species in May/July inclusive, and August records have been few in number. September/October sees the main return, and then birds are recorded through to February, though sightings are fewer after November which suggests that birds are moving through the area in September/November with only a few staying for the winter. Very few have been seen in March/April. The highest count was 11 on Oct.8th 1972; otherwise counts have been of 6 or less. The birds have been found mostly in gorse and bramble by the shore, and are presumably moving out from the New Forest with the onset of winter.

Pedstart. A scarce passage migrant. I have only a handful of records for autumn. It will be seen from this and other small migrants that Needs Oar is much better for such species in autumn than spring.

Nightingale. My only record is of a ♂ singing near the coast-guard cottages on May 21st 1972.

Robin. A resident whose numbers are unknown.

Reed Warbler. A resident in the reeds around Blackwater (9 pairs in 1974) and possibly one or two of the other reed patches. Birds move through in autumn, but numbers have always been small (there is a very limited area of reed).

Sedge Warbler. A resident (especially near Blackwater and the pools) in small (possibly moderate) numbers (19 singing ♂♂ in 1970). Birds move through in autumn.

Melodious Warbler. A rare visitor. G.H.Rees recorded the only one in bushes just west of the coast-guard cottages on Oct.17th 1964.

Blackcap. A resident, but there is no information on numbers.

Garden Warbler. Status unknown. The species has been recorded, hence its appearance on this list.

Whitethroat. A resident in small numbers, with counts increased by migrants, especially in autumn.

Lesser Whitethroat. Birds have been heard singing in summer but I have not proved breeding. Small numbers in autumn are quite a feature of the bush areas.

Dartford Warbler. Before the crash in New Forest numbers in the cold winters of 1962/63 and 1963/64, odd birds were seen after the breeding season in gorse along the shore (e.g. 1 on Oct.7th 1961, 2 on Oct.28th

1961, 1/2 on Nov.5th 1961 and 1 on July 29th 1962). This was the case with other parts of the Hampshire coast. Now that New Forest numbers have recovered, coastal records in Hampshire have occurred again, and Needs Oar has been one of the sites concerned (e.g. 1, Sept.21st 1976).

Willow Warbler. A resident (numbers unknown) and migrant. In spring, there is not a marked passage (in common with so many small migrants) but in autumn there are always numbers of Willow Warblers and Chiffchaffs in the hedges and shore bushes.

Chiffchaff. As for Willow Warbler.

Goldcrest. Breeding status unknown. Birds are seen quite frequently in the area, especially in autumn when they clearly take part in the passerine movement, October in particular being the month when numbers are likely to be seen.

Firecrest. An unusual visitor, though no doubt overlooked. 1 on Mar.24th 1968 is the only record I have.

Spotted Flycatcher. A resident in small numbers, with more recorded at times of migration.

Hedge Sparrow. A widespread resident found in almost every hedgerow and patch of bushes, but there is no quantitative information.

Meadow Pipit. A summer resident with numbers being much increased in winter and at times of passage. There are times in autumn, especially during October, when influxes make the low marshy fields seem to be swarming with the species (e.g. in a very confined area just south of Blackwater, ca.70 on Oct.2nd 1965 and 60+ on Oct.6th 1974) and birds are involved in the autumn passerine movement (e.g. 60 flew east on Oct.14th 1973).

Richards' Pipit. A rare visitor. The only record was of 1 on Oct.6th 1974 in the marshy fields immediately south of Blackwater.

Tawny Pipit. A rare visitor. The only record was of 1 on Sept.3rd 1963 at the base of the old shingle spit.

Rock Pipit. A regular winter visitor to the shore from October/March inclusive (birds have been seen so late in March that some doubtless stay into April). The most that I have seen on any one date has been 10 on Dec.31st 1975 and 9 on Mar.8th 1970.

Water Pipit. A rare visitor. The only record was of 1 by the Gins Farm on Mar.26th 1960.

Pied Wagtail. Oddly enough, there is very little positive information on this species. It is present throughout the year, but I have not found any large numbers and I have not found any roosts. A few pairs doubtless breed.

White Wagtail. Occasional birds are seen in spring.

Grey Wagtail. A very occasional visitor. Very few have been seen on the ground, and the small handful of records have been mostly of birds flying over.

Yellow Wagtail. Rather scarce in spring but a regular autumn migrant in moderate numbers. Most springs have been devoid of records (see Willow Warbler for comment on small migrants) but in August/September (occasionally July and October with the latest on Nov.2nd 1963) Yellow Wagtails feeding amongst cattle in the grassy fields are typical of the area. On any one day numbers may well be below 20, and the highest counts that I have are 30+ on Sept.20th 1970 and ca.30 on Aug.24th 1971. There is suitable breeding habitat but the species disappears in summer.

Great Grey Shrike. A very scarce winter visitor. The only records are of 1 eating a ♂ Chaffinch by Gins Farm on Apr.8th 1960 and of 1 that lived in the hedge by the road to the shore from Feb.4th/Mar.17th 1968.

Starling. Present throughout the year. Numbers in the fields in winter sometimes exceed 1000, whilst counts of birds flying past at times of migration (especially in October) may well reach that proportion. Birds breed all round the area in trees and buildings, but we have no idea of numbers.

Finches. In the early years of the survey, one or two fields along the coastal stretch were given over to kale, which had a more than liberal sprinkling of the weed Fat Hen which attracted large finch flocks in winter. After a visit from a representative of Fisons, the farmer used a weedkiller which wiped out the Fat Hen and in the last few years the kale has been moved to more northerly fields. These two facts together have much reduced finch numbers so that species such as the Tree Sparrow, once a common winter visitor, are now much reduced.

Greenfinch. Resident (numbers unknown) and a common winter visitor and autumn migrant. In winter there might be up to 500 in flocks in the area (decreased since the change in kale growing) whilst in autumn (especially October) the species is one of the main ones involved in the coasting movement of passerines when several hundred may pass in a day.

Goldfinch. Resident in very small numbers and a common autumn migrant. In September/October, large counts are likely to be seen either in the area (e.g. ca.100 on Sept.22nd 1974 and ca.80 on Oct.3rd 1976) or passing as one of the main species involved in the autumn passerine movement (e.g. hundreds flying east on Oct.14th 1973, several hundred flying east on Oct.5th 1969, ca.300 flying east on Oct.3rd 1964 and 500+ flying east on Oct.31st 1964). In winter the species is usually absent.

Siskin. ALL birds recorded have been flying over, mostly in autumn as part of the passerine movement at that time, the largest count recorded being 20 flying east on Oct.14th 1973.

Linnet. A resident (probably in moderate numbers), a common/abundant autumn migrant and a common winter visitor. Several hundred may be present in winter (fewer since the change in kale growing), these birds being either in kale, or in gorse, or on the tide-line amongst the wrack. It is the main species involved in the autumn passerine movement when birds are either seen in the area (e.g. 600+ on Oct.1st 1967 and 'hundreds on Oct.8th 1966) or flying past (e.g. 3000 flying east on Oct.14th 1973, several hundred flying east on Oct.5th 1969, and 630 flying east on Oct. 3rd 1964).

Redpoll. Nearly all records have been of birds flying over, mostly in autumn as part of the passerine coasting movement (e.g. 230 flying east on Oct.12th 1975 and 100+ flying east on Oct.14th 1973).

Bullfinch. Present throughout the year, but nothing is known quantitatively about numbers except that I have never had more than a dozen on any one date.

Crossbill. A rare visitor. The only record is of 2 ♂♂ in conifers east of the coast-guard cottages on Nov.28th 1971. They allowed a very close approach and gave the impression of not having met with man before.

Chaffinch. A resident in small/moderate numbers, an autumn migrant in moderate numbers and a common winter visitor (numbers lower in winter since the change in kale growing). Several hundred may be present in winter but no large numbers have been seen in the autumn passerine movements.

Brambling. An irregular winter visitor, usually in small numbers. Odd birds have been seen in finch flocks amongst kale, in the fields, or on the tide-line, but there have been winters when I have not recorded any, and the highest count was 30 on Feb.21st 1969. The earliest date was a single bird on Oct.8th 1966.

Yellowhammer. A resident in small numbers and a winter visitor in moderate numbers. Counts of 40 are usual in winter.

Corn Bunting. A very scarce visitor. The only records are of 4 on Mar.28th 1971 in the gorse area by the shore, and 1 on Jan.9th 1972.

Reed Bunting. A resident (numbers unknown) and a winter visitor in moderate numbers. The birds used to use the kale very much in the days when it grew by the shore and contained Fat Hen. On May 14th 1967, 16 singing ♂♂ were counted in the Blackwater area, whilst in winter counts of 50+ have been made on a number of occasions.

Snow Bunting. A very scarce winter visitor. 1, Oct.28th 1961. 1, Jan.5th 1963. 1 flying north, Dec.9th 1973. 1 ♀, Oct.30th 1977.

House Sparrow. Present throughout the year but numbers are unknown.

Tree Sparrow. The status of this species has much altered since the change in kale growing. When weedy kale was grown near the shore, Tree Sparrows were regular visitors from late September/early April (max. ca.400 on Dec.16th 1961), but they are much less regular now and numbers are usually small. Often over the last few winters, visits have not produced a single bird. Tree Sparrows also occur in the autumn movement of passerines.

White-throated Sparrow. Dr. J.T.R.Sharroock recorded 1 in the shore gorse on May 19th 1961, the bird probably having come straight off a transatlantic liner.

SPECIES Visits

TABLE I

Preliminary visits

	J	F	M	A	M	J	J	A	S	O	N	D	
1958 <u>6</u>	1	2	0	0	1	0	0	0	0	1	1	0	6
1959	2	0	1	2	0	0	1	0	1	2	1	0	10
1960	0	1	1	1	1	1	4	2	1	3	1	1	17

Main survey

1961	3	2	4	5	4	1	1	2	2	4	3	5	36
1962	2	3	4	4	4	5	3	3	3	4	2	4	41
1963	4	4	5	3	4	6	2	2	5	4	5	3	47
1964	4	4	4	4	1	3	2	3	3	5	3	4	40
1965	3	2	2	4	4	4	4	2	4	4	2	2	37
1966	4	3	4	4	4	3	1	3	4	3	3	3	39
1967	3	3	4	4	3	4	3	3	2	4	2	1	36
1968	3	4	5	4	3	3	1	3	5	2	3	4	40
1969	3	4	5	4	4	5	3	1	4	3	2	3	41
1970	4	3	5	4	5	4	2	3	2	2	4	3	41
1971	2	3	4	3	5	3	2	2	2	3	2	1	32
1972	3	4	4	4	4	4	4	1	2	3	1	3	37
1973	3	2	4	2	4	4	4	2	1	2	1	1	30

Checking survey

1974	2	1	4	3	3	3	3	2	3	1	2	3	30
1975	2	1	2	4	3	3	2	3	1	1	3	2	27
1976	1	2	2	2	3	4	4	1	2	2	1	1	25
1977	3	2	3	1	4	1	2	2	0	2	2	2	24
1978	2	1	2	2	2	2	3	3	3	2	3	0	25
	54	51	69	64	66	63	51	43	50	57	47	46	

SPECIES DiversTotal numbers

TABLE II

Preliminary visits

J F M A M J J A S O N D

1958		1									
1959											
1960											

Main survey

1961	○	○	○	→ ^E 4 ^{••}	○	○	○	○	○	1	2 ^{••}	○	7
1962	○	○	Dead •	→ ^W 1	○	1	○	○	○	○	○	○	3
1963	○	3 ^{••}	1 ^{•D}	1 ^{•D}	1 ^{•D}	○	○	○	○	○	○	○	6
1964	3 ^{••}	4 ^{••}	1 [•]	○	○	○	○	○	○	○	1 [•]	○	9
1965	1	1 [•]	○	○	○	○	○	○	○	○	○	○	2
1966	○	○	○	→ ^E 2	○	○	○	○	○	○	○	○	2
1967	○	○	○	○	○	○	○	○	○	○	1	○	1
1968	○	○	○	○	○	○	○	○	○	○	○	○	0
1969	○	○	1 [•]	○	○	○	○	○	○	○	○	○	1
1970	○	○	○	○	○	○	○	○	○	○	1 [•]	○	1
1971	2	○	○	○	○	○	○	○	○	○	→ ^E 1	○	3
1972	1 [•]	○	○	○	○	○	○	○	○	○	○	○	1
1973	○	○	○	○	○	○	○	○	○	○	○	○	0

Checking survey

1974	○	○	○	○	→ ^E 1	○	○	○	○	○	○	○	1
1975	○	○	○	→ ^E 1	○	○	○	○	○	○	→ ^E 1	○	2
1976	○	1 [•]	○	○	○	○	○	○	○	○	○	○	1
1977	○	○	○	○	○	○	○	○	○	○	○	○	0
1978	○	○	○	○	○	○	○	○	○	○	○	○	0

- Red-throat 15
- Black-throat 4
- Great Northern 4
- D = dead

40

SPECIES Great Crested Grebe

TABLE III

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958											
1959											
1960											

Main survey

1961	—	—	—	—	—	—	—	—	—	—	—
1962	1	1	2	1	0	0	0	0	0	0	1
1963	2	3	5	0	0	0	0	0	0	0	1
1964	5	2	—	0	0	0	0	0	0	0	1
1965	—	—	4	—	—	—	—	—	—	—	—
1966	1	0	1	1	0	0	0	0	0	0	1
1967	5	4	4	1	0	0	0	0	0	0	4
1968	1	1	3	2	0	0	0	0	0	—	—
1969	2	3	4	0	0	0	0	0	0	2	10
1970	9	3	13	0	0	0	0	0	0	1	7
1971	13	7	6	0	0	0	0	0	0	5	3
1972	4	6	5	0	0	0	0	0	1	—	6
1973	3	14	5	0	0	0	0	0	0	2	5

Checking survey

1974	3	7	3	0	0	0	0	0	0	3	2
1975	2	3	—	2	0	0	0	0	0	1	11
1976	—	3	3	0	0	0	0	0	0	—	2
1977	2	2	3	0	0	0	0	—	0	4	3
1978	6	1	4	—	2	0	0	0	2	2	—

— = winter's maximum (where appropriate - i.e. where peak clearly higher than other months)

SPECIES

Slavonian
Black-necked } Grebes
Red-necked

TABLE

IV

Preliminary visits

Total numbers

J F M A M J J A S O N D

1958

1959

1960

Main survey

1961

○	○	○	○	○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○	○	○	○	2 ^{••}
1 [•]	○	○	○	○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○	○	○	○	○
1 [•]	○	○	○	○	○	○	○	○	○	1 [•]	○
○	○	○	○	○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○	○	○	1 [•]	○
○	○	○	○	○	○	○	○	○	○	○	4 ^{••••}
○	○	2 ^{••}	○	○	○	○	○	○	○	○	○
○	○	1 ⁺	○	○	○	○	○	○	○	○	○
3 ^{••}	1 ⁺	○	○	○	○	○	○	○	4 ^{••}	○	○
3 ^{••}	1 [•]	○	○	○	○	○	○	○	○	1 [•]	○

1962

1963

1964

1965

1966

1967

1968

1969

1970

1971

1972

1973

Checking survey

1974

1975

1976

1977

1978

• = Red-necked

6

• = Slavonian

21

• = Black-necked

8

+ = Slavonian / Black-necked

2

SPECIES Little GrebeTABLE V

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958											
1959											
1960											

Main survey

1961	—	4	—	—	0	0	0	0	11	20	—	17
1962	—	—	—	2	1	0	0	0	10	14	—	—
1963	20+	—	—	0	0	0	0	0	3	4	—	—
1964	9	—	2	0	0	0	0	0	5	9	—	—
1965	7	4	3	0	0	0	0	0	—	8	10	—
1966	12	6	6	3	0	0	0	2	5	11	29	—
1967	—	10	5	1	0	0	0	0	5	14	16	3
1968	11	3	6	0	0	0	0	0	4	8	14	11
1969	—	3	6	0	0	0	0	2	7	19	15	9
1970	6	8	10	1	0	0	0	0	0	4	19	16
1971	7	12	3	5	0	0	0	0	3	19	25	—
1972	6	9	8	2	0	0	0	0	8	19	2	10
1973	11	8	7	0	0	0	0	3	6	15	8	4

Checking survey

1974	9	4	3	1	0	0	0	1	2	5	12	9
1975	3	—	—	1	0	0	0	2	—	8	22	6
1976	—	1	3	0	0	0	0	0	0	3	5	2
1977	6	—	6	0	0	0	0	0	—	5	12	—
1978	—	—	—	—	0	0	0	0	—	—	—	—

— = winter's maximum

Nested 1981

SPECIES MallardTABLE VI

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958												
1959												
1960												

Main survey

1961	—	—	12	14	33°	70	—	—	100	30	175	220
1962	70	70	25	20	⁴⁰ / ₅₀ °	95	20	10	50+	100	40	50
1963	70	250	30	12	50°	70	70+	70	150	350	70	100+
1964	100	50	40	22	90	80	60	10	6	210	90	140
1965	150+	40+	10	40	93	123	80	37	85	60	60	100+
1966	200	70	30	20	50°	53	58	6	100+	120	190	250+
1967	230	80	40	30	20+	90	60	7	140	80	230	350
1968	500	160	31	24	20	40	—	5	26	50	195	285
1969	260	200	30	14°	30+	—	—	<10	60	460	620	510
1970	310	60	40	12°	21°	60	—	<10	10	120	440	480
1971	600	200	20	30°	50°	64	20	15	26	100	250	—
1972	250	280	19	10	30+	80	40	30	42	80	175	560
1973	240	260	30	20	—	—	80	45	12	55	355	150

Checking survey

1974	130	170	33	20+	25	40	8	2	49	—	220	230
1975	200	—	10	12	19	—	40	2	⁴⁰ / ₅₀	190	410	420
1976	100+	170	30	—	—	—	—	5	76	—	500	550
1977	250+	—	<20	20	—	—	—	<10	—	90	200	150
1978	320	180	60	—	35	20	20	5	—	225	220	—

Max. 600 280 60 40 93 123 80 70 150 460 620 560

• = mostly ♂♂

— = winter's maximum

SPECIES TealTABLE VII

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958

1959

1960

Main survey

1961	100+	105	50	16	1	0	0	18	70	100	100	120
1962	50	250+	50	12	3	0	0	4	100+	200	300	250
1963	100+	75	30	10	1	16	10	13	84	250	200+	230
1964	60	70	70+	15	1	1	5	20+	140	150+	300+	100+
1965	80	100+	20	40	0	1	1	—	200	215	350	450+
1966	320	50	20	6	0	0	2	7	275	100+	160	300
1967	370	110	30	8	3	2	0	7	240	400+	535	—
1968	220	140	60	17	0	2	0	21	180	260	340	460
1969	150	80	110	6	2	0	0	0	300+	350	330	350
1970	240	160	80	6	0	0	0	12	55	300	500	300
1971	420	140	60	20	0	0	0	9	200+	420	300+	450
1972	400+	250	40	36	1	0	1	11	280	600	650	400+
1973	315	310	60	31	0	0	2	6	80	275	107	120

Checking survey

1974	130	60	109	11	4	2	7	25	750	—	90	245
1975	205	80	70	13	0	0	0	220	800	305	610	200
1976	100+	400	130	—	—	1	—	14	—	310	550	1200
1977	500+	215	50	12	0	0	0	7	—	330	290	400+
1978	270	200	60	—	1	—	5	160	120	—	300	—

500+ 400 130 36 4 16 10 220 800 600 650 1200

— = Winter's peak

SPECIES

TABLE

VIII

All records

J

F

M

A

M

J

J

A

S

0

N

D

1958

1959

1960

Main survey

1961

1962

1963

1964

1965

1966

1967

1968

1969

1970

1971

1972

1973

1974

1975

1976

1977

1978

• = Garganey

● = Gadwall

SPECIES WigeonTABLE IX

Preliminary visits Monthly maxima

J F M A M J J A S O N D

1958												
1959												
1960												

Main survey

1961	600	540	170	2	0	0	0	0	40	210	410	750
1962	500	440	250	20	0	0	0	0	51	230	400	550
1963	450	2000+	450	2	0	1	0	0	53	270	300	750
1964	750+	430	120	55	0	0	0	0	12	106	140	500+
1965	400+	400+	160	10	0	0	0	0	9	81	420	400+
1966	1000+	540	220	0	0	0	0	0	2	50	380	480
1967	950	400	180	0	0	0	0	1	68	100	290	580
1968	790	630	360	0	2	0	0	4	30	110	415	985
1969	700	760	530	1	1	0	0	0	50	80	280	610
1970	550	560	320	8	0	0	0	1	0	56	250	1200
1971	830	400	240	1	0	0	0	0	8	200+	650	—
1972	930	550	165	0	1°	1°	1°	0	26	45	110	860
1973	740	540	240	5	0	0	0	0	54	40	90	900

Checking survey

1974	260	330	46	5	3	1	0	4	0	—	105	225
1975	310	240	90	4	0	0	0	0	—	137	160	500
1976	400+	780	10	—	0	0	0	0	4	—	200+	600
1977	800	290	80	—	1	0	0	0	—	—	520	—
1978	570	400	35	—	0	0	0	1	10	180	—	—

— = winter's maximum

• = injured bird

SPECIES

Pintail

TABLE

X

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958

1959

1960

Main survey

1961	0	0	0	0	0	0	0	0	3	0	2	2
1962	0	1	3	2	1	0	0	0	2	1	1	3
1963	1	5	0	0	0	0	0	0	1	3	7	8
1964	10	8	5	0	0	0	0	0	0	22	16	17
1965	8	30	14	5	0	0	0	0	0	13	11	—
1966	19	0	0	0	0	0	0	0	0	0	2	30
1967	31	24	14	6	0	0	0	0	10	3	9	7
1968	33	30	22	2	0	0	0	0	0	2	11	18
1969	11	7	19	0	0	0	0	0	6	10	5	13
1970	32	18	31	2	0	0	0	0	0	0	0	10
1971	50	37	29	13	1	0	0	0	0	1	10	7
1972	23	40	40	6	0	0	0	0	10	4	14	33
1973	50	32	14	5	0	0	0	0	0	1	22	40
1974	40	4	—	4	0	0	0	3	0	—	10	—
1975	33	4	—	1	0	0	0	0	—	22	40	27
1976	—	48	19	—	0	0	0	0	—	9	—	30/40
1977	61	13	11	0	0	0	0	0	—	8	90	120
1978	42	6	2	—	0	0	0	1	—	32	80	—

— = Winter's peak

SPECIES ShovelerTABLE XI

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958												
1959												
1960												

Main survey

1961	14	12	27	9	4	0	0	0	3	15	8	30
1962	30	15	16	18	4	0	0	2	5	12	31	25
1963	2	0	12	11	3	0	0	0	12	5	19	10
1964	25	19	10	4	1	1	2	7	3	0	1	10
1965	6	0	9	11	3	0	0	1	2	3	7	18
1966	9	3	4	11	Pair nesting	0	0	2	0	0	6	5
1967	10	16	11	5	Pair nesting + 4	0	0	0	0	7	3	14
1968	39	24	13	8	Pair nesting	Pair + 1	0	3	0	5	16	22
1969	12	3	9	6	Pair nesting	Second nest	0	0	6	0	8	7
1970	11	1	5	5	0	0	0	0	0	0	0	23
1971	4	12	5	10	2	0	0	0	0	0	8	1
1972	7	12	13	9	4	2	0	0	2	9	9	24
1973	11	29	30	15	0	0	0	0	0	0	4	9

Checking survey

1974	4	6	15	11	1	2	0	2	0	—	8	—
1975	12	5	10	4	0	0	0	0	—	—	5	13
1976	3	11	3	—	0	0	0	0	—	—	—	9
1977	12	19	6	2	3	0	0	3	—	2	11	39
1978	26	10	13	3	10	—	—	4	—	—	—	—

— = winter's peak

Counts are pretty accurate —
no estimates.

SPECIES

Tufted DuckTABLE XII

Preliminary visits

All records given

J F M A M J J A S O N D

1958

1959

1960

Main survey

1961

1962

1963

1964

1965

1966

1967

1968

1969

1970

1971

1972

1973

1974

1975

1976

1977

1978

									1		
										1	
8	29.115	1.1			2	1					
		1.1									
		2									
1	2.1	1.2									
								1			
										1	
	2	3	2								
	3.1	11.5.7	5								
	5	3.1	2	5	1						

Nested 1981

SPECIES Pochard

TABLE XIII

Preliminary visits

All records given

J F M A M J J A S O N D

1958

1959

1960

Main survey

1961

1962

1963

1964

1965

1966

1967

1968

1969

1970

1971

1972

1973

1974

1975

1976

1977

1978

SPECIES

GoldeneyeTABLE XIV

Preliminary visits

All records given

J F M A M J J A S O N D

1958

									1		
1959	1										
1960											

Main survey

1961

1962

1963

1964

1965

1966

1967

1968

1969

1970

1971

1972

1973

1974

1975

1976

1977

1978

	1.5.7 14	15.19 19.19	19.9 1.1							3.1	4
	1.4	2									
	1	2								3.3	1
		4									
	2.5.2	1.10	1.3							1	3.1
	1	2.2	1.1.2.2	1						3	2.14
	1.1.1									2.3	1.5
	4	3.3.2	1.1.2								
	7	3.2	1							3	1
	2										
										2	
										1	
	1										
			1								

SPECIES Eider

TABLE XV

Preliminary visits

All records given

J F M A M J J A S O N D

	1									

[illegible]

	I									
--	---	--	--	--	--	--	--	--	--	--

Main survey

[illegible]

	2	3.34	1.9E						1	1
--	---	------	------	--	--	--	--	--	---	---

	1.1		12.2	2						1	1
--	-----	--	------	---	--	--	--	--	--	---	---

		2									
--	--	---	--	--	--	--	--	--	--	--	--

[illegible][illegible]

1.1			2						2/3	4
-----	--	--	---	--	--	--	--	--	-----	---

[illegible][illegible][illegible][illegible][illegible]

	1									4
	1	3	2							

1.3	2								
	2							21	21

	2								3.1	2.4
	5	11		1	1.1	1.2	2			

[illegible][illegible][illegible]

SPECIES Red-breasted MerganserTABLE XVI

Preliminary visits Monthly maxima

J F M A M J J A S O N D

1958											
1959											
1960											

Main survey

1961	-	-	5	6	0	0	0	0	0	0	1	3
1962	5	7	4	5	0	0	0	1	0	0	0	3
1963	4	11	55	7	0	0	0	0	0	0	0	9
1964	3	4	8	4	0	0	0	0	0	0	1	-
1965	9	5	2	0	0	0	0	0	0	0	0	8
1966	5	7	4	9	0	0	0	0	0	0	2	3
1967	4	7	5	1	0	0	0	0	0	0	1	1
1968	5	3	3	0	0	0	0	0	0	0	0	1
1969	6	8	7	1	0	0	0	0	0	0	7	0
1970	13	6	2	0	0	0	0	0	0	0	1	3
1971	8	7	5	2	0	0	0	0	0	0	-	-
1972	4	10	7	3	0	0	0	0	0	0	1	9
1973	17	13	8	5	0	1	0	0	0	0	0	5

Checking survey

1974	6	4	8	1	0	0	0	0	0	0	5	5
1975	7	-	2	0	2E	0	0	0	0	0	3	2
1976	3	9	6	0	0	0	0	0	0	0	-	-
1977	8	7	3	-	0	0	0	0	0	0	4	3
1978	6	-	4	-	0	0	0	0	0	0	-	-

— = winter's peak

- = end of very cold spell. March had produced counts of 35, 30+ and 28 but this count of 55 included over 30 flying E (? returning after cold spell).

SPECIES ShelduckTABLE XVII

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958											
1959											
1960											

Main survey

1961	40	61	60	50	40+	55	—	6°	—	5°	12	22
1962	40	49	25	40	50	51	15°	15°	—	2	15	—
1963	17	50	66	50	50	80+	—	—	—	—	9	30
1964	30	52	40	40 50	60	—	—	21°	30°	16	50	52
1965	15	40 50	40	98	70	90	—	12°	2	13	33	19
1966	177	44	50	63	46	70	—	11°	12°	13	9	27
1967	43	76	60	102	60+	70+	—	25°	17°	11	13	—
1968	71	34	112	90	80	—	—	22°	14°	20	21	13
1969	20	45	80	70	—	—	16°	5°	9°	7	25	31
1970	47	60	62	70	50+	—	—	11°	—	2	17	50
1971	63	44	60 70	70	—	—	—	18°	9°	14	23	—
1972	60	65	70	10 80	—	—	40	10°	16°	10	39	46
1973	72	58	66	60 70	56	—	80	51°	24°	8	53	55

Checking survey

1974	64	70	101	100+	84	70	24	45°	50°	—	26	41
1975	67	69	75	90	—	—	—	13°	—	29	50	90
1976	40	88	40	—	—	—	32°	13°	18°	—	30	47
1977	30	90	90	60	80	—	40	27°	—	—	101	—
1978	85	140	135	—	—	—	12°	—	—	—	35	—

• = mostly immature birds

— = annual peak

* = mostly on sea (?birds from elsewhere)

Breeding pairs

1961 - 5

1967 - 8+

1973 - 14

62 - 7

68 - 12

74 - 10+

63 - 11

69 - 4 (Rabbits gassed
in winter)

75 - 10

64 - 6

70 - 7

76 - 10+

65 - 9

71 - 11

77 - 10+

66 - 5

72 - 12

78 -

SPECIES White-fronted Goose
 Preliminary visits All records given

TABLE XVIII

J F M A M J J A S O N D

1958

1959

1960

4E

Main survey

1961

1962

3.4 4

1963

5.120 27.47
28.6 48.47

1964

1E

1965

1966

15

1967

25

1968

29 27.27 3.3

1969

1 1.1

5

1970

1971

10 10

1972

1973

37

1974

1975

2

2

1976

1 1 1

1977

1978

14

SPECIES Brent Goose

TABLE XIX

Preliminary visits

All records until 1973,
then monthly maxima from Dec. 73. (In red)

J F M A M J J A S O N D

1958

[illegible]

1959

1960

Main survey

1961

1962

1963

1964

1965

1966

1967

1968

1969

1970

1971

1972

1973

1974

1975

1976

1977

1978

	5		2E							
										3
										7
	5								1	
3								12	2W	14W 2W
										20
15	1	52	39							1
19	41	7								119
12	59	280							3	142
40	27	160						1	55	80
140	-	260							17	-

SPECIES

Canada GooseTABLE XX

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958

1959

1960

Main survey

1961

1962

1963

1964

1965

1966

1967

1968

1969

1970

1971

1972

1973

1974

1975

1976

1977

1978

○	○	○	○	○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○	○	○	○	○
12	10	5	○	○	○	○	○	○	○	○	○
○	○	○	○	○	○	47	33	○	35	29	33
33	33	21	31	27	—	19	16	37	○	42	41
38	31	35	34	34	33	—	—	2	⁴⁰ / ₅₀	65	66
46	59	56	39	—	30	28	48	51	49	64	48
49	55	44	42	94	84	83	78	32	100	104	100
50	86	87	77	110	—	12	83	99	95	90	83
⁸⁰ / ₉₀	86	80	—	—	—	—	86	—	1	90	78
—	81	45	40+	40+	—	—	65	75	74	70	—
41	60	70	70	—	—	53	22	95	88	54	81
80	76	49	36	68	—	42	36	○	79	95	83
81	59	75	40+	40	19	54	92	○	—	24	—
78	47	64	—	—	—	54	2	80	61	—	88
—	58	65	—	—	23	79		80	83	—	—
84	59	71	—	70	—	—	63	—	38	⁹⁰ / ₁₀₀	100
—	—	80	—	—	—	⁷⁰ / ₈₀	153	143	—	61	—

47 released in July 1964.Breeding pairs

1965 - 4

66 - 4

67 - 8

68 - 12

69 - 8

70 - 13

1971 - 20

72 - 5+

73 - 11

74 - 8+

75 - 7+

76 - 10+

1977 - ca. 10

78 - 6

SPECIES SparrowhawkTABLE XXI

Preliminary visits

All records

J F M A M J J A S O N D

1958											
1959											
1960											

Main survey

1961										1	
1962									1		
1963								1	1.1		
1964						1		1			
1965								1.1			
1966	1	1						1		1.1	1
1967	1	2		1					1	1	1
1968	1								1.1		1
1969		1						1			
1970		1								1.1	
1971											
1972				1					1		1.1
1973	1.1		1					1	1		

Checking survey

1974	1			1		1					
1975										1	
1976	1					1		1	1	1	
1977	1	1					1		1	1	
1978	1		1.1				1			1	

SPECIES KestrelTABLE XXII

Preliminary visits All records

	J	F	M	A	M	J	J	A	S	O	N	D
1958												
1959												
1960												

Main survey

1961												
1962								1	1	1		1
1963									1.1	1	1	
1964										1.1	1	
1965						1			1.1.1.1	2.3.1		1
1966									1.1	1.1	1.1	1.1
1967	1.1	1.1		2						1.1	1	1
1968	1		1	1		1	1.1	1.1	1.1			1
1969			1				1	1.2	1.1.1	2.1		
1970	1.1						2.2.2	1	1.3	2.1.1.2	1.1.2	
1971	1.1	1.1	1.1	1	1	1.1		1	1.1	1		
1972	1.1	1.1	1		1			1.2	1.1			1
1973	1.1	1	2	1						1.1	1	

Checking survey

1974		1	1			2		1	2.1	1	1	
1975					1			1		2		
1976	1						1.1					
1977		1										
1978	1		1		1			1		1		

SPECIES OystercatcherTABLE XXIII

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958												
1959												
1960					70			70	50	100	70	—

Main survey

1961	20	—	—	41	30	—	—	181	70	—	—	60
1962	120	100+	16	10	10	12+	12+	50	180	130	85	—
1963	240	190	—	—	20	42+	—	—	50	140	180	68
1964	—	70	—	60	—	—	35	—	121	30	30	35
1965	210	—	—	30+	46	40+	20	—	205	50	—	130
1966	47	55	—	31	40+	40+	—	68	40	94	50	—
1967	—	130	—	30	66	50+	40	40	76	90	101	121
1968	60	—	30	30+	38	40	—	30	110	5	10	150
1969	50+	30	80	30	40+	—	—	15	35	—	90	30
1970	40	70	70	—	40+	—	—	—	10	35	60	60
1971	—	20	70	—	40+	40+	—	30	—	50	100	100+
1972	100	60	—	—	50+	—	77	61	—	—	110	70
1973	—	70	60	—	28+	34	60	72	40	50	8	8

Checking survey

1974	34	—	54	56	—	—	—	60	110	—	—	—
1975	96	—	40+	70+	—	—	—	53	—	—	90	80
1976	—	—	—	—	—	—	40	70	—	80	—	80
1977	—	—	65	—	—	—	—	52	—	40+	—	110
1978	50	—	90	—	—	—	60	—	—	70	—	—

• = High tide roost — = no satisfactory count

Figures often counts to nearest 10

□ = peak

Breeding pairs

1962 - 6
63 - 9
64 - ?
65 - 8
66 - 11
67 - 11

1968 - 11
69 - 9
70 - 11
71 - 14
72 - 16
73 - 19

1974 - 14
75 - 16
76 - 14
77 - 18
78 - 24

SPECIES LapwingTABLE XXIV

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958		2000								450	500+	
1959	800+											
1960												

Main survey

1961	—	1000+	—	—	—	—	—	—	—	200 [↑]	—	300
1962	300	500+	—	—	—	—	—	300 [↑]	300	700	—	500
1963	0	3	48E	—	60+	—	—	—	450	500	800	—
1964	—	500+	—	—	—	—	—	20/40	—	—	—	—
1965	1000+	—	—	—	—	—	—	200	400	—	400+	800+
1966	900	550	—	—	66+	—	—	200 [↑]	—	400	340	800+
1967	300	Many W 1300	—	80/100	80/100	—	—	400	310	700	700+	—
1968	3000	1100	250	—	50+	50+	—	200	200	110	300	2900 [↑]
1969	1000+	900	400	—	—	—	—	40	60	400	400	700
1970	500+	2000 [↑]	200	—	50+	50+	—	—	240	—	2500 [↑]	1500
1971	1500	1200	—	—	—	—	—	100+	<20	300	600	—
1972	3000	1000	—	—	—	—	—	—	130	—	—	1600 [↑]
1973	900	300+	<100	50	40/50	50+	150	80	250	200	—	800

Checking survey

1974	1800	600	700	—	—	—	100+	400	300	—	900	2500
1975	2000	800	—	—	—	—	—	340	—	—	800	1500
1976	—	1500	—	—	—	—	—	—	600	—	—	—
1977	500	2000	200	—	—	—	300+	320	—	1400+	—	1200
1978	—	600	—	—	—	—	—	200	—	700	—	—

↑ = obvious increase

Estimates to nearest 50 or 100

— = 1000 or more

SPECIES

Ringed Plover

TABLE

XXV

Preliminary visits

Monthly maxima.

J F M A M J J A S O N D

1958		20										
1959												
1960					20		300		70			

Main survey

1961	100+	30+	-	30	-	-	-	30	-	15	-	20
1962	70	-	20	20	20	-	-	6	-	250	40	-
1963	25	20	15	-	30+	14+	-	-	60+	40	50	-
1964	-	-	-	-	-	20+	-	10+	23	20	-	-
1965	-	-	-	-	-	-	20+	20	25+	-	-	-
1966	-	-	-	-	-	-	-	20+	-	20+	-	-
1967	-	40+	-	24+	30/40	-	-	-	40	20	80	91
1968	-	-	-	-	-	20+	-	20	15	30+	-	<10
1969	-	-	-	22+	30+	-	-	-	200	-	30	-
1970	-	-	30+	-	-	-	-	15	<10	-	-	-
1971	-	20	30	-	-	-	-	70	<10	-	-	-
1972	<10	<20	-	20+	20+	-	-	10	-	10	40	-
1973	12	52	25	20	14+	20	20	46	<10	-	5	8

Checking survey

1974	15	12	14	-	20	30	-	20	-	-	-	-
1975	-	-	-	-	-	-	-	20	-	-	-	-
1976	-	25	-	-	-	-	-	25	25	-	-	-
1977	-	20	20	30	-	-	-	16	-	-	10/20	-
1978	25	-	<30	-	-	-	-	-	-	-	-	-

• = High tide roost

— = 100+

--- = 50/100

Counts usually estimates to nearest 10 or 5.

Breeding pairs:

1962 - 6/7 prs
 63 - 12+ prs
 64 - ?
 65 - 10/12 prs
 66 - 15 prs
 67 - 12+ prs
 68 - 12+ prs

1969 - 12+ prs
 70 - 15 prs
 71 - 12+ prs
 72 - 10 prs
 73 - 8 prs
 74 - 14 prs
 75 - 8 prs

1976 - ca. 10+ prs
 77 - ca. 15 prs
 78 - ca. 15 prs

SPECIES

Grey PloverTABLE XXVI

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958

1959

1960

Main survey

1961	-	-	-	31	30	-	-	6	-	-	-	15
1962	50+	-	15	15	<10	5	1	-	-	18	30	-
1963	20	25	15	-	-	-	0	0	5	9	71	40
1964	-	70+	40	30	-	1	1	-	1	-	-	40
1965	60	20+	-	20+	1	0	0	0	3	40+	-	60
1966	11	80	60+	45	0	0	0	0	4	-	64	-
1967	-	70+	-	-	1	0	0	0	1	19	53	56
1968	12	20+	35	-	0	0	0	1	2	11	17	11
1969	-	40	25	42	0	0	0	-	10	-	-	-
1970	30	30	25	-	11	1	-	1	3	10	10	-
1971	20	30	15	15	1	0	0	3	6	-	-	-
1972	20+	50	-	-	-	-	-	2	-	30	55	-
1973	30+	40+	30	15	3	2	-	12	15	14	15	30
1974	40	30	32	17	8	4	-	7	-	-	13	26
1975	40	20	-	-	-	-	-	-	-	-	20	30
1976	-	60	-	-	20	7	2	25	32	-	-	-
1977	-	78	70	10	17	-	1	9	-	56	60	70
1978	70/80	-	121	-	-	-	-	16	140	65	-	-

• = High tide roost

Counts often estimates to nearest 5

- = Winter maximum

SPECIES

Golden PloverTABLE XXVII

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958

1959

1960

									11	31	60

Main survey

1961	250	400	300+	90	0	0	0	0	0	0	1	60/70
1962	70	150	170	4	0	0	0	0	0	17	14	16
1963	0	0	1	300	1E	0	0	0	0	0	66	90
1964	0	240	192	123	0	0	0	0	0	0	0	0
1965	0	50	140	50	0	0	0	0	0	0	0	85
1966	0	270	120	80/100	0	0	0	0	0	5	160	110
1967	540	420	240	0	0	0	0	0	0	160	7	0
1968	220	250	200	0	0	0	0	0	0	0	1	470
1969	400	60	30	0	0	0	0	0	0	0	0	220
1970	210	450	65	0	0	0	0	0	0	0	200	750
1971	250	205	63	0	0	0	0	0	0	20	1	0
1972	300	490	100	13	0	0	0	0	0	0	0	300
1973	150	0	160	0	0	0	0	0	0	7	0	75
1974	160	70	66	1	0	0	0	1	0	0	43	110
1975	205	105	10	68	0	0	0	0	0	0	210	320
1976	—	800	240	—	0	0	0	0	0	0	—	—
1977	260	460	17	0	1	0	0	0	0	0	30	520
1978	200	25	30	—	0	0	0	122	0	170	—	—

Where counts are not exact, they are estimates to the nearest 5 or 10 except for the largest counts which were counted in 50's.

— = Winter maximum

SPECIES TurnstoneTABLE XXVIII

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958												
1959												
1960								40°				

Main survey

1961	—	—	—	40°	—	—	—	—	—	—	—	—
1962	—	—	—	35	20	—	1	5	—	40	50°	—
1963	—	40°	—	—	20	$\frac{15}{20}$	21	—	50°	$\frac{40}{50}$	30°	—
1964	—	40°	—	$\frac{40}{50}$	—	3	2	21	—	20+	—	—
1965	—	20+	—	25+	5	3	2	30+	12°	20+	—	30
1966	—	40°	30+	30+	1	—	—	5	—	50°	—	—
1967	—	—	—	3	6	0	6	7	11	15	85°	36
1968	—	—	58°	—	10	7	1	50°	20+	40°	10	—
1969	40°	—	20+	30+	10	0	8	20	50°	—	40°	—
1970	—	30	30+	—	19	—	—	20	—	20	15	—
1971	—	30+	40°	10	22	1	—	20	—	—	—	—
1972	30	30+	—	30+	10	—	10	30	—	25	70°	—
1973	40	55°	30	20+	15	9	—	28	12	—	12	25

Checking survey

1974	40	15	15	14	29	—	8	6	—	—	$\frac{15}{20}$	40
1975	20	25	—	—	—	—	—	55°	—	—	30	—
1976	—	45	—	—	—	—	32	—	—	60°	—	—
1977	—	—	—	—	—	—	—	15	—	30+	30+	—
1978	45	—	20+	—	—	—	—	16	—	40+	—	—

• = High tide roost
Monthly maxima

Counts often to nearest 5 or 10 as
accurate counts are so difficult,

SPECIES Snipe

TABLE XXIX

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958												
1959											30	
1960										125+	100+	

Main survey

1961	—	—	—	—	—	—	—	—	—	—	—	—
1962	—	200+	—	—	—	—	—	—	—	—	—	—
1963	—	—	—	—	—	—	—	2	20	—	—	—
1964	—	—	—	—	—	—	—	7	—	6E	—	—
1965	17+	—	—	—	—	—	—	—	6	—	—	—
1966	20	—	20+	—	—	—	—	—	—	40+	—	40+
1967	20+	—	—	—	—	—	—	7	4	5	19	—
1968	30	—	56	—	—	—	—	—	—	—	16	60
1969	21	—	30+	—	—	—	—	—	12	—	<10	—
1970	20+	20+	<10	—	—	—	—	—	<10	15	30+	40
1971	30+	50+	—	<10	—	—	—	<10	—	—	40+	—
1972	<20	<30	20+	—	—	—	—	1	3	10	12	10
1973	21	<10	<20	—	—	—	—	—	1	5	3	8

Checking survey

1974	—	<10	4	2	1	—	—	—	—	—	—	15
1975	—	30	—	—	—	—	—	1	—	12	—	—
1976	—	80	—	—	—	—	—	—	—	—	—	—
1977	—	—	—	—	—	—	—	—	—	—	—	—
1978	—	—	—	—	—	—	—	7	—	<10	—	—

— = no data

SPECIES

Curlew

TABLE

XXX

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958

1959

1960

Main survey

1961	400	500	350	100	—	—	600	600	350	200	100	200
1962	—	900	<50	35	1	40	500	250+	500	—	—	200
1963	200	200+	49	—	<10	65	80+	450	1100	1000	500	—
1964	—	350	250	<10	<10	200	350	50+	300+	50	<20	<20
1965	—	—	—	<20	0	160	170	100+	400	—	600	500+
1966	300	650	200+	10	0	18	—	230+	—	120	200+	400+
1967	400	400	270	10	60	120	120	130	360	280	240	200
1968	300	450	60	3	15	119	520	150	350	150	500	350
1969	425	120	200	4	1	24	300	240	50	80	30	40
1970	80	400	30	15	1	35	20+	20+	80	80	550	250
1971	100	200+	50	<20	1	64	40	60	50	—	150	40
1972	420	200	140	4	<10	80	450	250	370	50	—	100+
1973	200	500	200	10	2	⁴⁰ / ₅₀	450	450	400	30	40	60
1974	390	140	190	13	1	120	320	—	⁵⁰ / ₆₀	60	—	350
1975	410	60	—	90	2	—	—	240	—	—	190	—
1976	200	120	40	—	—	200	150	70	70	380	120	—
1977	400	180	40	<20	25	—	180	300	—	<50	100	—
1978	¹³⁰ / ₁₄₀	250	130	—	—	—	250	210	200	130	—	—

— = winter's peaks

— = autumn peak

Counts most complete from
1966/73 inclusive.

SPECIES

Black-tailed Godwit

TABLE

XXXI

Preliminary visits

Monthly maxima.

J F M A M J J A S O N D

1958

1959

1960

550

Main survey

1961	230	80	230	90	105	3	8	3	10	42	14	30
1962	40	198	44	110	50	70	60	150	6	6	0	2
1963	4	40	51	5	10	17	28	27	23	36	500	60
1964	0	55	30	220	39	8	25	11	6	1	15	1
1965	0	0	8	55	13	15	10	39	25	3	1	180
1966	37	390	180	296	5	9	7	70	41	430	320	280
1967	110	320	210	8	30	36	52	37	38	220	60	—
1968	9	15	29	24	46	12	79	77	110	3	18	305
1969	50	8	11	8	29	10	10	4	8	14	6	7
1970	27	2	25	20	27	10	12	27	42	35	140	215
1971	2	80	75	21	21	32	29	90	34	30	20	8
1972	95	210	200	110	70	80	69	40	160	14	21	140
1973	40	67	35	9	51	30	72	120	132	2	3	2
1974	5	88	280	34	31	5	60	16	124	1	60	51
1975	180	210	184	290	7	—	6	35	70	23	340	225
1976	—	77	80	4	—	16	121	12	27	160	—	16
1977	25	16	360	35	39	20	26	80	—	2	—	20
1978	1	—	30	230	18	16	30	19	—	—	—	—

— = winter's maximum if over 100

... = other counts over 100.

SPECIES

Bar-tailed Godwit

TABLE

XXXII

Preliminary visits

All records given

J F M A M J J A S O N D

1958

				1					1		
1959											
1960									1		

Main survey

1961

	1		1								5
1962	1		1	1.2E 1307E	1			1	1.1.1	1	
1963		1.5	6.2	37E.1	2E	2		1.5.3.2	5.1.1.	2.1	4
1964	10.6.1	7.7		1		1		3		1.3	2
1965	4			1				1	1.1		3
1966	1	2.6.5	8	1.5E				2	7E.1		
1967				1	1					3	
1968	5	3	1	2E				1	4.3		
1969				11E							4
1970		1.2.3	1	1E.4					5.2	10	
1971	9	5	2.4		1.1.1				1.1		
1972		1		7	12E 36E	2		1	2	3.4	2
1973	2	3	1		4.3				1	1	
1974			2.11	489E	16.1.1				1		1
1975	4			211E	1E			1		9	16
1976		4		1		1			3		
1977	2				2.6		1			7	3
1978	10		7	397E							

SPECIES

Redshank

TABLE

XXXIII

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958

1959

1960

Main survey

1961

100+	50+	-	-	-	-	200	400	200	-	-	50
-	-	-	-	-	-	200	-	100+	-	-	-
-	10	-	20	-	-	-	30	70	100+	70+	-
<50	70	-	-	-	-	-	50+	47	20	-	-
-	-	-	-	-	-	-	-	150+	100+	-	100+
-	-	20/30	-	-	-	-	200	100	150+	180	25
20	50+	-	20/30	-	-	90	60	230	140	160	-
25	40	73	40	40+	30+	150+	200+	140	70+	50	200
40	20+	20	-	-	-	-	-	200+	200	200	150
200+	40	50	-	-	-	-	40	-	70	70	50
40+	50	20	40	-	-	80+	300	250	70	30	-
80	100	-	-	-	-	70	30	60	80	75	80
40	60	30	30	40	50	60	130	60+	40	45	40

Checking survey

1974

57	35	30/35	40	-	-	-	130	150	-	-	30/40
25	20	-	-	-	-	-	75	-	-	170	-
-	30	-	-	-	-	120	-	-	-	-	-
-	-	30	-	-	-	-	-	-	40+	-	30
35	30+	-	-	-	-	50+	67	80	-	-	-

1975

1976

1977

1978

- = annual maximum
where over 100.

Counts usually to nearest 10 or 5
because impossible to count accurately.

SPECIES

Spotted Redshank

TABLE

XXXIV

Preliminary visits

Monthly maxima

J F M A M J J A S O N D

1958

1959

1960

Main survey

1961	17	15	10	22	1	—	10	27	30	40	6	20
1962	15	17	10	12	7	1	20	20	70	50	20	22
1963	1 [*]	2 [*]	5	7	2	12	14	40	50	55	21	1
1964	6	6	6	9	0	2	24	36	24	36	15	7
1965	4	5	4	11	2	7	5	—	51	15	2	2
1966	5	6	4	5	2	7	24	43	36	25	8	7
1967	5	12	5	3	4	19	37	32	52	22	15	5
1968	4	6	9	6	2	2	16	35	35	31	25	2
1969	6	6	12	3	0	1	13	33	24	21	10	11
1970	8	6	12	7	0	12	—	23	—	35	15	25
1971	6	11	7	6	5	1	3	70	65	60	50	—
1972	9	9	6	13	0	7	31	29	32	51	6	24
1973	18	13	17	15	0	0	30	18	12	41	31	16
1974	11	2	16	26	17 ^{4th}	14	35	52	51	39	31	24
1975	14	5	9	17	2	—	17	37	—	34	28	20
1976	10	13	12	—	—	4	37	22	34	40	24	—
1977	10	—	13	—	10 ^{1st}	5	30	—	—	27	22	12
1978	9	6	14	2	3	52 ^{16th}	41	41	47	—	18	—

— = annual maximum

• = Very cold winter

Counts are actual numbers,
not estimates.

SPECIES

Greenshank

TABLE

XXXV

Preliminary visits

Monthly maxima.

J F M A M J J A S O N D

1958

0	0	0	0	0	0	0	0	0	0	1	0
0	0	1	0	0	0	2	0	1	1	0	0
0	0	0	0	0	0	1	8	10	12	1	0

1959

1960

Main survey

1961

1962

1963

1964

1965

1966

1967

1968

1969

1970

1971

1972

1973

1974

1975

1976

1977

1978

2	1	0	2	0	0	30	6	33	22	1	6
2	2	1	2	0	0	1	2	15	5	3	1
0	0	0	1	0	0	1	2	6	1	3	0
0	0	0	0	0	0	0	3	3	1	0	0
0	0	0	0	1	1	0	2	12	7	0	0
0	0	0	0	0	0	0	12	9	3	0	0
0	0	0	0	0	0	1	3	21	6	0	0
0	0	0	0	0	0	—	3	6	4	6	1
0	0	0	0	0	0	1	3	5	3	0	0
1	0	0	0	0	0	0	6	6	2	1	0
0	0	0	0	0	0	0	15	13	3	0	0
4	2	1	1	0	0	2	—	3	3	0	1
2	1	1	1	0	0	1	3	2	6	2	0
1	1	1	1	1	0	1	5	3	2	2	1
1	0	0	1	0	0	1	2	2	1	1	—
1	1	0	0	0	0	13	6	11	1	1	—
1	1	0	0	1	0	2	9	—	2	2	4
0	0	2	20	0	1	2	5	3	—	—	—

— = annual maximum

SPECIES KnotTABLE XXXVI

Preliminary visits All records given

J F M A M J J A S O N D

1958

	60										
1959											
1960						1	2				

Main survey

1961

		1	80° 60°								
1962	10	1	1					5	15° 7		
1963	10 30°	180° 40+	1	1, 2 17	2			1	30E, 4 20E	2	24° 1, 1
1964			20 20	20 20							40
1965	300°		70°	2							
1966	✓ 21		20+ 1					15	10 ✓		1
1967											1
1968			1								
1969				2				1			
1970				1					4	1	
1971				1	3			2			15
1972					2			3	1		
1973					7						
1974											
1975											
1976					11						
1977				1							
1978								5 10	34		

• = High tide roost

SPECIES

Ruff

TABLE

XXXVII

Preliminary visits

All records given

J F M A M J J A S O N D

1958

1959

1960

Main survey

1961

1962

1963

1964

1965

1966

1967

1968

1969

1970

1971

1972

1973

1974

1975

1976

1977

1978

							2		2		
		1									
			1				6	1			
		2	3				2			2	
							3	2	1		
								1			
								1			
			1								
		3									2
		2									
								1		1	
											1
							5	1			
	4	38									
	1										
				3			1	1			
			1								
	140/150	8									
	30+			1							
140						1	1				

Breeding numbers of Gulls and Terns.

Table XXXVIII

Herring G B-headed G Medit. G Common T Roseate T Little T Sandwich T

1957	0	1130	0	48	0	15	0
1958	0	961+	0	38	0	7+	0
1959	0	n.k	0	n.k	n.k	n.k	0
1960	0	n.k	0	n.k	n.k	n.k	0
1961	0	1200	0	n.k	n.k	n.k	0
1962	0	1200	0	50	0	3/4+	3
1963	0	3900	0	82	0	24	45
1964	0	4000+	0	113	0	20+	5
1965	0	6516	0	111	0	31	127
1966	1	6706	0	128	0	23	128
1967	2	9676	0	150	0	26	112
1968	1	10500	1/2	ca. 50	0	20+	167
1969	4	14000/ 16000	0	119+	1	34	179
1970	5	ca. 17000	0	130+	1	32	228
1971	18/23	17000/ 21000	0	160/200	0	25	242
1972	37/39	17000/ 20000	0	170	0	35	116
1973	ca. 40	17000/ 20000	0	225/250	0	47	225
1974	16	16500/ 19000	0	200+	1	43	170
1975	ca. 18	16000+	0	200+	1/2	51 76	213
1976	25+	ca. 15000	1	250+	0	51/61	ca. 100
1977	30+	15000/ 16000	0	200+		ca. 100	15
1978	30+	ca. 15000	0	ca. 230		82	0
1979			1				

n.k = not known

— = wardening began