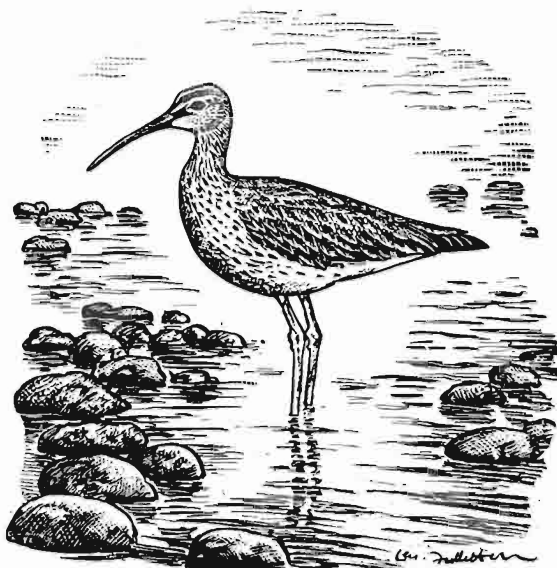


SCOTTISH BIRDS



The Journal of
The Scottish Ornithologists' Club

CHECK-LIST OF THE BIRDS OF TENTSMUIR

Vol. 2

Special Supplement

Summer 1962

FIVE SHILLINGS

THE SCOTTISH ORNITHOLOGISTS' CLUB

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The aims and objects of the Club are to (a) encourage and direct the study of Scottish Ornithology in all its branches; (b) co-ordinate the efforts of Scottish Ornithologists and encourage co-operation between field and indoor worker; (c) encourage ornithological research in Scotland in co-operation with other organisations; (d) hold meetings at centres to be arranged at which Lectures are given, films exhibited, and discussions held; and (e) publish or arrange for the publication of statistics and information with regard to Scottish ornithology.

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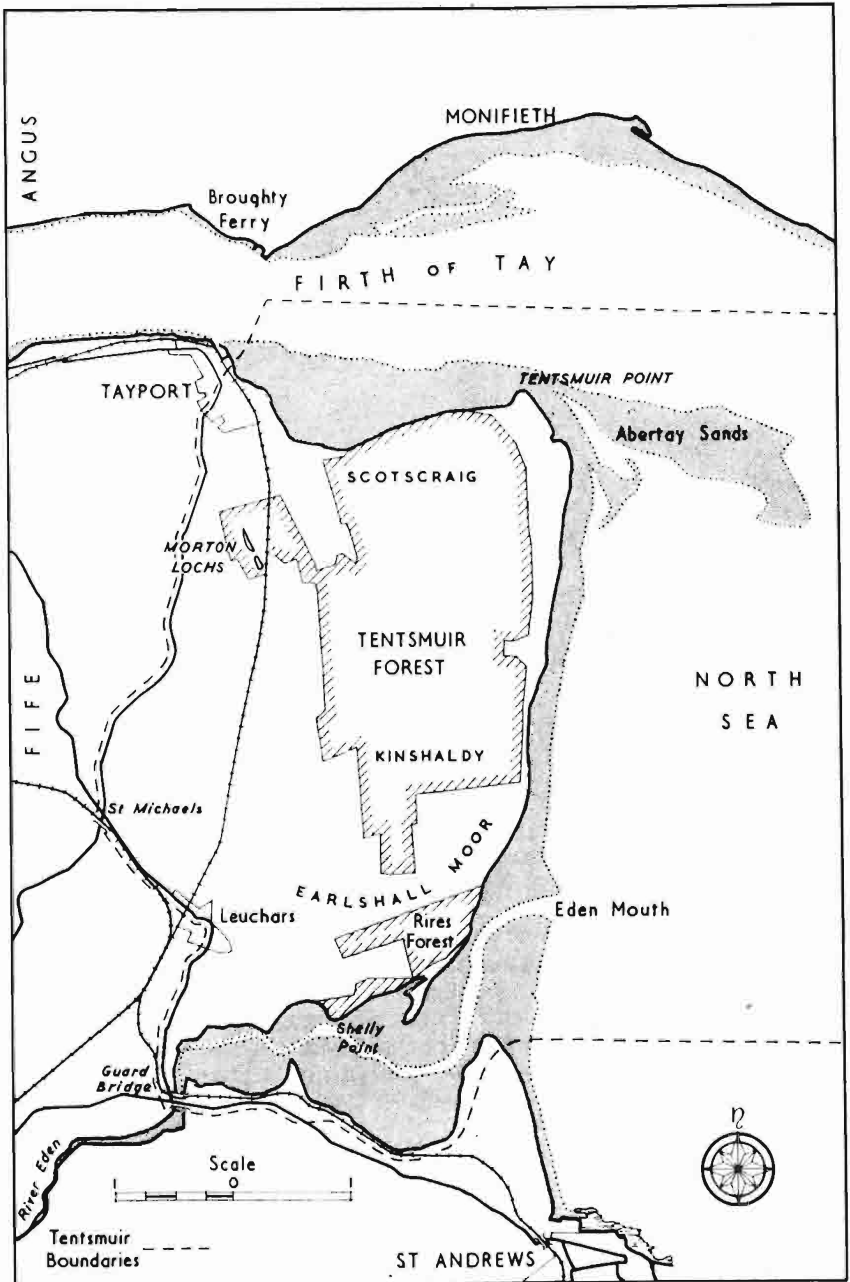
A CHECK-LIST OF THE BIRDS OF TENTSMUIR, FIFE

JACK GRIERSON

Acknowledgments

The main purpose of this account of the birds of Tentsmuir is to place on record a summary of my own notes, mostly made between 1949 and 1956, to which have been added records from other sources. During these years I had the assistance of many people in collecting information about Tentsmuir, especially in making the monthly wildfowl and wader counts. My wife accompanied me on most visits and, in addition to taking part in the counts, helped greatly in determining the nesting populations. Two other observers, Ian Munro and John R. Gordon, gave invaluable assistance by turning out in all weathers for the counts; James Blyth also helped by making simultaneous counts in Tayport Bay. I am indebted to Henry Boase, who allowed me to consult and make use of the information relating to Tentsmuir in his unpublished account of the birds of North Fife, and also to Dr John Berry for providing a list of birds seen there by his father, the late William Berry. Dr Berry also very kindly supplied most of the illustrations used. Robert Skinner, gamekeeper at Earls-hall, was a never-ending source of information, and without his friendly help my knowledge of Earls-hall and its birds would have been much the poorer. My thanks are also due to Dr W. J. Eggeling who not only read and suggested improvements to the original manuscript, but also supplied many records for the period 1957 to 1960. Publication of this paper has been made possible by a grant from the Baxter Trust.

No claim is made that the list is complete, for an account such as this must contain errors and misstatements, due to insufficient information or wrong assessment of the material available. If it provides a reasonably accurate guide for future workers on Tentsmuir, it will have accomplished its purpose.



MAP OF TENTSMUIR.

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1.—THE HABITAT.

Tentsmuir, which forms the north-east corner of Fife, has generally been looked upon as of some importance in the overall picture of birds in Scotland. It is situated at, or near, the junction of two main migration guiding lines, one of which follows the coast southwards, the other turning inland by the Firth of Tay and continuing overland to the upper reaches of the Firth of Forth, thence to the Firth of Clyde, the west coast and Ireland. Bounded to the north and south by the estuaries of the Tay and Eden respectively, the whole east shore faces the North Sea. The western boundary is formed by the road from Tayport to Guardbridge, by way of Leuchars, and in all the area extends to some ten square miles.

In its primitive state the area was a large tract of level, swampy ground, interspersed with sandy wastes and moorland, much of it sheltered from the sweep of the winds by a line of sandhills, which rose to a height of thirty to forty feet. About 1780 the first attempts were made to drain the moor, seemingly without much success, for it fell to subsequent owners of the land to render some of the western portion fit for cultivation. Further drainage schemes were carried out in later years, and in *The Status and Distribution of Wild Geese and Wild Duck in Scotland* (1939) John Berry refers to the great reduction in the number of Teal consequent upon the drainage scheme of 1876. Towards the end of last century the Morton Lochs were excavated for commercial fish-rearing, and these artificial lochs caused further changes in the western part. What had been arid, sandy moorland became fit for cultivation, and today most of the ground between the Tayport/Leuchars railway line and the road is being farmed. Since 1921 most of the remaining moorland has been systematically drained and planted by the Forestry Commission, and Tentsmuir reduced to a mere vestige of its former state. Lochans and marshes have disappeared from almost the whole area; large tracts of open moorland have been planted with trees,

and only Earlshall is left in a comparatively unspoiled state.

Tentsmuir may be regarded as divided into three, the northern or Scotsraig section, the middle or Kinshaldy section and the southern or Earlshall section. Originally, cover over the moor varied widely, ling and heather (*Calluna* and *Erica*) grew on the flats and was thick in places because burning had to be restricted to avoid wind-scour. The sandhills were thinly covered with grass and sedge, and most of the flats bore mainly coarse grass, with sedge and sorrel. The wet areas contained mainly bog plants. On some of the flats both birch and Scots pine were present.

For a considerable period up to 1914 the Scotsraig section was preserved as a bird sanctuary by various proprietors, especially the Berrys of Tayfield, but the years of the first World War saw the near extinction of its character as a sanctuary through the ruthless collection of eggs. In 1919 Scotsraig came into the possession of the City of Dundee and for a short time a watcher was appointed to safeguard the birds during the nesting season. In 1924 this section was sold to the Forestry Commission for tree planting. Before this, in 1921, the Commission had purchased the centre section at Kinshaldy, and almost immediately had started to plant trees. Thus ended some fifty years of active protection of a nesting population of birds of great interest and value. Here, at sea level, were congregated together at nesting time birds of the shore, the moorland, and of the hill-side.

As the ground came under the care of the Forestry Commission the moor was enclosed with wire-netting to keep out rabbits, and while these fences effectively protected the young trees they also prevented many broods of young Eider and Shelduck from reaching the sea. The forestry workers did what they could by passing over the fences any broods which they met, but large numbers of young birds were lost each year. As the trees encroached more and more on the moor the nesting birds withdrew from their traditional sites on Scotsraig, but many of them found new sites to the south on Earlshall. By 1936 numbers comparable with those on former sites had established themselves there, and were being protected by the owners of the ground. Terns continued to nest on the sands at Scotsraig but, being afforded no protection, lost most of their eggs each year until eventually they left that area for good.

At Earlshall the first major change came with the advent of the aeroplane, when a large part of the south-west portion of the moor was acquired by the Air Ministry and an airfield constructed. This was greatly enlarged during the Second World War, when the nesting ground was considerably curtailed. About 1930 bombing and machine-gun targets were established off the east shore and during the war these were

extended to included the whole shore and sea area. The second major alteration was the acquisition by the Forestry Commission of the southern third of the moor and the subsequent planting of what is now known as the Rires Forest. Both of these alterations had an undoubted effect on the nesting birds and, but for the foresight of the present owner, the Earlshall moor could have gone the way of the rest, and Tentsmuir as a worthwhile bird-haunt would have ceased to exist. The whole of the moorland at Earlshall became a private sanctuary, however, and a very great measure of protection was given to all, or nearly all, the nesting birds.

Today, the effective area at Earlshall extends to about a thousand acres, most of it moorland and marsh. The ground is very sandy, with sandhills and bunkers in the more northerly portion. There is a small deciduous wood of mainly birch and alder in mid-moor—it contains also a few large old Scots pine—and to the west of this lie two marshes, or lochans. Along the western edge of the wood lies the Canal Loch and this is divided by a long, narrow ridge from the remains of another lochan, known today as the Beddie Myre. Both of these wet areas are shallow and muddy, and apt to dry up in the less rainy summers. The ground to the west of these marshes is very sandy, covered in parts with heather and short grass, with here and there small reed beds and patches of sedge. To the east of the deciduous wood and midway between that and the sea, lies another small marsh, while dotted here and there over the whole extent of the ground are many small pools, usually dry in summer. The cover on the eastern half, as well as that of the ground between the deciduous wood and the Rires Forest, consists of coarse grass, with some sedge and heather, and reeds in the wet places. Drainage ditches cross the moor at several places but these are generally no more than two to three feet wide and perhaps four to six feet deep. Cattle were introduced to the moor about 1950 and have already undoubtedly much influenced the ground cover.

During the late war the shore-line was covered with lines of anti-tank blocks, and the flats of Tayport Bay, as well as the East Sands, were studded with poles set in concrete to prevent aircraft landing on the beaches. In this area there have been considerable changes in the levels of the shore and flats, particularly on the East Sands. The anti-tank blocks were originally built just above the high water level of spring tides but many are now buried under a series of new sandhills, some of which are now ten to twelve feet high. Marram grass has established itself on these new dunes, which are now well above the highest tide levels. The prevailing wind from the south-west seems to have little erosive action on the dunes, while the strong winds and gales which occasionally blow up from the east are gradually building them up with

fresh sand from the shore. At the extreme north and south ends of the east shore new spits of sand and shell are being formed and have increased greatly in size in recent years. In the north, Tentsmuir Point has been acquired as a National Nature Reserve where the building up process can be studied in detail; at the south the spit known as Shelly Point has, since 1950, become the main nesting ground of terns in the area. During the winter months it is the gathering place for huge flocks of waders and wildfowl at high tide. A bay has been formed between Shelly Point and the Rires Forest; this is uncovered between tides and is favoured as a feeding ground by many waders. It is also much used by wildfowl during the winter for it is little disturbed by shore-gunners. The east shore of Shelly Point lies along an inlet from the Eden Estuary, an inlet which has increased greatly in size in recent years. This is sheltered from all but northerly winds, the comparatively calm waters attracting many ducks and other water birds. Grey and common seals also haul out on the banks of this inlet. There is little sand on the banks of the Eden, the estuary bed being soft, slimy mud, with here and there small mussel beds.

Another part of Tentsmuir which is of importance embraces the Morton Lochs. These artificial lochs, which were made towards the end of last century, lie about a mile south of Tayport and the same distance inland from the sea. The two main lochs cover an area about half a mile long and on average seventy yards wide, and are separated by a roadway. Lying roughly north and south, the North Loch is the larger, being some five hundred yards long, and about twice the length of the South Loch. Both are quite shallow and apt to dry out somewhat in summer; they rapidly become ice-bound in winter. The ground to the west of the lochs is marshy and wet, with dry, bracken-covered hillocks where the earth from the excavations was dumped. Rough grass and sedge, along with other plants, formerly grew on these hillocks but, as so often happens, fought a losing battle with bracken. The fish-rearing experiment was initially very successful, large quantities of carp and other coarse fish being produced. Trout-fishing, however, became more lucrative but, since there was no spawning gravel, artificial stocking was essential. The fishing interest was given up in the late 1930's, when stocking ceased, and in 1939 the lochs dried out in summer for the first time. In spring and autumn, and often in winter, the exposed mud attracted many waders, including a few of the rarer species on the British list.

On 19th May 1952 the Morton Lochs were formally declared a National Nature Reserve, the first part of Tentsmuir to be so treated, and considerable alterations were made to the ground. The North and South Lochs were connected by a

series of deep ditches so that the water levels could be controlled by a single sluice. This has tended to raise the water level and it is now seldom that it drops sufficiently to expose the muddy bottom; as a consequence fewer waders now visit the area. One useful function of the lochs will be the study of the controlled raising and lowering of the water level on surrounding land, for this is a matter of economic importance to land near hydro-electric schemes and reservoirs.

The new ditches isolate as an island a few acres of rough ground between the North and West Lochs and it is hoped that nesting ducks will find sanctuary here from foxes and other predators. When the area was taken over by the Nature Conservancy, bracken was rampant and few signs of other vegetation were to be seen. Attempts have been made to clear the bracken and already new grass and other plants are firmly established. The burn supplying the lochs is spring-fed and shallow, and does not seem to have maintained any fish-life, except sticklebacks, with the result that the lochs were for a time almost devoid of fish, except eels, although a few roach have recently been reintroduced.

The Reserve is almost surrounded on three sides by Forestry Commission property, recently planted with trees. Tree planting on the Reserve has been confined to the provision of shelter, and as the trees grow they will provide a screen for the lochs, as well as concealed approach for the naturalist. Two permanent observation hides have been erected, one on either side of the North Loch.

When compared with the ten square miles which form Tentsmuir, the fifty-nine acres of the Morton Reserve may seem of little consequence. The lochs have, however, attracted many birds in past years, adding many new species to the Tentsmuir list, and are well worth preserving. The acquisition of the lochs gives rise to the hope that in the not too distant future the remaining unspoiled portions of Tentsmuir may also be brought under Conservancy control.

2.—IMPORTANT BREEDING SPECIES

Comparatively little has been published on the early history of the birds of Tentsmuir and even today the only comprehensive account is to be found in the manuscript *Birds of North Fife* by Henry Boase. Sibbald in his *History of Fife and Kinross* (1710) gives a list of sea-birds found along the Fife coast but makes no specific mention of Tentsmuir. In *A Fauna of the Tay Basin and Strathmore* (1906) Harvie-Brown gives some information on certain species but, generally speaking, this work is of little practical value to the present day observer on Tentsmuir. From various papers read to local societies it is possible to obtain some idea of the nesting birds, especially terns, during the latter half of the nineteenth and the early years of the present century, but it is regrettable that so little information is generally available on this once unique area. Most of the information given by Boase and others concerns only the northern, or Scotsraig, section and notes from the more southerly parts of the area are comparatively few. Up to the time of the afforestation, however, the main colonies of nesting birds were at Scotsraig, and the move to Earlsall took place from about 1930 onwards. The more important nesting birds were studied in some detail by local ornithologists, and from their observations and notes it is possible to build up a picture of these birds to 1926 or so.

It is not my purpose to deal in detail with all the species that have nested on Tentsmuir, but only the more interesting groups, and it is with these birds that the following remarks are chiefly concerned. Notes on nesting are given in the short statement on each bird in the check-list.

Terns.

As a nesting place of terns, Tentsmuir was, until 1924, one of the most important on the east coast, probably second only to the Farne Islands off Northumberland. The five species of the genus *Sterna* which nest regularly in this country have all at one time bred within the limits of the area, four of them annually and in some numbers. On more than one occasion all five species have nested in one year. Prior to 1924 the large colonies were all situated in the Scotsraig division, and though these enjoyed a measure of protection there was, in addition to natural hazards, an annual drain on them at the hands of egg-collectors. Even before the planting of trees put an end to them the colonies suffered many changes and vicissitudes; apart from man, the main adverse factors were probably drifting sand and flooding of the breeding sites by exceptionally high tides. After the colonies were finally broken up many of the birds found new ground to the south where, after a time, numbers comparable with those at Scotsraig

were found. They were not allowed to settle there for long, however, for during the last war the whole of Tentsmuir became a military camp and the terns were again driven from their nesting sites. Today, numbers are beginning to build again but a reasonable measure of protection will have to be given to the nesting sites if the terns are to return to something like their former strength.

That the **Common Tern** *Sterna hirundo* had nested on Tentsmuir for many years prior to 1900 is certain, but next to nothing is known of the size of the colonies. Considerable numbers of eggs were seen in 1910 but no estimate was made of the number of birds nesting. In the few years that followed there were fluctuations in the population but, according to Boase, these variations were almost directly in sympathy with the weather conditions during the first days of May when the birds were on their way north to their nesting grounds. During the First World War it is doubtful whether many young were reared, because of persistent egg-collecting, but in spite of this numbers were exceptionally high in 1920 when some twelve hundred pairs nested. In the following year numbers nearly doubled and the nesting area expanded greatly though from then onwards numbers showed a steady decline to below average. Nesting for the most part inland on the moor, this species responded noticeably to what protection was given it and this may account for the sudden increases after the war years. It also meant that this was the first species to suffer by afforestation, and when the ground was acquired by the Forestry Commission in 1924 the preliminary preparations for the planting of trees saw the beginning of the move away from Scotsraig. By 1927 large numbers were nesting on the east shore, and the move to Earlshall and the coastal strips was also well under way. Once again numbers began to rise and in 1930 about a thousand pairs were nesting on Earlshall Moor, increasing to two thousand by 1936. Numbers continued to grow in subsequent years and the large measure of protection given birds on Earlshall was perhaps the main factor in this increase. High figures were maintained in the first two years of the Second World War, but in 1942 artillery ranges were established on Earlshall and the terns were delivered an almost fatal blow. Nesting was well under way, most birds sitting on eggs, when practice shoots were begun over the nesting sites, forcing most birds to leave before their eggs hatched. In the years which followed a few pairs tried to nest but seldom managed to keep their eggs, which inevitably found their way into service kitchens. After the war small numbers of Common Terns returned to the coastal strips, and in 1950 about thirty pairs were nesting on Shelly Point. The next two years saw further small increases, a total of perhaps sixty pairs nesting in 1952. Two new colonies

were found in 1953, one of about fifty pairs near the old site on Earlsall, the other of about the same number in the new dunes on the east shore. In addition, over a hundred pairs nested on Shelly Point, giving a total of at least two hundred pairs in the whole area. Nesting conditions were good and a certain amount of protection was given to the birds at Shelly Point, with the result that a good crop of young birds was successfully reared. Numbers fell somewhat in 1954, and again in 1955, and probably no more than a hundred pairs nested in each year. This fall in numbers coincided with the formation of a new ternery at Buddon Ness in Angus; it also coincided with lack of protection. Visits to the east shore and Shelly Point in 1956, and again in 1959, showed that only about seventy pairs were nesting. The colony was afforded no protection and, in addition, there was considerable disturbance from low flying jet aircraft from the nearby airfield.

Unlike the previous species, the Arctic Tern *Sterna macrura* has only recently nested in any numbers in the area, the earlier records being of no more than fifty pairs. A colony is said to have been found on the east shore in 1885, but Harvie-Brown gives no indication of the numbers nesting. From then until 1914 the bird was doubtful as a breeding species and was looked upon as a passage migrant only. In 1914 a few nests were found on the east shore and from then onwards it seems to have nested annually in small numbers, always on the east or northern margins of the moor. The species suffered greatly at the hands of egg-collectors, also from sand-drift and flooding, so that the number of young reared annually was small. By 1924 the total number known to be nesting over the entire area was about fifty pairs, and this continued for the next few years at least. In 1936 about thirty pairs nested on the shore at Earlsall, but it is not certain whether breeding continued elsewhere. Nesting went on at Earlsall up to the war years, when the Arctic Tern suffered the same fate as the Common, few eggs escaping the searching troops. A few nests were found on Shelly Point in 1948, but it was not until the following year that numbers comparable with the pre-war years were recorded. From 1949 onwards numbers increased annually and the Arctic Tern became the most numerous nesting tern on Tentsmuir. Seventy to eighty pairs nested in 1950, about one hundred and fifty pairs in 1951, two hundred and fifty pairs in 1952, while in 1953 about three hundred and fifty pairs nested on Shelly Point alone. In addition, an attenuated colony of one hundred and fifty pairs was found on the east shore, bringing the total for the whole area to, about five hundred pairs. From 1950 to 1953 the colony on Shelly Point was given a fair amount of protection and this may be partly responsible for the remarkable build-up in numbers during these years. Unfavourable weather condi-

tions took a heavy toll of young birds in 1950, but in succeeding years there was a good annual hatch and a large percentage of young was successfully reared. For various reasons the author and his wife found it impossible to continue protecting this colony, and visits made at odd periods during the years 1954/59 showed a considerable annual decrease in numbers. In 1959 not more than one hundred and fifty pairs were nesting and, as with the Common Tern, were having to put up with disturbance from low-flying aircraft. Members of the public had also found their way to the area and were using the sands as bathing beaches, and in some cases the terns' eggs as food supplies.

Numbers of the **Little Tern** *Sterna albifrons* nesting on Tentsmuir have never been as large as the others and, as with the larger species, it has suffered many ups and downs in the past. Harvie-Brown states that it nested in increasing numbers in the twenty years prior to 1905, when over thirty pairs bred. From then until 1947 the information available is mainly for the northern portion, and little is known of what was happening at Shelly Point or Earls hall until 1936 at the earliest. Some pairs nested at Tentsmuir Point, and on the east shore, the highest count being of sixteen pairs in 1924. From then onwards the population fell to a few pairs in these areas. In 1953 no Little Terns were nesting along the length of the east shore to near Earls hall, neither were any found at Tentsmuir Point, although in 1958 between twenty and thirty pairs returned to nest at the latter site. On the shore at Earls hall, and on Shelly Point, nesting has been known since 1936, though no note of numbers can be traced. The species nested in small numbers until the war years but the position during the war is somewhat obscure and it is doubtful whether any succeeded in nesting. In 1948 a few pairs were nesting on Shelly Point; numbers increased in each succeeding year until 1953 when about seventy pairs nested. The small size and protective colouration of the young Little Tern make detection difficult, and except for 1953 it is hard to say how many reached the flying stage. In 1953 careful watching and searching showed that a large percentage of eggs was hatched and many young safely fledged. Numbers fell to about forty pairs in 1954 and to thirty-five pairs in 1955. In 1959 only twenty nests were found on Shelly Point.

The history of the **Sandwich Tern** *Sterna sandvicensis* is not as happy as that of the other species, for this fine bird seldom nests now in any numbers on Tentsmuir. It is a comparative newcomer to the scene, at least in so far as the present century is concerned, for it was looked upon as a casual visitor until 1905. In 1906 a colony of one hundred and thirty pairs was found at Scotsraig and this would seem to be the first record of nesting. This colony dwindled rapidly and in 1912

only one nest with eggs was found. No eggs were found in the next two years but in 1915 some three hundred and fifty pairs nested, with about three hundred pairs in 1916, but then egg-collecting started and the birds were driven from the moor. Apart from a single abandoned egg in 1921, it was 1922 before any more nests were found, but all the eggs were stolen, and the birds finally departed. In 1923, although the first eggs were stolen, about four hundred pairs eventually nested on an easily watched area. These nests were carefully protected and many young successfully reared. This was to be the last nesting known on Scotsraig Moor, the preparation and subsequent afforestation of the ground driving the birds away. In 1927 a new colony of about five hundred pairs was found on the east shore, but only eight pairs returned to nest the following year, and from then until 1933 none nested anywhere on Tentsmuir. In 1933 a colony of about a thousand pairs was found on Earlshall and from then onwards the birds returned each year in varying numbers, the average being three to four hundred pairs. This healthy state continued until 1942 when gunfire from the artillery ranges on Earlshall forced the birds to leave before their eggs hatched. In 1945 fair numbers were laying but the eggs were taken by R.A.F. personnel stationed nearby, and once again the birds left. A few pairs attempted to breed in 1946 but without success, and this was the last real attempt until 1951 when twenty-two pairs tried to nest on Shelly Point. The eggs were stolen within a week of being laid, only one nest surviving and only one young bird being reared. Since, other nesting attempts have been made; in 1953 three pairs laid on Shelly Point, with a further six pairs near the old site on Earlshall. The eggs on Shelly Point were eaten by gulls, but the birds on the moor were quite successful. Single nests were found in 1954 and 1955, while in 1956 forty-eight pairs nested on Shelly Point with moderate success. The fluctuations in numbers and erratic nesting of this tern are not confined to Tentsmuir but seem to be characteristic. The treatment meted out to it did not encourage it to nest regularly, however, although when it was afforded a high measure of protection it continued to breed year after year at Earlshall with what was probably a natural fluctuation in numbers. Sandwich Terns are usually present at Shelly Point and along the east shore in summer; given a chance, there is no reason why they should not nest regularly.

The *Roseate Tern* *Sterna dougallii* has nested only a few times and can only be looked upon as a casual breeder on Tentsmuir. Pairs have been seen on several occasions, both at Shelly Point and over the moors, but only twice have nests been found, one in 1927 and one on Earlshall in 1936. A report that twenty pairs were nesting on Shelly Point in 1956 is quite

unacceptable. At least four Roseate Terns were seen in flight over the ternery but no nests were actually found. Nests which were marked and reported as those of Roseate Terns were in fact Sandwich Tern nests, and this was confirmed by several competent observers.

Ducks.

Although eight different species nest or have nested on Tentsmuir, most of these are common enough elsewhere and are dealt with in the detailed statements. Two species, however, deserve special mention, the Eider *Somateria mollissima* and the Shelduck *Tadorna tadorna*, for these have been affected more than the others by the changing conditions on the moor and, like the terns, have suffered greatly from the afforestation. They were forced to seek new nesting sites on Earlshall Moor where for many years their numbers were very much smaller than those at Scotsraig.

It is not known when the Eider first nested on Tentsmuir but a hundred years ago it was said to be commonly doing so and in fair numbers. Towards the end of the last century numbers were reported to be small and remained so for some years. Little is known about the true state of affairs up to about 1919, when it was estimated that twenty-five pairs were nesting on Scotsraig, with others at Kinshaldy and Earlshall. From 1914 onwards they showed a marked increase and by 1910 fifty pairs were breeding on Scotsraig, increasing to about eighty pairs by 1924. Additional pairs were certainly nesting on the other sections, but no estimate can be found of numbers or of whether these were comparable with Scotsraig. The afforestation at Scotsraig saw the end of the Eider on that ground, though a few pairs clung to the old site and tried to bring off their broods. These were invariably lost because of the ducklings' inability to get through the rabbit-proof fences which had been erected around the newly planted ground. By the mid 1930's the numbers of Eider nesting at Earlshall were comparable with those of the last years at Scotsraig, and the birds were enjoying a large measure of protection. This continued until the 1939/45 War, during which the Eider was almost lost as a nesting species. Foreign troops stationed on the moor trapped and shot Eider, as well as other ducks, and took all available eggs. When they discovered the confiding nature of the sitting duck many dispensed with guns and resorted to clubbing it on the nest. In addition to this wholesale destruction of nesting birds, Eider were systematically shot at all seasons for sale, a practice which continued for a few years after the war, with serious results. The breeding stock at Earlshall was decimated, very few pairs nesting up to 1949, and at that time the position was critical. Foxes and stoats took toll of the few pairs that did

nest, and any Eider fortunate enough to hatch her eggs almost invariably lost her ducklings to marauding gulls and Crows. From 1945 onwards the gamekeeper at Earls hall waged his own private war, taking a heavy toll of Crows and foxes, and in 1950 reported an increase in the number of sitting Eiders. Further increases were noted during the next two years, and in 1953 at least fifty pairs were known to be nesting on Earls hall Moor alone. In addition a few pairs were breeding on the coast at Shelly Point and Tentsmuir Point. Numbers were maintained, if not slightly increased, in 1954 and 1955, and once more large "rafts" of Eider ducklings were commonplace on the Eden. Most, if not all, of the credit for the rehabilitation of the Eider on Tentsmuir must be given to Robert Skinner. With his job as gamekeeper he combined a genuine love for birds and he went out of his way to ensure that Eiders, as well as other nesting birds, suffered the minimum amount of disturbance.

The **Shelduck** was at one time very numerous as a breeding bird on Scots craig, while smaller numbers were said to nest at both Kinshaldy and Earls hall. On Scots craig it suffered heavily each year at the hands of poachers, but this seems to have made little difference to the numbers nesting. The Shelduck lost its main nesting ground when the new forests were planted, but it did not make the change to Earls hall as readily as did the Eider. Numbers were never very large in the pre-war years, but those which nested were well protected and a good annual hatch seems to have been maintained. During the 1939/45 War the Shelduck suffered the fate of the Eider, and numbers dwindled until only a few pairs were breeding. Many returned to Earls hall when the troops had gone, but foxes, which had increased greatly, played havoc with the birds in their nesting burrows. By 1950, however, practically all the foxes had been shot, or otherwise disposed of, and the Shelduck once more returned to nest in fair numbers. By 1953 the breeding population at Earls hall was in a healthy state, and a census in 1954 showed that between one hundred and fifty and two hundred pairs were nesting. Several pairs were also nesting at Tentsmuir Point and Shelly Point. In August of that year over three hundred and twenty juvenile Shelduck were counted on the inner estuary near Guardbridge, while others were present elsewhere on the coast.

Other Species.

Another nesting bird of importance is the **Black-headed Gull** *Larus ridibundus* for although this did not nest on Tentsmuir before about 1902 it is today the most numerous breeding bird in the area. The actual year in which the species first bred on the moor is doubtful, but it had done so by 1904, and by 1912 fifty pairs or so were breeding. There was a steady annual increase in subsequent years, and by 1921 about a

thousand pairs were nesting. In 1922 numbers fell to about three hundred pairs, and by 1925, after two years of heavy raiding, to about one hundred pairs. These birds all nested at Scotsraig but after 1925 most of the breeding stock moved to Kinshaldy and Earlshall where they were not so easily molested. The final nesting at Scotsraig was about 1930. Numbers at Kinshaldy were generally less than five hundred pairs and the main build-up began to take place at Earlshall from 1930 onwards. As the forests expanded, so were the gulls forced to move further south and by the mid 1930's the only colony was on Earlshall. Nearly four thousand pairs nested there in 1936, but two years later only half that number bred, and there was a further decrease during the war. The main colony was then situated in a marsh in the eastern half of Earlshall near Big End House, but in 1946 the majority of the birds moved to and started to colonise the Beddie Myre, where the main gullery is today. The numbers present then would be about a thousand pairs, but a steady annual increase has been taking place, the population in 1953 being estimated at about three thousand pairs. These numbers were maintained throughout 1954 and 1955. Since 1953 the Canal Loch has supported a steadily increasing number of birds, and small numbers (less than two hundred pairs) have also returned to the old site near Big End. In 1953, and again in 1954, twenty pairs nested amongst the Common Terns in the sand dunes on the east shore, while in 1955 a few pairs had taken to nesting on Shelly Point. The percentage of young reared each year is high, because the colony is protected and there is no organised egg-collecting. There is plenty of evidence to show that this gull is an undesirable neighbour to nesting Eiders and terns, and eventually some thought will have to be given to the question of control. Common Terns which nested amongst the gulls in the Beddie Myre in 1950 and 1951 were unmolested, but others which were nesting on Shelly Point were not so fortunate and lost many eggs and young. In 1953 the writer was just too late to prevent a few Black-headed Gulls from taking the eggs of Sandwich Terns which had been laid on Shelly Point. They have also been seen to take nesting terns on a number of occasions.

Of the few species which have been lost as breeding birds, the greatest loss is perhaps the *Dunlin Calidris alpina* which at one time bred in some numbers but gradually dwindled until the last nest was recorded in 1937. Tentsmuir was one of the few remaining mainland nesting places of this species at sea-level, and this made the loss all the more felt. Prior to 1880 the Dunlin was said to have nested in large colonies but by that date numbers were on the decline. Little is known about its status in the early part of this century, but in the few years prior to afforestation six pairs were known to nest

annually at Scotsraig, with a further twenty or more pairs at Earlshall. The decline in numbers coincided with the draining of the moor and was helped by egg-collectors, and by 1930 no more than five pairs were left on Earlshall. One by one these pairs disappeared until, in 1937, the last known clutch of Dunlin eggs on Tentsmuir was taken by an egg-collector. Though Dunlin in summer plumage are seen on the shore every summer the species has not attempted to nest again and it is doubtful if it will ever do so. Ground conditions have been radically altered and are probably no longer suitable for nesting.

The history of breeding birds on Tentsmuir makes depressing reading, and although those at Earlshall are still adequately protected there is no guarantee that this will always be the case. The demands of modern aircraft for longer and longer runways may mean further encroachment on the moor, but what is perhaps more serious is the increasing amount of disturbance from aircraft taking off and landing. Helicopters, too, cause their own peculiar disturbance, which amongst the wintering ducks and waders is akin to panic. The east shore has, moreover, been "discovered" by the public as a safe bathing beach and inevitably this will have its effect on terns and other shore-nesters. Proposals for motor-cycle races on the sands have also been made but fortunately these have so far come to nothing. It is to be hoped that steps will be taken to ensure the continuance of Earlshall Moor as a bird sanctuary, and the Eden Estuary as a wildfowl refuge, before it is too late.

3.—CHECK-LIST OF TENTSMUIR BIRDS

In all, one hundred and ninety-two species can be admitted to the list of birds recorded on Tentsmuir. A further seven not included in this total, are worth mentioning as they have been recorded from very near the boundaries; they have been placed on the list but within round brackets. Doubtful records have been placed within square brackets. The moor's boundaries, for the purpose of this list, are: on the north, the shore-line from Tayport to Tentsmuir Point, and the southern half of the Tay Estuary; on the east, the shore from Tentsmuir Point to Edenmouth, including the Abertay Sands as well as the immediate coastal waters; on the south, the south bank of the Eden Estuary from Guardbridge to the South Horn, and the waters of the whole estuary; on the west, the Tayport/Guardbridge road by way of St Michael's and Leuchars. Altogether the area covers some ten square miles.

The main objective in producing this check-list has been to give an account of the birds of Tentsmuir as they are today. The statements made are based mainly on my own observations, made on over three hundred visits to Tentsmuir during the years 1949 to 1956, and further occasional visits between 1957 and 1960. Records of species not reported during this period have mostly been obtained from Boase's work, or from a list compiled by the late William Berry. Additional records since 1956 come mainly from the Nature Conservancy.

The birds included in the list may be classified as follows:

Residents	...	...	69
Summer Visitors	...	...	20
Winter Visitors	...	...	24
Passage Migrants	...	...	31
Casual Visitors	...	...	48
			<hr/>
Total	...	...	192
			<hr/>

It must be borne in mind that these classifications are somewhat arbitrary, for in many cases species occur as both summer or winter visitors and passage migrants, sometimes all three. Also, the term "resident" is rather ambiguous, as not many birds are resident in the true sense of the word—i.e. the same individual present the year round. Many so-called residents occur as summer and winter visitors, as well as on passage, and where possible I have tried to show this in the statement on each species. The casual visitors, which form over a quarter of the total, can be further sub-divided into three groups; those which have been recorded only once (15), those which have been recorded twice (9), and those which have been seen on three or more occasions (24).

Breeding birds fall into more easily defined categories, and the eighty-four species and subspecies which nest or have nested within the limits of Tentsmuir are listed below. Three other species for which no definite records exist are worth mentioning. The Pintail and the Long-tailed Tit have been suspected of nesting although so far no nests have been found, and there is an unsatisfactory breeding record for the Siskin. Of the nine species which have been lost as regularly breeding birds, it is doubtful whether many will ever again nest on Tentsmuir. The Whinchat is perhaps the most likely of them to return.

Breeding regularly — 65

Little Grebe	Common Tern	Wren
Heron	Arctic Tern	Mistle Thrush
Mallard	Little Tern	Song Thrush
Teal	Sandwich Tern	Blackbird
Shoveler	Stock Dove	Wheatear
Tufted Duck	Woodpigeon	Robin
Eider	Cuckoo	Sedge Warbler
Shelduck	Tawny Owl	Whitethroat
Mute Swan	Long-eared Owl	Willow Warbler
Sparrowhawk	Swift	Goldcrest
Kestrel	Skylark	Hedge Sparrow
Partridge	Swallow	Meadow Pipit
Pheasant	House Martin	Pied Wagtail
Moorhen	Sand Martin	Starling
Coot	Carrion Crow	Greenfinch
Lapwing	Rook	Linnet
Ringed Plover	Jackdaw	Chaffinch
Snipe	Jay	Yellowhammer
Woodcock	Great Tit	Corn Bunting
Curlew	Blue Tit	Reed Bunting
Redshank	Coal Tit	House Sparrow
Black-headed Gull	Treecreeper	

Breeding at times — 3

Short-eared Owl	Spotted Flycatcher	Stonechat
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Bred on one or two occasions — 7

Gadwall (1)	Grey Lag Goose (2)	Roseate Tern (2)
Wigeon (1)	Herring Gull (1)	Twite (1 or 2)
Common Scoter (2)		

Previously bred regularly; no longer do so — 9

Red Grouse	Golden Plover	Magpie
Black Grouse	Dunlin	Whinchat
Corncrake	Hooded Crow	Tree Sparrow

CHECK-LIST

Arrangement and scientific nomenclature follow the B.O.U. *Check-List of the Birds of Great Britain and Ireland* (1952), as amended by the Recommendations of the Taxonomic Sub-Committee in 1956 (*Ibis* 98: 157-68), and the 1957 decisions of The International Commission on Zoological Nomenclature (*Ibis* 99: 369). This check-list covers observations to the end of 1960, with a few later notes added.

1. BLACK-THROATED DIVER *Gavia arctica*. Mainly winter visitor, single birds being usual. All recent records are for December to February. Two records for Morton Lochs, single birds in January 1909 and on 28th/31st December 1954.
2. GREAT NORTHERN DIVER *Gavia immer*. Mainly on passage, but a few winter records. Largest counts three (8th March 1951, 23rd January 1952, 7th February 1953). No records for Morton Lochs.
- (WHITE-BILLED DIVER *Gavia adamsii*). One was present on the Tay Estuary for some weeks during February and March 1954 (*E.B.B.* 4: 49).
3. RED-THROATED DIVER *Gavia stellata*. The commonest diver, seen regularly from September to April, sometimes in large numbers, e.g. c. 70 off Edenmouth on 23rd January 1952. Several records for Morton Lochs, most recently a single bird on 19th December 1954.
4. GREAT CRESTED GREBE *Podiceps cristatus*. Mainly on passage, but also occasionally in winter. Largest counts, five at Tayport on 22nd February 1919, and four off Edenmouth on 23rd January 1952. No records for Morton Lochs.
5. RED-NECKED GREBE *Podiceps griseigena*. Casual. Single birds on the Eden in January and September 1906, and 26th November 1949, and at Morton Lochs in November 1928, are the only records.
6. SLAVONIAN GREBE *Podiceps auritus*. Winter visitor to Eden and off east shore; birds in breeding plumage have also been seen in April. Highest counts are of six on 5th December 1954 and 3rd April 1955. Recorded on Morton Lochs on three occasions, the most recent being 1st March 1937.
7. BLACK-NECKED GREBE *Podiceps nigricollis*. Casual with only three definite records, single birds at Tayport on 2nd October 1920, on Earlshall in the summer of 1933, and on the Eden on 25th February 1953. Said to have been seen on Morton Lochs on several occasions, but no dates are given by William Berry.
8. LITTLE GREBE *Podiceps ruficollis*. Breeds regularly at Mor-

- ton Lochs, three to four pairs being usual. Always present there from March to October. There are only two records for Tentsmuir outwith this period, single birds on the Eden on 10th February 1952, and at Morton Lochs on 5th December 1954.
- (STORM PETREL *Hydrobates pelagicus*. One seen in Tay Estuary on 16th October 1946).
 - 9. MANX SHEARWATER *Procellaria p. puffinus*. Autumn passage migrant, usually seen off Tentsmuir Point or east shore. Several records for July and August, largest count being seven on 5th August 1923.
 - 10. FULMAR *Fulmarus glacialis*. Not common, most records being of corpses. Has nested at St Andrews since 1946 and is seen near Edenmouth on occasions in summer. One report only for Tayport—a single bird at the harbour on 23rd August 1952.
 - 11. GANNET *Sula bassana*. Summer visitor off the coast and has been noted as far up-river as Tayport, three being seen near the harbour on 23rd August 1952. Earliest and latest records are 15th March and 24th October.
 - 12. CORMORANT *Phalacrocorax carbo*. Common around the shores and in both estuaries the year round, with largest numbers in winter. Particularly numerous near Edenmouth and Tentsmuir Point, counts showing c. 200 and c. 150 respectively on many occasions. Does not nest on Tentsmuir.
 - 13. SHAG *Phalacrocorax aristotelis*. Not common at Tentsmuir. Records for all months, mostly for single birds.
 - 14. HERON *Ardea cinerea*. Until 1947 a small heronry existed at Earlsall, up to six pairs nesting annually. Severe weather in early 1947 put an end to this colony. In 1945 four nests were found at Kinshaldy, since when three to five pairs have nested annually. Numbers increase greatly in autumn, e.g. flock of 44 at Earlsall on 6th September 1952, and one of 36 on Eden on 21st August 1955. Winter numbers seldom more than ten. Seen at Morton Lochs at all seasons.
 - 15. BITTERN *Botaurus stellaris*. Rare casual. W. Berry records that one was shot at Morton Lochs on 6th April 1917, the skin being sent to the Royal Scottish Museum, and another obtained at Tayport on 2nd December 1925. These are the only records.
 - 16. MALLARD *Anas platyrhynchos*. Nests at Morton Lochs and Earlsall. Also occurs on passage and in winter. On the Eden numbers reach a peak in November, and again in February, up to c. 2000 being counted. Mid-winter numbers seldom rise above c. 1000 (see Wildfowl Counts). At Tayport, c. 500 has been the top count. Up to c. 500

have also been seen on Morton Lochs in spring. On Earlshall several hundreds have been flushed from the marshes from November to March.

17. TEAL *Anas c. crecca*. Nests annually at Earlshall (c.15 pairs), with a few pairs at Morton Lochs. Also on passage and in winter, and from autumn to spring is present on the Eden in good numbers. From 400 to 600 is usual, but 1450 were counted on 20th February 1955 (see Wildfowl Counts). Also found in winter on Earlshall where up to 300 have been flushed from the marshes. Numbers generally small at Tayport (usually c. 40), while at Morton Lochs up to 150 are common in winter (300/400 on 14th November 1960).
18. GARGANEY *Anas querquedula*. Occasionally in spring and autumn, mostly at Morton Lochs. Highest count there is six on 13th August 1947. In April and May 1952, and again in 1959, a pair spent several weeks at Morton. The only record for the Eden is of a male at Shelly Point on 25th May 1952.
19. GADWALL *Anas strepera*. Has nested on at least one occasion at Morton Lochs (1918), but is known chiefly as passage migrant and occasional winter visitor. A pair was present at Morton Lochs in April 1959, and a female was seen in July 1960. Highest count is twenty-five, at Morton Lochs on 29th January 1909, though such numbers are unusual. Generally, only one or two are seen from August to October, and occasionally from November to February. Has been recorded on both estuaries.
20. WIGEON *Anas penelope*. Nested for the first time at Morton Lochs in 1953, one pair producing young. One pair was present in summer of 1954 but nesting was not confirmed. Mainly on passage and in winter, largest numbers being found on the Eden (see Wildfowl Counts). Small numbers (300 or less) are seen at Tayport, while up to 200 are common at Morton Lochs from October to March.
21. BALDPATE *Anas americana*. Rare casual. An adult drake was seen on the Eden on 24th November 1919 (1920 S.N. 13), and Dr John Berry saw a drake at Morton Lochs on 12th and 13th October 1956.
22. PINTAIL *Anas acuta*. Regular on passage and in winter, mainly to the Eden where 100 to 150 is usual number (see Wildfowl Counts). A few records for Morton Lochs, the most recent being of three on 12th October 1955 and a fair number on 8th December 1957. Only six records for Tayport in recent years. Seen occasionally at Earlshall in summer, but nesting never proved.

23. SHOVELER *Spatula clypeata*. Nests annually at Earlsall (c. 6 pairs) and Morton Lochs (2 to 3 pairs). Also occurs on passage and in winter, and up to 300 have been counted on the Eden (see Wildfowl Counts). Not very common in Tayport Bay, but invariably present at all seasons on Morton Lochs where the highest count has been 75 on 1st October 1955.
24. RED-CRESTED POCHARD *Netta rufina*. One record—a male bird which spent most of the winter of 1956/57 at Morton Lochs (see *British Birds* 52: 44).
25. SCAUP *Aythya marila*. Regular on passage and in winter on the Eden; occasional at Tayport. Highest Eden count is 77 on 23rd March 1955, but 40/60 normal. Recorded only twice in recent years at Morton Lochs—a female on 20th February 1954, and a drake on 8th December 1957. One unsatisfactory nesting record—a clutch of eggs said to have been taken in 1880—mentioned by J. Berry. Not included in list of nesting birds.
26. TUFTED DUCK *Aythya fuligula*. Nests at Morton Lochs, four pairs breeding in 1954 and 1955. More numerous in winter at Morton (highest count 34) but is decidedly rare on both estuaries. A flock of twenty spent a month on the Eden during severe weather in February 1952, and a few were found there and at Tayport under similar conditions in February 1954. The only other Eden record is a drake on 23rd January 1955.
27. POCHARD *Aythya ferina*. No records between 1949 and 1951. Since then has occurred regularly in small numbers at Morton Lochs. Most records are for February to April, but one pair was seen on 29th May 1953, and fifteen birds on 28th November 1958. Only one recent record for the Eden, ten on 16th February 1952, and two for the Tay, five at Tentsmuir Point on 18th October 1953, with six at Tayport on 5th December 1953.
28. GOLDENEYE *Bucephala clangula*. Mainly winter visitor, though some may occur on passage. Largest numbers are found on the Eden where c. 100 commonly in winter (200 in January 1951). Only small numbers at Tayport, but elsewhere in Tay area it is more numerous. Occasionally at Morton Lochs in autumn and winter, highest count being eight on 21st November 1954.
29. LONG-TAILED DUCK *Clangula hucemalis*. Winter visitor in small numbers. Most recent Eden records are of single birds, the highest count being eight on 4th March 1951. Now comparatively scarce in Tayport Bay where only five records between 1949 and 1955, with a top count of 40 drakes on 25th January 1953. The vast flocks of up to 2,000 or more birds seen at Tentsmuir Point and men-

tioned by John Berry (1939) no longer occur. Has been recorded at Morton Lochs.

30. VELVET SCOTER *Melanitta fusca*. Winter visitor, sometimes in large numbers, generally seen off the east shore where "rafts" have totalled over 500. Not so common in the estuaries. A pair was present on a small pond at Earlshall Moor in late May 1955. One record for Morton Lochs—a bird shot there on 26th October 1940.
31. SURF SCOTER *Melanitta perspicillata*. Rare casual, last recorded in the Eden estuary on 30th May 1955 (1955 S.N. 110), and off Edenmouth—not St Andrews Bay (E. Crapper, pers. comm.)—in early January 1928 (*The Birds of Scotland*).
32. COMMON SCOTER *Melanitta nigra*. Has nested at least once at Morton Lochs—a female in flightless moult and two juveniles found dead within the wire-netting fences of one of the plantations in 1947. In August of that year a pair of adults was seen on the lochs with two juvenile ducks which were not identified. In winter huge flocks, totalling over 2,000 birds at times, lie off the east shore, and the species is commonly seen in both estuaries in small numbers. Has also been recorded at Morton in winter.
33. EIDER *Somateria mollissima*. Fifty to sixty pairs nest annually on Earlshall Moor, with other pairs on the coastal strips and at Shelly Point (see "Important Breeding Species"). Outwith the breeding season is found on both estuaries and on the sea in good numbers. Occasionally immense flocks are found on the Tay near Tentsmuir Point, e.g. c. 5000 on 6th October 1951, c. 10,000 on 16th February 1952. On 8th February 1953 a flock which stretched from Lucky Scalp to well beyond Tentsmuir Point defied counting. In places this line was nearly fifty birds deep and as it stretched for a mile and a half, upwards of 20,000 birds must have been present. Numbers on the Eden seldom exceed one hundred in winter. Has occurred at Morton Lochs, but not for many years.
34. KING EIDER *Somateria spectabilis*. Winter casual. Five were seen at Tentsmuir Point on 29th December 1927 (1928 S.N. 108), and in the period 1925/1935 John Berry (1939) recorded the species on five occasions off Aber-tay Sands.
35. RED-BREADED MERGANSER *Mergus serrator*. Records for all months, but does not nest on Tentsmuir. Numbers are very small in summer, increasing during autumn passage (e.g. 150 at Tentsmuir Point on 28th September 1952), falling again in winter, when it is found on both

- estuaries. Mergansers occasionally visited Morton Lochs when these were stocked with fish, but the only record in recent years is of four on 28th November 1958.
36. GOOSANDER *Mergus merganser*. Casual, with few records in recent years, although it is regularly seen on the Tay west of Newport. The only Eden report is of twenty in October 1951. Has also visited Morton Lochs on occasions and seven were seen on 1st September 1926.
 37. SMEW *Mergus albellus*. Rare casual, not recorded since March 1928 when a female was seen on the Eden. No records from Morton Lochs.
 38. SHELDUCK *Tadorna tadorna*. Nests on Earlshall Moor and coastal strips, and also at Morton Lochs (see "Important Breeding Species"). Most adults leave the area during July and August, only a few remaining with juveniles of the year. Wintering population arrives from the beginning of October, and from then until March or April large numbers are present on the Eden (see Wildfowl Counts). Usually less than fifty at Tayport in winter and seldom at Morton then.
 - [RUDDY SHELDUCK *Casarca ferruginea*. One of a pair was shot by W. Berry at Morton Lochs on 18th December 1934. These may have escaped from breeding pens at Lindores Loch.]
 39. GREY LAG GOOSE *Anser anser*. Has nested at Morton Lochs on two occasions (1922 and 1931) but each time failed to raise a brood. Now occurs on passage and in winter in small to moderate numbers. Less than fifty have been usual, but 200/500 present in recent winters, and on 2nd November 1952 a flock of c. 1500 was on the Eden.
 40. WHITE-FRONTED GOOSE *Anser albifrons*. Has not been recorded for many years. Occurred mainly on passage in small numbers, occasionally in winter.
 41. BEAN/PINK-FOOTED GOOSE *Anser arvensis*.
 - (a) BEAN GOOSE *A. a. arvensis*. Occurs on passage and in winter in small numbers. Some present with other grey geese near Morton Lochs on 19th October 1952 and 21st February 1954. Last recorded occurrence was in 1956.
 - (b) PINK-FOOTED GOOSE *A. a. brachyrhynchus*. The common grey goose of Tentsmuir, flocks often totalling several thousand birds. Occurs on passage, and in winter, largest flocks being seen in autumn. Each winter a large flock frequents the fields near Morton Lochs and these, together with geese from other parts of Fife, flight to the Eden at dusk. Geese from north of the Tay flight into the area at dusk, mostly to the Abertay Sands. At Morton the flock is usually c. 1000 strong, but



PLATE 7. MORTON LOCHS. Aerial view from the south.

University of Cambridge: photogr. 2.



PLATE 8. EARLESHALL MOOR, deciduous wood.

Photograph by J. Berry.



PLATE 9. EARLSHALL MOOR, Black-headed Gull colony.

Photograph by J. Grierson.

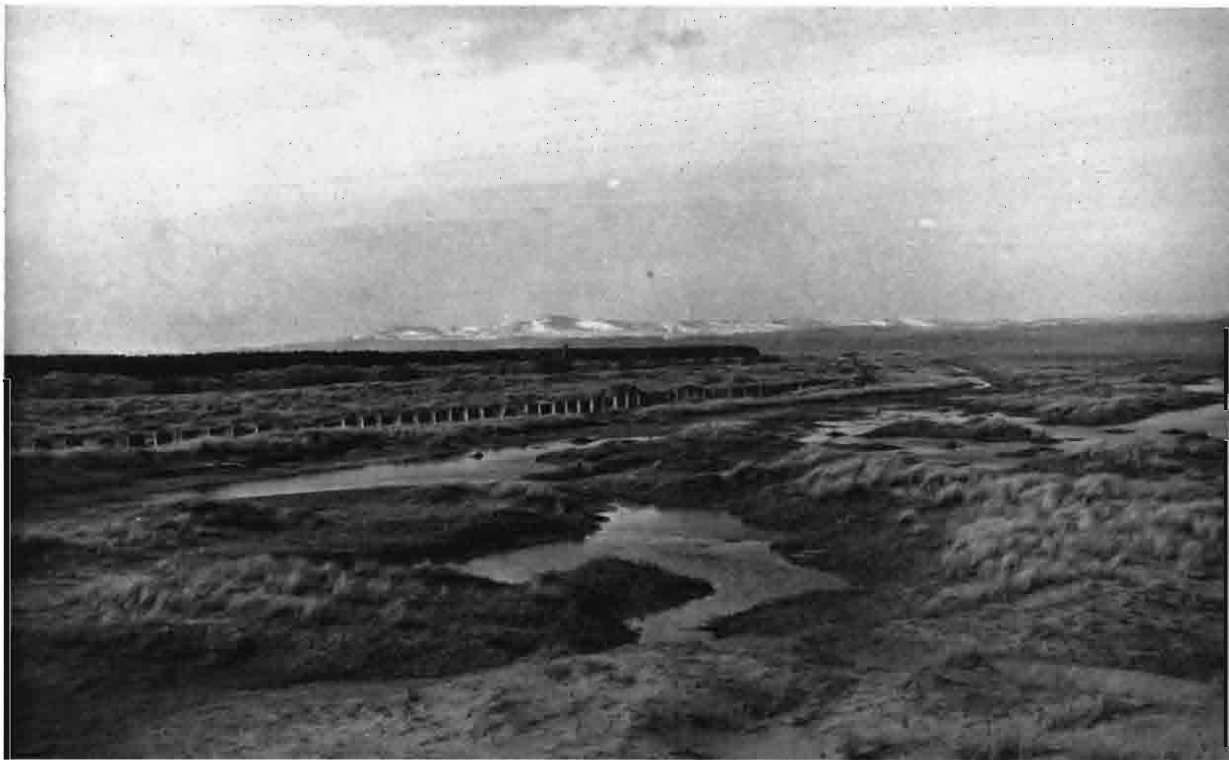


PLATE 10. TENTSUIR POINT.

Photograph by J. Berry.

up to c. 5000 have been seen. First birds arrive at end of September (early date 13th September 1952) and remain until April (latest date 26th).

42. SNOW GOOSE *Anser caerulescens*. Rare casual. W. Berry records that one was obtained at Tayport on 11th January 1924, and the species identified in the winter of 1945/46.
43. BRENT GOOSE *Branta bernicla*. Was once common in winter, over 100 being recorded on occasions, but is now a rare visitor. Latest records for the Eden are of several seen 17th/24th February 1953, and two on 1st March 1953. Only other record is one on east shore on 24th October 1954. The last two records were both of the Pale-breasted race *B. b. hrota*.
44. BARNACLE GOOSE *Branta leucopsis*. Since 1949 a regular winter visitor in small numbers, generally seen with other geese at Morton. Mostly seen in groups of up to five birds, but 19 at Shelly Point on 8th October 1949. Occasionally birds at Morton have been examined at close quarters and the absence of rings on their legs suggests that these were truly wild birds and not members of the semi-domesticated flock at Tayfield.
45. MUTE SWAN *Cygnus olor*. Resident. One, sometimes two or three, pairs nest at Morton Lochs. Numbers increase in winter, especially at Tayport, and these are possibly from inland lochs. There is an annual rise and fall in numbers during autumn, suggesting local coastal movements. Present on the Eden the year round.
46. WHOOPER SWAN *Cygnus cygnus*. Regular winter visitor to Morton Lochs, the highest count being 18 on 15th March 1953, and again on 7th November 1954. Occasionally seen at Tayport and Tentsmuir Point, but not recorded on Eden. In 1955 one bird remained at Morton until 31st May.
47. BEWICK'S SWAN *Cygnus columbianus bewickii*. One record, of two at Morton Lochs on 1st January 1947.
48. GOLDEN EAGLE *Aquila chrysaetos*. One record. An adult bird spent the winter of 1952/53 at Earlsall, and was also seen at Morton Lochs (*E.B.B.* 3: 28, 40).
49. BUZZARD *Buteo buteo*. Irregular winter visitor, singly or in pairs. Latest record is of a pair which spent the winter of 1954/55 at Earlsall. No summer reports for many years.
50. ROUGH-LEGGED BUZZARD *Buteo lagopus*. Rare casual, the only record being of a single bird seen over Scotsraig in the winter of 1913 by W. Berry and others.
51. SPARROWHAWK *Accipiter nisus*. Nests in the new forests and Earlsall. Is shot on sight at Earlsall. Seen annual-

- ly on the Eden on passage. Occasionally recorded at Morton.
52. HONEY BUZZARD *Pernis apivorus*. William Berry records that the identification of three birds seen at the west end of Tentsmuir in the autumn of 1890 was uncertain, but one bird shot there at that time was undoubtedly a Honey Buzzard, and he examined it in the shop of a local bird stuffer. (Outside the area a pair was present near Newport for some months in the early summer of 1949. Breeding was strongly suspected, but unfortunately the female was shot on 23rd July and sent to the Royal Scottish Museum).
 53. MARSH HARRIER *Circus aeruginosus*. Irregular winter visitor. A pair was at Earlshall for the winter of 1950/51, two were seen a few times during the following winter, and one was at Morton on 8th November 1958. An earlier record refers to a single bird at Earlshall on 29th October 1937. There is a suggestion that Marsh Harriers bred there in 1937, when a pair was seen over the moor several times during the summer, and a young bird, not yet in full flight, was captured and sent to the Edinburgh Zoo. The records there show that it was received on 23rd December 1937, having been captured in October that year, and that it died on 17th November 1941. These rather unsatisfactory details cannot be considered sufficient to support a first breeding record for Scotland, and the matter is still under investigation.
 54. HEN HARRIER *Circus cyaneus*. Only three positive records for recent years—one shot at Tayport in August 1947, one seen near St Michael's on 2nd April 1953, and a pair at Earlshall for about two weeks in early March 1954. A harrier seen at Morton Lochs on 8th April 1955 may have been this species.
 55. PEREGRINE *Falco peregrinus*. Occurs regularly on passage in small numbers, and occasionally in winter. Most records are for autumn, but the species occasionally winters at Earlshall, where it also occurs in spring. One was seen at Morton on 15th February 1957.
 - [GYR FALCON *Falco rusticolus*. A bird seen by different observers at Tentsmuir Point on 20th February 1955, and again the following day at Shelly Point, was probably this species (*E.B.B.* 5: 49).]
 56. MERLIN *Falco columbarius*. Regularly on passage, most reports for autumn. Occasionally spends winter at Earlshall, where it also occurs in spring. Has been recorded at Tentsmuir Point and Morton Lochs.
 - (RED-FOOTED FALCON *Falco vespertinus*. A male was seen in the Newport area by William and John Berry and others

- from 21st to 23rd November 1941 and stayed for about a month).
57. **KESTREL** *Falco tinnunculus*. Seen on all parts of Tentsmuir; one or two pairs nest at Earlshall. Also seen on passage at Tentsmuir Point and Shelly Point, mostly in autumn.
 58. **RED GROUSE** *Lagopus lagopus scoticus*. No longer occurs. Was introduced in July 1876, and as the stock increased was shot annually. Highest bag was 64 brace in 1902. Last seen on Earlshall in June 1947
 59. **BLACK GROUSE** *Lyrurus tetrrix*. First appeared on Tentsmuir about 1902 and first nested in 1906; last nesting record was 1919. By 1925 it had been cleared from the new forests, and today is seen very occasionally. From time to time in the early years of this century birds were introduced to the moor and these probably formed the bulk of the breeding stock.
 60. **CAPercaillie** *Tetrao urogallus*. Seen on occasions at Earlshall during the past twenty years. One was shot at Scotscraig in 1901.
 61. **PARTRIDGE** *Perdix perdix*. Resident. Found in good numbers on all parts of open ground on Tentsmuir, even the coastal strips. Nests where found. No longer hand-reared on Earlshall or at Morton.
 62. **QUAIL** *Coturnix coturnix*. Rare casual, not recorded since one was found dead at Leuchars on 6th June 1932. William Berry reports one shot at Morton Lochs, but gives no date.
 63. **PHEASANT** *Phasianus colchicus*. Resident, breeding in good numbers. Very common, and has even been seen amongst waders on Shelly Point. No longer hand-reared.
 64. **WATER RAIL** *Rallus aquaticus*. Occasionally seen in winter, mostly at Morton Lochs. Latest records for Morton are of single birds on 17th September 1952 and 4th April 1959. Only one record for Earlshall—a single bird in February 1952.
 - [BAILLON'S CRAKE *Porzana pusilla*. On 3rd January 1889 a tiny crane was caught at Scotscraig by W. Berry and later released. A detailed description was shown to Dr Eagle Clarke, who reported that the bird was a Baillon's Crane. As the record has never been published, and neither the description nor Dr Eagle Clarke's comments can be traced, it is impossible to be absolutely certain that the bird could not have been a Little Crane *Porzana parva*.]
 65. **CORNCRAKE** *Crex crex*. At one time numerous as a nesting bird, but rarely seen today. The only records for many

years are a pair at Earlshall on 7th June 1950 and a single bird there during May 1953.

66. MOORHEN *Gallinula chloropus*. Nests at Morton Lochs and Earlshall, though numbers have fallen over past fifty years. Little, if any, change in the population in winter.
67. COOT *Fulica atra*. Common at Morton Lochs, where it has increased as a nesting bird since 1949. Numbers increase during passage and in winter, and there have been counts of over 100 in recent years. One record only for Earlshall—a single bird on 28th March 1954. Regularly seen in small numbers in both estuaries in winter. Prior to 1939 large flocks were said to frequent Tayport Bay, but these are no longer seen.
68. OYSTERCATCHER *Haematopus ostralegus*. Found in large numbers at all seasons, but does not nest on Tentsmuir. On passage and in winter vast flocks occur on Shelly Point (see Wader Counts). Numbers at Tayport are much smaller, seldom exceeding 500. Occurs regularly at Morton Lochs and surrounding fields in small numbers. From 200 to 400 non-breeding birds remain in area throughout the summer, but in 1953 c. 1000 remained on the Eden.
69. LAPWING *Vanellus vanellus*. Nests at Earlshall where it has increased since 1948; twenty-five pairs nested in 1953. Most fields in the western portion also have nesting pairs each year. Outwith the breeding season it is found throughout the area. During autumn passage, and occasionally in winter, large flocks occur on the Eden, e.g. c. 1000 on 29th October 1950, c. 2000 on 3rd October 1953, at least 5000 on 22nd November 1953. At Tayport numbers seldom exceed 200. Also seen at Morton at all seasons.
70. RINGED PLOVER *Charadrius hiaticula*. Has increased as a breeder since 1949, when only a few pairs were found on the east shore. In 1953 nearly fifty nests were found, Shelly Point being the main site. Only one nest was found in Tayport Bay. Flocks of c. 100 (c. 250 on 23rd August 1953) are seen on autumn passage, but it is scarce or absent during the winter. The breeding population returns to Shelly Point from mid-February. Only two records for Morton Lochs—a single bird on 18th August 1923 and a pair on 7th May 1955. Spring passage may occur, small numbers of birds being involved, but satisfactory evidence is lacking.
71. GREY PLOVER *Charadrius squatarola*. Occurs on passage and in winter. Is most numerous on the Eden where 50/60 usual in winter; on passage up to 200 have been recorded (e.g. on 29th March 1953). Seldom more than

ten have been seen at one time at Tayport. Two records for Morton Lochs—ten on 20th August 1928, and one on 2nd November 1953. Single birds and pairs seen at Shelly Point in May, June and July.

72. GOLDEN PLOVER *Charadrius apricarius*. Last nested at Earlshall in 1938. Now occurs only on passage and in winter, flocks of up to 1000 being seen on the Eden from September onwards. Also seen in the fields in winter and has occurred at Morton Lochs. Birds showing the characters of the Northern race *Ch. a. altifrons* occur almost annually on autumn passage.
73. DOTTEREL *Charadrius morinellus*. One report. Seven seen at Morton Lochs on 3rd May 1915, falling to four on 30th May.
74. TURNSTONE *Arenaria interpres*. Mainly on passage, but a few present in winter. Also regularly seen from May to July. Occurs in both estuaries, largest numbers on the Eden. Top count 75 on Shelly Point on 23rd August 1953, and again on 31st July 1954.
75. SNIPE *Gallinago gallinago*. Nests on Earlshall (c. 15 pairs) and Morton Lochs (2 or 3 pairs). Generally absent from the marshes on Earlshall in September and October, but found from then onwards in varying numbers. Present at Morton Lochs at all seasons, an unusually large "wisp" of 31 being seen on 15th March 1960. Up to twenty can be seen on the Eden in winter.
76. GREAT SNIPE *Gallinago media*. Three records of single birds: one which weighed over 5½ ozs. shot at Morton Lochs on 28th October 1898; a bird which was most probably a Great Snipe seen by H. Boase on 3rd August 1918; and a third seen by the writer at Earlshall on 28th October 1951 which rose slowly at his feet with a harsh croak.
77. JACK SNIPE *Limnocryptes minimus*. At one time numerous in winter at Morton Lochs, but very few have been seen there in recent years. Latest record is of 4 or 5 on 26th April 1960. Also seen on the Eden, where there are recent records of single birds on 19th October 1952 and 7th February 1954. One was seen at Tentsmuir Point on 14th November 1960.
78. WOODCOCK *Scolopax rusticola*. A few pairs nest in the new forests and at Earlshall. Has also nested in the plantations which existed west of Morton Lochs. One Eden record—a single bird on 19th October 1952.
79. CURLEW *Numenius arquata*. Common at all times. Nests on Earlshall Moor (15 or more pairs) and Tentsmuir Point (2 pairs in 1952 and 1953). Occurs on passage and in winter, and from July to April is numerous on the Eden

- (see Wader Counts). Is also regularly seen at Tayport and Morton Lochs. Large numbers of non-breeding birds remain in the area in summer, particularly at Earlishall and the Eden.
80. WHIMBREL *Numenius phaeopus*. Spring and autumn passage migrant, with largest numbers in autumn, e.g. 25 on Shelly Point on 24th August 1952, and 34 on 21st August 1955. In spring, numbers seldom exceed two or three. Has occurred at Tayport and Tentsmuir Point, but not at Morton Lochs.
 81. BLACK-TAILED GODWIT *Limosa limosa*. Occurs on passage and in winter at both estuaries and at Morton Lochs. About 100 were seen on the Eden on 28th August 1936, and 62 on 21st September 1952, while between 1949 and 1955 the average winter number was c. 35. Highest count at Morton is 49 on 15th July 1952. A pair was at Morton in June 1951, and three adults in full breeding plumage spent the summer of 1952 on the Eden. It is not known to which race these birds belong. Up to at least the early 1930's this was looked upon as an uncommon species.
 82. BAR-TAILED GODWIT *Limosa lapponica*. Occurs on passage and in winter, with up to fifty non-breeding birds remaining in summer. Largest numbers occur on the Eden (see Wader Counts), where up to 700 can be seen in winter (c. 1000 in January and February 1954), but at Tayport numbers seldom exceed 100. A flock of 500 was at Tentsmuir Point on 5th August 1959. It has been recorded occasionally at Morton Lochs.
 83. GREEN SANDPIPER *Tringa ochropus*. Autumn passage migrant which has been recorded at Morton Lochs from June to September, and once in winter—a single bird on 21st February 1954. It has also been recorded at Tayport and on the Eden in autumn.
 84. WOOD SANDPIPER *Tringa glareola*. Casual. Two records for Morton Lochs—single birds on 1st August 1911, and again on 28th July 1959 (S.B. 1: 200).
 85. COMMON SANDPIPER *Tringa hypoleucos*. Autumn passage migrant in small numbers. Occurs on both estuaries and at Morton Lochs, most records being in July and August. Earliest and latest dates are 28th June 1912 and 14th October 1951. There have been no spring records.
 86. REDSHANK *Tringa totanus*. Not less than twelve pairs nest at Earlishall and coastal strips, and it has also nested at Morton Lochs. Occurs on passage and in winter, with largest numbers on the Eden (see Wader Counts). Numbers are very much smaller at Tayport, while those at Morton Lochs seldom exceed ten.

87. SPOTTED REDSHANK *Tringa erythropus*. Autumn passage migrant, mostly on the Eden, but also occasionally at Morton Lochs. Highest counts—8 on the Eden on 16th September 1951, and 5 at Morton Lochs on 17th September 1955 which remained for about two weeks. One winter record—a single bird at Edenmouth on 28th December 1937.
88. GREENSHANK *Tringa nebularia*. Regular autumn passage migrant and occasional winter visitor. Generally less than ten birds are seen but in August/September 1953 and September 1954 parties of up to thirty were seen on the Eden. Smaller numbers are found at Tayport and Morton Lochs, the highest count at Morton being five on 2nd November 1953. There are recent records for all winter months, but none for April, May or June.
89. KNOT *Calidris canutus*. Occurs on passage and in winter, sometimes in very large numbers (see Wader Counts). Largest flocks are found on the Eden, but at Tayport numbers seldom exceed 150. There are no records for Morton Lochs. Up to fifty non-breeding birds remain all summer at Shelly Point.
90. PURPLE SANDPIPER *Calidris maritima*. Two records of single birds: one was seen on the east shore in September 1915, and one shot there in 1929.
91. LITTLE STINT *Calidris minuta*. Regular on autumn passage on both estuaries in August and September. Single birds usual, but eight on Eden on 6th September 1953. Has occurred at Morton Lochs, but not since 1939.
92. DUNLIN *Calidris alpina*. Last nested in 1937 (see "Important Breeding Species") and now occurs only on passage and in winter, with non-breeding birds on the shore in summer. Largest flocks on the Eden (see Wader Counts); at Tayport c. 500 largest number. Also nested at Morton Lochs, but rarely seen there now, only recent reports being of single birds on 26th August 1951 and 17th September 1955.
93. CURLEW SANDPIPER *Calidris testacea*. On passage in August and September, and once in October. Mostly up to five birds seen, but 40 on the Eden on 6th September 1953. Seen annually at Tayport, and once at Morton Lochs, on 20th August 1912.
94. SANDERLING *Crocethia alba*. Recorded in all months, but mainly on passage and occasionally in winter. Most numerous August/October, and again March/April, from 50 to 70 usual (but over 150 at Tayport on 31st August 1952). Seven winter records between 1949 and 1955; highest count ten. No reports for Morton Lochs.
95. BROAD-BILLED SANDPIPER *Limicola falcinellus*. Rare casual.

- One was shot at Morton Lochs on 12th August 1912, and one bird seen on the Eden on 9th September 1946 (Baxter & Rintoul, 1953).
96. RUFF *Philomachus pugnax*. Occurs on passage in August and September on both estuaries, and occasionally at Morton Lochs. A single bird at Morton on 3rd October 1949. Single birds usual, but 59 on the Eden on 28th August 1954.
 97. GREY PHALAROPE *Phalaropus fulicarius*. One shot at Tayport in October 1885—the only record. (One at St Andrews in January 1952.)
 98. GREAT SKUA *Catharacta skua*. Occasionally seen on the Angus side of the Tay but the only definite record inside the Eden Estuary is of one seen on 17th September 1961.
 99. ARCTIC SKUA *Stercorarius parasiticus*. Seen annually from June to October, but mostly in August and September. Largest count is 40 on 30th August 1907, but the highest count in recent years was nine on the Eden on 4th September 1955.
 100. POMARINE SKUA *Stercorarius pomarinus*. In 1930 a few were seen off the east shore and one was shot for identification. The only other recent record is of three off Tentsmuir Point on 14th August 1956. Each year numbers of skuas are seen off-shore, usually too far out for identification and as this species occurs regularly in the Forth some of these may well be Pomarines.
 - (LONG-TAILED SKUA *Stercorarius longicaudus*. One obtained at Newport in 1880, and one at St Andrews on 29th April 1868).
 101. GREATER BLACK-BACKED GULL *Larus marinus*. Present on the shore the year round but does not nest on Tentsmuir. Numbers in summer are small, but during autumn passage up to 500 can be seen at one time. Generally less than 100 present in winter, with slight increase in spring. Occasional at Morton Lochs.
 102. LESSER BLACK-BACKED GULL *Larus fuscus*. Occurs on spring and autumn passage, the highest count being twelve birds at Tayport on 31st August 1952. Also occurs then at Morton Lochs. Has not been recorded in winter. The Scandinavian race *L. f. fuscus* has been obtained twice—on 8th September 1923 and 30th August 1924.
 103. HERRING GULL *Larus argentatus*. Nested on Tentsmuir for the first time in 1955, when one pair bred on Earlshall. Common on the shore, and at Morton Lochs, at all seasons. Up to c. 3000 are common on the shore in autumn. At dusk large numbers flight in from other areas to

Abertay Sands, which seems to be the main roosting ground. A similar, but smaller, fighting takes place to the Eden.

104. COMMON GULL *Larus canus*. On passage and in winter, with some remaining all summer. Has not nested, but on several occasions adults have been seen in the Black-headed Gull colony on Earls Hall. Passage flocks can total up to c. 750 birds, with largest flocks in spring. Wintering birds have increased in number, and 700/800 were at Tayport on 25th January 1953. It is common in fields and at Morton Lochs in winter.
- (GLAUCOUS GULL *Larus hyperboreus*. One was recorded at Newport on 20th July 1910).
 - (ICELAND GULL *Larus glaucoides*. One present near Newport from 1st to 15th August 1922).
105. LITTLE GULL *Larus minutus*. Although seen in large numbers on the Angus coast (S.B. 1: 362), this species is only occasionally noted at Tayport/Tentsmuir Point. There are only six records up to 1960, the highest count being five on 18th April 1954 (but 60/70 on 29th April 1961). There are only two recent reports for the east shore—four birds on 24th July 1955 and 42 on 29th April 1959. There is one Eden record of eight on 1st May 1960. At Morton Lochs the first record was of a juvenile in June 1954, but since then the species has become an annual visitor in April, May and June. Highest counts—30 on 23rd May 1955, 32 on 12th April 1959, and over 70 on 27th April 1956.
106. BLACK-HEADED GULL *Larus ridibundus*. Nests at Earls Hall, with a few pairs on Shelly Point (see "Important Breeding Species"). Most juvenile birds disperse in late summer, some migrating, and there have been ringing recoveries from the Continent, Southern Ireland and other parts of the British Isles. The position of breeding birds is obscure, but probably many remain in the area, or disperse over adjoining coasts and fields. Possibly some of the wintering birds are visitors. Present at Morton Lochs the year round.
107. SABINE'S GULL *Xema sabini*. An adult on Shelly Point on 7th September 1952 is the only record (E.B.B. 3: 5).
108. KITTIWAKE *Rissa tridactyla*. Mainly on passage, but occasionally in summer and winter. Numbers in spring generally small, but in autumn c. 750 seen at Tentsmuir Point. Small numbers only on the Eden. Has been recorded at Morton Lochs.
109. BLACK TERN *Chlidonias niger*. Casual, recorded twice at Morton Lochs. Two were present on 26th/27th September 1953, and two for five days from 16th May 1955. Two

- were seen on the Eden on 12th September 1959.
110. COMMON TERN *Sterna hirundo*. Nests on Shelly Point, the east shore and Earlshall Moor (see "Important Breeding Species"). Also occurs on passage and has been recorded five times in winter, once in December, three times in January and once in February. First arrivals seen about third week of April, and most leave the area by late September or early October. Occurs at Morton Lochs in summer.
 111. ARCTIC TERN *Sterna macrura*. Nests on Shelly Point and east shore (see "Important Breeding Species"). Occurs also on passage. First arrivals seen at the beginning of May (earliest date 7th) and most have gone by end of September (latest date 12th November 1950). No reports for Morton Lochs.
 112. ROSEATE TERN *Sterna dougallii*. Has nested twice (1927 and 1936—see "Important Breeding Species") but otherwise an occasional spring and summer visitor. At least two pairs present at Shelly Point in summer of 1956, but no nests found.
 113. LITTLE TERN *Sterna albifrons*. Nests on Shelly Point and east shore (see "Important Breeding Species"). First arrivals usually seen in third week of April, though the main body arrives in early May. This is usually the first tern to leave, most having gone by mid-September (latest date 24th September 1950). Occurs also on spring and autumn passage, particularly at Tentsmuir Point. No reports for Morton.
 114. SANDWICH TERN *Sterna sandvicensis*. At one time nested in large numbers but today only does so sporadically, largest post-war colony being 48 pairs in 1956 (see "Important Breeding Species"). Mainly on passage, up to c. 400 birds seen in spring and autumn. This is usually the first tern to arrive in early April (earliest date 3rd April 1953), but not in any great number until about the third week, when it is found on both estuaries and on the east shore. Most have gone by end of September (latest record 16th November 1910). No reports for Morton.
 115. RAZORBILL *Alca torda*. Seen off-shore at all seasons. Reports suggest a small but marked passage along the east shore. Largest count—50 birds at Tentsmuir Point on 17th February 1952.
 116. LITTLE AUK *Plautus alle*. Casual; recorded on seven occasions since 1950. There are also earlier records. One bird was seen at Tentsmuir Point on 6th October 1951, and a corpse picked up at Shelly Point on 23rd December 1951. Two birds were seen on two occasions in January 1952 at Tayport. On 15th February 1953 a corpse

was found on Shelly Point, and a live bird was seen there on 2nd October 1955; another corpse was picked up on Tentsmuir Point on 10th January 1956.

117. GUILLEMOT *Uria aalge*. Seen off-shore at all seasons, generally single birds. About 60% of all oiled birds on east shore are of this species.
118. BLACK GUILLEMOT *Cepphus grylle*. Rare casual, not recorded for many years. William Berry states that it occurred very occasionally.
119. PUFFIN *Fratercula arctica*. Rarely seen, with only a few records for the Tay area since 1949. All recent records for shore area are of corpses.
120. PALLAS'S SANDGROUSE *Syrhaptes paradoxus*. Occurred during the 1888 irruption. Harvie-Brown gives the total as over 90 birds. (William Berry gives the number as c. 200).
121. STOCK DOVE *Columba oenas*. Has been known on Tentsmuir since about 1884, and first nested in 1892. Today the species nests in all suitable sites over the whole area and is commonly seen in the fields, on the moorland and on the shore.
122. WOODPIGEON *Columba palumbus*. Common and numerous, nesting freely in the new plantations as well as other suitable sites. Large flocks of 400/500 birds are common on arable land in winter and some of these may be winter visitors.
123. CUCKOO *Cuculus canorus*. Summer visitor in small numbers. Breeds. Reported from all parts, including Morton Lochs. Arrives at Earlshall in early May (early date 16th April 1954) and is seldom seen after mid-August.
124. BARN OWL *Tyto alba*. Always rather scarce, and seldom seen or heard today. Very few have been seen this century, and the last known report is of a single bird near Tayport on 9th September 1946.
-. (SNOWY OWL *Nyctea scandiaca*. One seen on Eden Golf Course on 31st January 1936 (S.N. 1936: 45)).
125. TAWNY OWL *Strix aluco*. Present all year throughout the area. Nests in the new plantations and at Earlshall, and has also nested in a nest-box at Morton Lochs.
126. LONG-EARED OWL *Asio otus*. Nests in the new forests and at Earlshall, and is found in these areas at all seasons. Has been recorded at Morton.
127. SHORT-EARED OWL *Asio flammeus*. Has nested on several occasions since 1936 on Earlshall. A pair remained at Morton Lochs during the summer of 1953, but nesting was not confirmed. Seen regularly on passage and in winter.

128. SWIFT *Apus apus*. Nests at Tayport and Leuchars. Small numbers are seen on the coast in spring and autumn, and 40 were seen over Earlshall on 12th July 1953. Occasionally seen at Morton Lochs.
129. KINGFISHER *Alcedo atthis*. Occasionally seen on passage, but no reports since 1928. On 1st October 1927 c. 30 in small parties were seen going south at Tentsmuir Point, while on 14th August 1928, "quite a number" were at Morton Lochs (William Berry). Has also been recorded in November and December.
130. GREAT SPOTTED WOODPECKER *Dendrocopos major*. No reports prior to 1947, but since then has been recorded on a few occasions between August and April at Earlshall. A pair was present in the forest at Fettars in the spring of 1952 but breeding was not confirmed.
131. SKYLARK *Alauda arvensis*. Numbers were considerably reduced by afforestation, but the species still breeds commonly on Earlshall, the coastal strips and at Morton Lochs. The majority of nesting birds arrive in March and April, and leave at the end of July or beginning of August. There are marked movements on the coast in spring and autumn (e.g. during a short spell of watching 61 were counted moving south over Shelly Point on 4th October 1954). A few are found in all parts in winter.
132. SHORE LARK *Eremophila alpestris*. Two reports—three birds at Tayport on 7th January 1924, and a pair which spent a week at Shelly Point from 25th November 1951.
133. SWALLOW *Hirundo rustica*. Summer visitor, nesting in all suitable sites. Arrives at Earlshall about mid-April (earliest date 11th) and most are at their nesting sites by the end of the first week in May. The move away begins in late August and most have gone by the end of September. Also occurs on passage, most marked in late September and early October; has been seen up to November (late date 12th November 1950 at Shelly Point). Small numbers are at Morton from July to early September.
134. HOUSE MARTIN *Delichon urbica*. Nests at Earlshall, Leuchars and Tayport. Arrives in early May (earliest date 12th May 1951) and most have gone by the end of September. Also occurs on passage, when frequently seen at Morton Lochs as well as on the coast. Late dates are 19th November 1927 and 2nd November 1950.
135. SAND MARTIN *Riparia riparia*. Occasionally nested in the sand-hills on Earlshall Moor, last doing so in 1949. For the past few years a colony has existed in a slag-heap

at Guardbridge, while a much larger colony is at St Michael's. Also on spring and autumn passage, when seen annually at Morton Lochs. First arrivals seen in mid-April (early date 4th April 1954) and most have gone by early September (late date 14th September 1952).

136. CARRION/HOODED CROW *Corvus corone*.

(a) CARRION CROW *C. c. corone*. Fairly numerous at all seasons. Nests in the new forests, the deciduous wood at Earlshall, and has nested on the stone tower on Lucky Scalp in Tayport Bay. Numbers increase in winter when common in the fields and on both estuaries. On 23rd December 1951 c. 100 were counted going to roost at Earlshall. May also occur on passage (e.g. flock of c. 70 at Fettars in March 1952). Is shot and trapped on Earlshall, the annual kill averaging over eighty during the past twenty years.

(b) HOODED CROW *C. c. cornix*. At one time nested at Kinshaldy, but has not bred on Tentsmuir for many years. Now occurs on passage and in winter. Never numerous, highest count being eleven on Earlshall on 23rd December 1951. Recorded in all months, but mostly November and March.

137. ROOK *Corvus frugilegus*. Numerous throughout the area. The main rookery is at Earlshall (over 500 pairs), while smaller rookeries exist at Tayport, Guardbridge and Leuchars. Numerous in winter in the fields, and parties of over 100 are common in both estuaries. Those on the shore at Tayport include many birds from Angus, there being a steady movement across the Tay morning and evening. There is also a south to north movement from Tayport each morning, with a consequent return in the evening, showing that many from Tentsmuir seek their food on the Angus side of the river. A percentage of birds in the Earlshall rookery are destroyed each year, the average number being c. 1500 annually; this includes both adults and birds of the year. Occurs regularly at Morton Lochs.

138. JACKDAW *Corvus monedula*. Common throughout. Nests in moderate numbers at Earlshall and Tayport, with smaller numbers in other suitable sites. Outwith the nesting season invariably present on the flats of the Eden and Tay, as well as in the fields and around Morton Lochs. May also occur on passage, being recorded almost annually on Tentsmuir Point.

139. MAGPIE *Pica pica*. At one time two pairs nested at Scots-craig, but has been lost as a breeding bird. Commonly seen on Earlshall in the immediate post-war period, the

- species was shot to the last bird. Now casual to Tentsmuir, the last record being a single bird on 13th April 1955.
140. JAY *Garrulus glandarius*. First noted in the new forests in 1924, but date of first nesting not known. Has now colonized all planted areas and seems to be quite numerous.
 141. GREAT TIT *Parus major*. Nests in many parts, but particularly at Earlshall and in the new forests. Small parties common in the hedgerows in winter. Also seen regularly at Morton Lochs.
 142. BLUE TIT *Parus caeruleus*. More numerous than the Great Tit, nesting in fair numbers throughout the area. Commonly seen in bushes on the Eden and at Morton Lochs. Small flocks frequent the forests and hedgerows in winter.
 143. COAL TIT *Parus ater*. Probably the most numerous tit on Tentsmuir. Nests freely throughout the new forests, and other wooded areas. Is probably truly resident.
 144. LONG-TAILED TIT *Aegithalos caudatus*. The least common tit: frequently seen but never numerous. Seen every summer near the deciduous wood on Earlshall Moor but breeding has never been confirmed though family parties have been noted there in autumn. Small parties occasional in winter.
 145. TREECREEPER *Certhia familiaris*. Nests freely in the new forests and a few pairs breed regularly at Earlshall. Probably a true resident.
 146. WREN *Troglodytes troglodytes*. Common, nesting in all sections. Seen the year round on Earlshall, in the forests, at Morton Lochs and on the banks of the Eden. Found on the coastal strips in winter.
 147. MISTLE THRUSH *Turdus viscivorus*. At one time common, had become scarce by 1947. Since then has increased, especially at Earlshall, where three or four pairs nested in 1952, five or six pairs in 1953 and again in the following two years. One pair was seen in the Rires Forest in April 1954. Also occurs regularly near Morton Lochs. Records would suggest that it occurs on autumn passage, e.g. 41 on Earlshall on 28th August 1954, and c. 30 at Morton Lochs on 21st August 1955.
 148. FIELDFARE *Turdus pilaris*. Occurs on passage and in winter, being found from September to April with stragglers into May. Often numerous on passage, winter numbers smaller. Mainly found in the fields but occurs annually by both estuaries.
 149. SONG THRUSH *Turdus philomelos*. Common breeding bird,

- nesting in all suitable sites. Recent observations show it to be scarce or absent from many parts in winter, and though some of the Tayport birds may be resident the species occurs mainly as a summer visitor to most of the area. May also occur on passage, particularly around Edenmouth, and birds found on the Eden from November to February may be winter visitors.
150. REDWING *Turdus musicus*. Occurs on passage and in winter, being found from September to March. Particularly numerous in the winter of 1951/52, when many perished in the hard weather which occurred from December onwards. Scarce in autumn 1952 and absent from most parts that winter. In 1953 was again common, and on 31st January 1954 c. 300 were at Earlshall. Found in the fields, at Morton Lochs and on the banks of both estuaries.
 151. BLACKBIRD *Turdus merula*. Common, nesting in all suitable places, and is a common breeder in the new forests. May also occur on passage and in winter, when flocks of c. 30 are seen.
 152. WHEATEAR *Oenanthe oenanthe*. Occurs on passage and as summer visitor, about twelve pairs nesting on Earlshall with a few more pairs on the coastal strips. The breeding population arrives about the end of March or beginning of April, while passage reaches its peak during the second week of April. In autumn, regularly seen until the end of September, with stragglers into October (latest date 31st October 1951). The Greenland race *Oe. oe. leucorrhoea* has been recorded on a few occasions in spring.
 153. STONECHAT *Saxicola torquata*. Until the severe winter of 1947 a few pairs nested at Morton Lochs, near which at least one pair has recently bred regularly. Elsewhere on Tentsmuir it is seen in small numbers, and has increased since 1950.
 154. WHINCHAT *Saxicola rubetra*. Lost as a nesting species by 1938, though at one time bred in the Scotsraig/Morton area. Seen on only five occasions since 1952—once in May at Earlshall, and four times in August (twice by the Eden and twice at Morton).
 155. REDSTART *Phoenicurus phoenicurus*. Casual. Two reports only since 1949—single birds at Earlshall on 9th September 1949 and Tentsmuir Point on 4th April 1954.
 156. BLACK REDSTART *Phoenicurus ochruros*. Casual. Only two reports—single birds at Guardbridge on 3rd November 1926 and Shelly Point 28th October 1951.
 157. ROBIN *Erithacus rubecula*. Nests in all suitable localities

- and common in the new forests. In winter regular on the Eden and east shore, and some of these birds may be winter visitors.
158. SEDGE WARBLER *Acrocephalus schoenobaenus*. Summer visitor, nesting in small numbers at Earlshall and Morton Lochs. Usually arrives in early May and departs about the end of August (latest date 4th September).
 159. BLACKCAP *Sylvia atricapilla*. Rare casual. One bird was seen at Earlshall in August 1950.
 160. GARDEN WARBLER *Sylvia borin*. Only two records, both for 1951 of a pair at Earlshall on 6th May and one bird on 2nd June.
 161. WHITETHROAT *Sylvia communis*. Summer visitor, four to five pairs nesting at Morton Lochs with others at Tayport. Not recorded breeding at Earlshall until 1953, when two nests found; three pairs bred in 1954 and 1955. Occasionally seen on the Eden in autumn.
 162. WILLOW WARBLER *Phylloscopus trochilus*. Has increased remarkably since 1949 and is now a common summer visitor to the whole area, nesting where found. Some of the spring and autumn records may refer to birds on passage.
 163. GOLDCREST *Regulus regulus*. Has colonized all the new forests and appears to be quite numerous. Probably a true resident. There is no undue increase in numbers in winter.
 164. SPOTTED FLYCATCHER *Muscicapa striata*. Summer visitor, never numerous. Generally present in summer but no nests found in recent years. In 1952 two adults were seen carrying food near Morton Lochs. Has nested at Fettardale and Earlshall and may still do so. Spring records may refer to birds on passage.
 165. PIED FLYCATCHER *Muscicapa hypoleuca*. A single bird on 9th May 1904 is the only record. (A female was obtained at Newport in September 1953).
 166. HEDGE SPARROW *Prunella modularis*. Common, nesting in all suitable habitats and has been seen on many occasions in the new forests. Most are probably resident.
 167. MEADOW PIPIT *Anthus pratensis*. Mainly summer visitor, but also on passage and in winter. Common in summer, the largest numbers nesting on Earlshall. Breeding population arrives in late March, the majority leaving in late August and September. Spring passage is more marked than autumn, though the latter tends to be more prolonged.
 168. TREE PIPIT *Anthus trivialis*. Few reports, but probably not as scarce as records suggest. Many unidentified

- pipits are seen each year and some of these may be this species. Most recent record is one shot from a small flock of pipits flying over Tayport Bay on 24th August 1950.
169. ROCK PIPIT *Anthus spinoletta*. Regular at Tayport from September to April. Also seen annually on Shelly Point and Eden Estuary.
 170. PIED/WHITE WAGTAIL *Motacilla alba*.
 - (a) PIED WAGTAIL *M. a. yarellii*. Nests on most parts of Tentsmuir other than the new forests. (A pair was seen in a ride in Rires Forest in May 1954). Many, if not all, breeding birds are summer visitors, the wintering population being comparatively small. Also occurs on passage, when seen on east shore in spring and autumn, sometimes in good numbers (e.g. 95 moving south over Shelly Point from 2nd to 4th October 1954).
 - (b) WHITE WAGTAIL *M. a. alba*. Occurs regularly in spring and autumn.
 171. GREY WAGTAIL *Motacilla cinerea*. Rare casual, the one positive record being of a single bird at Morton Lochs on 12th August 1919. Several were reported at Tayport in September 1946, but identification is in doubt.
 172. YELLOW WAGTAIL *Motacilla flava*. Rare casual, the only record being of a single bird at Earlshall on several occasions in March 1950. There is a doubtful report of two at Tayport in September 1946.
 173. WAXWING *Bombycilla garrulus*. Erratic winter visitor which has been seen on a number of occasions since 1949.
 174. RED-BACKED SHRIKE *Lanius cristatus collurio*. One record, a female at Earlshall on 21st May 1950.
 175. STARLING *Sturnus vulgaris*. Nests throughout the area. Small numbers, mainly immatures, occur on the coast in autumn, while in winter it is numerous in most parts.
 176. ROSE-COLOURED STARLING *Sturnus roseus*. One record—a single bird at Tayport on 31st March 1954 (*E.B.B.* 4: 50).
 177. GREENFINCH *Chloris chloris*. Common the year round and nests throughout the area. In winter regularly seen on the Eden and Tayport flats, while in autumn flocks of up to c. 100 strong are not uncommon. These could be flocks of resident birds, but on 8th November 1953 c. 500 were seen with an equal number of Linnets on the Eden and these were undoubtedly on passage.
 178. GOLDFINCH *Carduelis carduelis*. Very few records this century. Single birds were seen at Leuchars in 1923 and Tentsmuir Point in 1924; the only records since then are three birds at Morton Lochs on 1st October 1955,

- and two on the Eden on 11th March 1956.
179. SISKIN *Carduelis spinus*. Occurs occasionally in winter. There is an unconfirmed report of nesting in June 1923.
 180. LINNET *Carduelis cannabina*. Common at all seasons. Nests on Earlshall, Morton Lochs and the coastal strips, though numbers are probably less than in pre-afforestation days. In winter regular on the Eden, at Tayport and Morton Lochs, while in autumn flocks of over 100 are seen on the Eden (see under Greenfinch). Also on passage in spring.
 181. TWITE *Carduelis flavirostris*. Reported as nesting in 1921, but there is some doubt about this. Nested in 1923. Occasional in winter, the most recent reports are of one bird on the Eden on 22nd November 1953, and three on Shelly Point on 31st January 1954.
 182. LESSER REDPOLL *Carduelis flammea disruptis*. Not recorded up to about 1930, but regularly since then. As far as is known it has not nested, but may well do so somewhere in the 4000 acres of forest.
 183. BULLFINCH *Pyrrhula pyrrhula*. True status doubtful, but may only occur on spring and autumn passage. Recent reports are all of birds on or near the coast in spring and autumn (largest count eight on 30th September 1952); there are earlier records for June.
 184. CROSSBILL *Loxia curvirostra*. Several reports, usually of parties seen during eruptions (e.g. September 1953).
 185. CHAFFINCH *Fringilla coelebs*. Common in old plantations; was said to have disappeared following new afforestation. Since 1943 has become numerous throughout new forests and is also common in other areas, nesting in all suitable sites. Flocks of c. 100 are regular in winter.
 186. BRAMBLING *Fringilla montifringilla*. Winter casual, usually in small numbers. Recorded in most parts, the largest count being 20 near Morton Lochs during January 1952.
 187. YELLOWHAMMER *Emberiza citrinella*. Seen throughout at all seasons. Up to 1947 had not been reported from new forests, but today small numbers nest on the fringes of most of these. Also nests at Earlshall, Morton and other sites. Parties of up to c. 40 common in winter.
 188. CORN BUNTING *Emberiza calandra*. Erratic summer visitor, nesting at Earlshall and Morton area, and possibly elsewhere. In 1952 was common in the Leuchars/Earlshall area where in the previous two years it had not been seen. In 1953 two males were singing in the same area, and in 1954 four males were doing so. Until 1953 there was only one winter record, but in the winter of

- 1953/54 and again in 1954/55 the species was seen on many occasions in various places (highest count 11 birds).
189. REED BUNTING *Emberiza schoeniclus*. Nests at Earlshall and Morton Lochs. Also occurs on spring and autumn passage, while in winter is common in reed beds at Morton Lochs, Earlshall and the Eden.
 190. SNOW BUNTING *Plectrophenax nivalis*. Mainly autumn passage migrant, and occasionally in winter. About 600 were at Tentsmuir Point during October 1951, but winter numbers are much smaller. Highest winter counts are 45 at Shelly Point on 24th February 1952, and over 60 on Tentsmuir Point on 11th December 1955. Earliest date of arrival, 19th September 1952.
 191. HOUSE SPARROW *Passer domesticus*. Common and numerous, nesting where there are buildings. Foraging flocks are common everywhere in winter.
 192. TREE SPARROW *Passer montanus*. A colony existed at Leuchars in 1905 and for some years afterwards, but this is now extinct. There have been no sight records for over forty years and it is doubtful whether this species now occurs on Tentsmuir.

4.—WILDFOWL AND WADER COUNTS

Throughout the period 1950/55 regular monthly counts were made of wildfowl and waders on the Eden Estuary, Morton Lochs and Tayport Bay. The Eden Estuary is now the main wildfowl and wader resort on Tentsmuir, and figures for the Eden are shown on the following pages.

Counts were made at the same period each month, those of the wildfowl in the new moon period. Wader counts were generally made at the same time, but in a few instances these were repeated a few days later and the figures amended if necessary. On occasions, accurate wildfowl counts were impossible owing to poor weather conditions, particularly bad visibility and rough water, and only estimations of numbers present could be made. Whenever possible, further counts were made within a few days. While it is not possible to claim great accuracy for estimations, they generally give a good indication of the numbers present. Practically every count was made by two or more observers, and both banks of the estuary were covered at the same time. It is doubtful whether birds were counted twice on other than a few occasions, and where this was thought to have happened, the total count was amended downwards.

Generally speaking, it was impossible to do other than estimate the numbers of waders in the huge flocks which frequent Shelly Point at high tide, when all counts were made. If anything, these estimates erred on the conservative side. On occasions, attempts were made to obtain accurate counts, and while these were never very successful they did at least show that estimates were accurate enough to give a picture of the comparative numbers of the various species present.

WILDFOWL COUNTS, EDEN ESTUARY 1950/55

	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Mallard								
1950/51	156	500	2100	450	300	700	900	660
1951/52	200	350	800	1200	1190	1885	1000	50
1952/53	106	900	1900	1200	235	1400	670	250
1953/54	500	1050	200	1000	405	1150	510	139
1954/55	314	480	1370	†	1750	1550	1150	†
Teal								
1950/51	10	100	11	20	300	80	80	80
1951/52	100	100	100	220	650	350	450	26
1952/53	400	600	120	440	240	400	110	100
1953/54	250	580	400	350	450	390	150	228
1954/55	282	620	1000	†	450	1450	280	†
Wigeon								
1950/51	25	250	650	1000	3300	1500	700	100
1951/52	200	1200	1250	2800	1420	1500	1050	43
1952/53	32	600	1050	2000	1800	2750	800	20
1953/54	100	600	1250	1500	1700	2250	760	233
1954/55	354	1410	3150	†	3500	3000	1775	†
Pintail								
1950/51	0	4	2	20	100	5	30	0
1951/52	0	4	2	8	100	35	54	8
1952/53	11	100	100	100	70	125	20	0
1953/54	0	5	22	0	125	114	132	60
1954/55	25	105	102	†	150	150	75	†
Shoveler								
1950/51	0	100	100	100	300	0	25	0
1951/52	9	50	57	300	150	15	10	4
1952/53	0	160	13	240	240	56	10	0
1953/54	0	6	?	30	100	100	100	0
1954/55	35	45	98	†	100	100 †	100	†
Shelduck								
1950/51	40	50	50	350	1150	900	1000	246
1951/52	104	250	396	450	860	1000	1200	700
1952/53	200	200	400	910	1000	1500	1000	550
1953/54	350	435	400	1000	1200	1400	930	900
1954/55	100	485	612	†	1500	1250	1350	†

† No count.

WADER COUNTS, EDEN ESTUARY, 1950/55

	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Oystercatcher								
1950/51	3000	3000	600	1800	2000	1500	1000	350
1951/52	3000	3000	2000	1800	2100	4000	770	425
1952/53	3000	2000	3000	2500	3000	2500	750	500
1953/54	4000	4500	5000	5000	4200	4000	850	400
1954/55	3000	3000	3150	3000	3000	3500	1600	†
Curlew								
1950/51	100	200	150	150	150	200	360	157
1951/52	200	400	500	600	450	350	470	140
1952/53	475	500	600	600	500	600	400	350
1953/54	1500	600	600	600	250	500	200	250
1954/55	600	500	450	400	650	800	150	†
Bar-tailed Godwit								
1950/51	50	200	300	400	400	500	400	140
1951/52	50	250	750	500	380	600	700	60
1952/53	150	140	400	300	350	400	150	100
1953/54	300	250	1000	1000	750	1000	200	300
1954/55	200	1000	500	600	500	400	450	†
Redshank								
1950/51	100	300	400	1000	1300	1300	450	400
1951/52	1000	1000	1000	1500	1500	1200	1250	400
1952/53	700	1000	1270	1200	1000	1200	500	750
1953/54	1300	1300	2500	2000	2300	650	1250	800
1954/55	2000	2000	2300	†	2000	2000	750	†
Knot								
1950/51	50	200	700	6000	5000	5000	700	250
1951/52	200	700	2000	2600	3500	3000	1000	300
1952/53	120	150	3000	10000	6000	500	350	150
1953/54	200	450	6000	6000	3250	3000	1400	300
1954/55	207	2000	3000	3000+	6000	5000	1000	110
Dunlin								
1950/51	150	300	700	3000	4000	3000	1100	50
1951/52	200	200	1500	1250	3200	1700	1000	350
1952/53	350	500	1000	2000	2500	2000	500	80
1953/54	200	400	6000	6000	1400	3500	4000	455
1954/55	1600	1750	2000	3000	5500	3500	1500	†

† No count.

5.—SPECIES RECORDED FROM MORTON LOCHS

Black-throated Diver	Quail	Tawny Owl (b)
Red-throated Diver	Pheasant (b)	Long-eared Owl
Red-necked Grebe	Water Rail	Short-eared Owl
Slavonian Grebe	Moorhen (b)	Swift
Black-necked Grebe	Coot (b)	Kingfisher
Little Grebe (b)	Oystercatcher	Skylark (b)
Heron	Lapwing (b)	Swallow
Bittern	Ringed Plover	House Martin
Mallard (b)	Grey Plover	Sand Martin
Teal (b)	Golden Plover	Carrión Crow
Garganey	Dotterel	Rook
Gadwall (b)	Snipe (b)	Jackdaw
Wigeon (b)	Great Snipe	Great Tit (b)
Baldpate	Jack Snipe	Blue Tit (b)
Pintail	Woodcock (b)	Coal Tit
Shoveler (b)	Curlew	Wren (b)
Red-crested Pochard	Black-tailed Godwit	Mistle Thrush
Scaup	Bar-tailed Godwit	Fieldfare
Tufted Duck (b)	Green Sandpiper	Song Thrush (b)
Pochard	Wood Sandpiper	Redwing
Goldeneye	Common Sandpiper	Blackbird (b)
Long-tailed Duck	Redshank (b)	Wheatear (b)
Velvet Scoter	Spotted Redshank	Stonechat (b)
Common Scoter (b)	Greenshank	Whinchat
Eider	Little Stint	Robin (b)
Red-breasted Merganser	Dunlin (b)	Sedge Warbler (b)
Goosander	Curlew Sandpiper	Whitethroat (b)
Shelduck (b)	Broad-billed Sandpiper	Willow Warbler (b)
Grey Lag Goose (b)	Ruff	Spotted Flycatcher
Bean & Pink-footed Geese	Greater Black-backed Gull	Hedge Sparrow (b)
Barnacle Goose	Lesser Black-backed Gull	Meadow Pipit (b)
Mute Swan (b)	Herring Gull	Pied Wagtail (b)
Whooper Swan	Common Gull	Grey Wagtail
Bewick's Swan	Little Gull	Starling
Golden Eagle	Black-headed Gull	Greenfinch (b)
Sparrowhawk	Kittiwake	Goldfinch
Marsh Harrier	Black Tern	Linnet (b)
Hen Harrier	Common Tern	Chaffinch (b)
Peregrine	Pallas's Sandgrouse	Brambling
Merlin	Stock Dove (b)	Yellowhammer (b)
Kestrel	Woodpigeon (b)	Corn Bunting (b)
Partridge (b)	Cuckoo (b)	Reed Bunting (b)
		House Sparrow

Total Species Recorded — 127

Breeding or have bred (b) — 45

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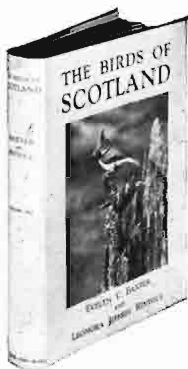
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