

Cladonia, the pendant hair like threads of *Alectoria Fuscescens* are found on the NE aspect of the trunk. So far, the only other place this last lichen has been observed is in the wood above Birgidale Knock – but it is very inconspicuous. The variety of *Parmelia* and *Cladonia* within the wood is great. Compounding of the habitat is readily seen, the NW side of the burn, particularly abounds in heichs and howes, sheuchs and dunnies. These give shelter and trap moisture. Rotting logs abound. There is evidence of coppicing in the long ago, but more often one sees a rotting or decorticate trunk standing up and one or more new trunks beside it.

But Bracket Fungi are common in this wood and it is probable that attack by this kills a trunk and new growth springs from a healthy base. *Calicium* and *Catillaria* are frequent on these rotting trunks. The variety of habitats is great. The tiny pink mushroom like discocarps of *Baomyces Roseus* and the brown of *Baomyces Rufus* can be seen in little earthy overhangs on the side of the burn. Even a few centimetres can constitute the difference between a favourable and an unfavourable habitat.

Creagan Lochan

Above Balnakailly Wood lies the Bull Loch (434 feet), and above this at 520 feet on large damp rocks are huge clumps of *Cladonia Uncialis*, – turgid especially when moist. Again, these clumps, more than two feet across, face North and spring from the peat of dead heather roots. This cannot be a comfortable spot on a cold winter day. But lichen are tough. They stand cold well, more so when dry. In one experiment eight lichen species were subjected to minus 196° C, and one survived. They are the only living organisms at both Poles. But they do not stand prolonged heat and drought so well. Dry deserts contain relatively few lichen species.

Summary

According to lichen zonal tables, Bute has an unpolluted atmosphere.

It possesses an equable climate of moist temperate type.

It has a rich variety of lichen habitats, the most important of which are the plethora of cliffs, fallen rocks and ancient walls, and the several native Highland woods of post mature type.

Lichen can be studied all the year round (discocarps are visible even though sporulation is in abeyance).

Bute is rich in Lichen and it is of ideal size and structure to offer a rewarding study.

POPULATION STUDIES OF CLYDE SEABIRDS

Part Four

By J. A. GIBSON

(Continued from *Transactions*, Vol.XX, page 67)

Three previous parts of the Population Studies of Clyde Seabirds have already been published in the Society's *Transactions*, in Volume 17 (1969), Volume 18 (1970) and Volume 20 (1976), and it was originally envisaged that the entire Clyde Seabird Survey would be completed in four parts.

In the years immediately following the publication of part three, however, it soon became apparent that several significant changes were taking place throughout the seabirds of the Clyde, and during the past decade some of these changes have become extremely marked. The great Kittiwake colony on Ailsa Craig is steadily declining, the decrease in Common and Arctic Tern populations, previously becoming evident, has progressed to such a degree that barely half-a-dozen modest colonies now remain, and the Black-headed Gull, once far and away the commonest Clyde gull, has now undergone the most dramatic decline of all, to the point of near extinction as a breeding species. On the credit side, however, new breeding colonies of the Storm Petrel and Manx Shearwater have been discovered, the Fulmar and Black Guillemot are obviously extending their ranges, and the Ailsa Craig Gannet colony and large predatory gulls are steadily increasing.

Detailed investigations into these marked population changes have been in active progress for some time, but as yet it is by no means clear whether some changes are fully developed or still progressing, and much additional work is required. This fourth part is therefore confined to the Clyde distribution and population of the Lesser Black-backed Gull and Herring Gull. The fifth part will deal with the Black-headed Gull and Common Gull, and it is hoped that the sixth part may then be the final part, which will record and summarise all the recent marked changes, and will also bring the census work uniformly up to date.

18. LESSER BLACK-BACKED GULL *Larus fuscus* L.

19. HERRING GULL *Larus argentatus* Pontoppidan

The Clyde breeding stronghold of the universally well-known Lesser Black-backed and Herring Gulls has long been south Argyll, the Clyde islands, and the Ayrshire coast. These areas are therefore

considered in some detail, with distribution elsewhere given in summary form.

Although so well known nowadays, it may not be widely realised that a century ago both these gulls were considered to be uncommon, if not even rare, breeding species in Clyde. It is clear that Robert Gray, author of the classic *Birds of the West of Scotland* (1871), regarded Ailsa Craig as the only known breeding station of the Herring Gull; the Lesser Black-backed Gull, considered to be much the commoner species, nested on Ailsa and on Arran, with a large inland colony on Inch Moan in Loch Lomond.

By the turn of the century the Lesser Black-backed Gull was still breeding on Ailsa in some numbers, but had abandoned Arran and was noticeably decreasing on Inch Moan. A few pairs of Herring Gulls continued to nest on Ailsa, but a new colony of Herring Gulls, totalling possibly 75 pairs, had now been found on Sheep Island and Glunimore and this was regarded as a notable, indeed exciting, discovery. It is worth pointing out, therefore, that apart from Inch Moan in Loch Lomond, at the turn of the century the only known breeding colonies of these two gulls were on Ailsa Craig and the Kintyre islands, right at the mouth of the Clyde. The Lesser Black-backed was also still regarded as much the commoner gull.

By the early 1920s, both gulls had consolidated their positions on Ailsa and the Kintyre islands, but had also now gained a foothold further up the Clyde, on Inchmarnock and the islands at the entrance to Loch Fyne, and the future colonisation of the rest of the Clyde area obviously took place by direct spread from these two centres already established in lower and mid Clyde. By this time the Herring Gull was also beginning to overtake the Lesser Black-backed Gull in numbers.

During the late 1930s there were clear signs of a genuine extension of range, with both gulls beginning to nest at several other sites, and this was presumably encouraged by the lack of any real control during the war years. The really significant increases in population began in the 1950s, and apparently gained impetus from the establishment of many open rubbish dumps, which provided an abundant supply of readily available food. Finally, during the 1970s, something of a population explosion took place, with the Herring Gull in particular, despite significant attempts at control, increasing its breeding population by 65 per cent in a decade. Moreover, nowhere is there any real indication that this accelerating population increase will cease, unless existing control measures are intensified or new controls introduced.

With relatively few exceptions, all Clyde breeding colonies are combined colonies, so it is convenient to consider the two gull species together.

Sanda

The three main islands of the Sanda group – Sanda, Sheep Island, and Glunimore – lie some one and a half miles off the south-east tip of the Kintyre peninsula. Although Sanda is the only really sizeable island in the group, it is only relatively recently that gulls began to nest on Sanda in any quantity. Indeed, until the early 1940s no gulls nested on Sanda at all. The main gull colony was always on Sheep Island, with some on the adjacent rock stack of Glunimore. Within recent years, however, serious farming ceased on Sanda, and the steadily increasing gull population was obviously beginning to run out of easily available room on Sheep Island, which presumably led to the extension to Sanda, where the size of the gull colony now rivals, and may well soon exceed, that of Sheep Island, a complete reversal of the situation which has existed since the turn of the century.

LBB: Although known to nest on the neighbouring Sheep Island since the late 1920s, the Lesser Black-backed Gull began to nest on Sanda, apparently for the first time, only in the early 1970s. A fairly steady increase since then, with 70 pairs in 1980, and some 75 pairs at present.

HG: A few pairs began to nest on Sanda in the early 1940s. There were about 15 scattered nests in 1951, and some 20 pairs in 1955, with the position much the same in 1958 and 1964. Some attempts at control were being undertaken by the farmer on Sanda, and these were intensified, so that by 1969 there were only two pairs left on the island. From the early 1970s, however, all serious attempts at control ceased. The Herring Gull population rose (with Lesser Black-backed also colonising Sanda) and soon showed an extremely rapid and uncontrolled increase. There were over 100 pairs in 1972, and at least 800 pairs in 1980, with apparent further increases since then.

Sheep Island

LBB: Began to nest on Sheep Island in the late 1920s, and slowly increased. Some 30 pairs in the early 1940s, at least 50 pairs in 1951, and about 75 pairs in 1955. Over 100 pairs in 1964, and a very rapid increase thereafter, so that by 1969, with at least 250 breeding pairs, for the first time there were more Lesser Black-backed Gulls nesting on Sheep Island than Herring Gulls. Extensive local egg collecting (see below) may have played a part in this population change. From then on, however, the Herring Gull population increased very rapidly and the Lesser Black-backed steadily declined, to 36 pairs in 1980, which is much the position at present.

HG: First discovered nesting in 1900, with an estimated population of at least 20 pairs. Well-known breeding species throughout the 1920s and 1930s, and population estimated to be at least 100 pairs in early 1940s. Steady increase continued, with at least 200 pairs in 1951, and probably 400 pairs in 1955/56. Shortly after this, extensive egg collecting commenced and the population had been reduced to 150 pairs by 1964; some 200 pairs in 1969. From then on virtually all attempts at control ceased, and the population was considered to be 1,000 pairs in 1980; apparently a further increase since then.

Glunimore

LBB: Three pairs nesting in 1953 was apparently the first record; none had been found in 1951. Although birds were often present, there was apparently no further evidence of breeding until 1964, when some 10 pairs were found nesting; 40 pairs in 1969. Some decrease since then, with only 10 pairs in 1979, and apparently none at all in 1980, or since. Clearly an erratic and rather unstable colony.

HG: In 1898 a colony of nearly 50 pairs of Herring Gulls was found on Glunimore. At the time, this was regarded as a notable discovery, and considered to be the largest colony in the Clyde area, since although the Herring Gull also nested on Ailsa Craig, it was there "much inferior in numbers" to the Lesser Black-backed Gull. Herring Gulls have been known to nest on Glunimore ever since, although there is apparently not much detailed information available about numbers. Some 40 pairs were breeding in 1951, about 50 pairs in 1955, and this remained more or less the position, with some 50 pairs in 1964 and 1969. Since then there has been a steady increase, with at least 100 pairs in 1980.

Kintyre, Mull of Kintyre

A widely scattered colony, on ledges over nearly a mile of cliffs.

LBB: Commenced nesting in mid-1950s, with a few pairs scattered along the cliffs. Ten nests in 1958 and 1960. Twelve in 1964, and 20 nests in 1969. None seen in 1974, but at least 40 nests in 1979. Present position much the same; always far outnumbered by the Herring Gull.

HG: None nesting in 1946, but about a dozen pairs nesting in 1948. At least 50 pairs in 1953, and 120 pairs breeding in 1958. From then on a steady increase; at least 150 pairs in 1964 and 200 pairs in 1969. Some 250 pairs in 1979, and apparently much the same at present.

Kintyre, hill slopes north of Mull

A widely scattered mixed gull colony of Lesser Black-backed, Herring and Common Gulls, with a few pairs of Great Black-backed, in existence since at least the late 1930s, although egg-collecting exercises some degree of control. Estimates of population are difficult, because of the scattered nature of the colony, and recently there appears to be evidence of some decrease.

LBB: At least 50 pairs nesting in 1946 and 1953, and over 100 pairs in 1958 and 1964; 150 pairs in 1969, but down to some 50 nests in 1975. Certainly 200 pairs nesting again in 1979, but some recent decrease and at present probably under 150 pairs.

HG: Probably breeding since late 1930s, and certainly a well established colony by the early 1940s, with nearly 200 pairs by 1946, although subsequent increase fairly slow because of extensive egg-collecting. At least 200 pairs in 1953, 250 pairs in 1958 and 1964, and 300 pairs in 1969. Only some 150 pairs in 1975, but over 350 pairs in 1979, and apparently just on 250 pairs at present.

Kintyre, Dun Ban

Nesting in steep gullies on the west Kintyre cliffs near Dun Ban, some two miles north of the Mull lighthouse; site difficult of access. A few Herring Gulls known to be nesting here since late 1930s.

LBB: None seen in 1946. A few birds present in 1964 but no proof of nesting. First breeding record known to me was in 1969, when 30 pairs were nesting, in numbers equal to Herring Gull. Some 75 pairs breeding in 1979.

HG: At least ten nests in 1946, 20 nests in 1964, and 30 pairs in 1969. At least 100 pairs breeding in 1979.

Kintyre, Machrihanish Moss

LBB: During the years of the second world war, public access to Machrihanish Moss was restricted. During the early 1940s small numbers of Lesser Black-backed Gulls, at best some 20 to 30 pairs, began to nest, but were soon exterminated by egg-collecting when access restrictions were removed around the mid-1940s.

HG: Nil.

Kintyre, Tangy Loch

LBB: In 1960 two pairs were nesting beside the Black-headed Gulls on the island in Tangy Loch. This is the only record known to me.

HG: Nil.

Kintyre, Loch an Eilean group

A thinly scattered mixed gull colony of Lesser Black-backed, Herring and Common Gulls, with a few Great Black-backed Gulls, over the moors. Formerly much disturbed by egg-collecting and shooting.

LBB: Apparently first known to nest in 1953, when at least a dozen pairs present; none seen in 1946 or 1948. Some 10 pairs breeding in 1958 and 1960, 20 pairs in 1969, and at least 100 pairs in 1979.

HG: Breeding since at least late 1930s and probably much earlier, but deliberate attempts at population reduction after the last war, in late 1940s and early 1950s. Probably well over 100 pairs attempting to nest by mid-1940s, but breeding success very limited. By about 1960 serious attempts at population control had more or less ceased, and some 40 pairs were again breeding successfully in 1969. Certainly 100 pairs in 1979.

Kintyre, Loch Romain group

Another scattered colony, very thinly spread, and nowadays very nearly a continuation of the Loch an Eilean group.

LBB: About a dozen pairs in 1960, the first proof of breeding known to me; 30 pairs in 1969, and some 60 pairs in 1979.

HG: Birds known to be present since mid-1940s, and a few scattered pairs certainly breeding in 1953; at least 30 pairs in 1960, 40 pairs in 1969, and 75 pairs in 1979.

Kintyre, Eilean a' Chomhraig

LBB: One pair nesting beside the Common Terns in 1958; none seen in 1969. No later information.

HG: Nil.

Knapdale, moors and hill lochs

No significant stable colony known to me, but a few Lesser Black-backed and Herring Gulls nest over the moors in small scattered groups, often on the fringe of Common Gull colonies, and also on some offshore islets to the west. Population apparently extremely variable, and numbers very much estimated.

LBB: Total possibly under 20 pairs in 1960 and 1969; possibly 30 pairs in 1979.

HG: Total possibly 50 pairs in 1960, 70 pairs in 1969, and 100 pairs in 1979; some recent evidence of decrease.

Upper Loch Fyne, Liath Eilean

LBB: Nil.

HG: None reported during 1899 visit. Some 35 pairs nesting in 1954, and 40 pairs in 1957. Site much disturbed in following years, and only some half-dozen pairs breeding in 1964. Possibly two pairs in 1969, but breeding not proved. No later record.

Upper Loch Fyne, Glas Eilean

LBB: None reported during 1899 visit. One pair nesting in 1954, two pairs in 1957 and 1960, six in 1964, and 12 pairs in 1969. At least 18 pairs in 1979, and 20 pairs at present.

HG: None reported during 1899 visit. Some birds obviously nesting in 1947. At least 25 pairs breeding in 1954, 30 pairs in 1957, 20 pairs in 1960 and 1964, and 25 pairs in 1969. Considerable increase to some 90 pairs in 1979, and 100 pairs at present day.

Upper Loch Fyne, Minard Islands

Two adjacent islands, Fraoch Eilean (Heather Island) and Eilean Aoghainn (Lamb Island), in Loch Fyne nearly opposite Minard. Combined notes for both islands as follows:

LBB: None reported during 1899 visit. One pair nesting (on Lamb Island) in 1928. Four or five pairs in 1951, eight pairs in 1955 and 1958, six pairs in 1969, and 20 pairs in 1979.

HG: None reported during 1899 visit. A few pairs nesting in 1928. Probably ten pairs in 1951, and at least 30 pairs in 1955. Certainly 50 pairs in 1958, but later considerable decrease because of disturbance, and only ten pairs breeding in 1969. Population increase, to some 40 breeding pairs in 1979, and about 50 pairs at present day.

Upper Loch Fyne, moors and hill lochs

As Knapdale, no significant colony known to me, but small numbers of both Lesser Black-backed and Herring Gulls formerly nested thinly over some moors, particularly around Fincharn Loch and for several miles east to Loch Leacann, and further north around Loch Sionnaich, during and just after the war. During late 1950s determined attempts at destruction, however, and to the best of my knowledge no known breeding for past quarter-century. Any attempts at estimating population were very approximate, and apart from occasional vague reports I have no recent positive evidence of any gulls breeding in this area.

LBB: Possibly up to 50 pairs in mid-1950s; shot out during late 1950s; no later record.

HG: Possibly up to 100 pairs known from late 1940s to mid-1950s; shot out during late 1950s; no later record.

Cowal, Eilean a' Buic

Much disturbance from recent oil-related developments at Portavadie.

LBB: None reported during 1899 visit. None in 1948, two pairs in 1954, and six pairs breeding in 1957. None in 1964 or 1969; no later record.

HG: None reported during 1899 visit. Five pairs in 1948, ten pairs in 1954 and 1957, 12 pairs in 1964, and 16 pairs in 1969. None in 1979, and no evidence of breeding since then.

Cowal, Eilean Buidhe

Much disturbance from recent oil-related developments at Portavadie.

LBB: None reported during 1899 visit. Absent in 1947 and 1954, but some 30 nests in 1956, and obviously still nesting in 1958 and 1961. Thirty nests in 1969. None in 1979, and no later record.

HG: None reported during 1899 visit. Some 30 pairs breeding in 1947 and 1954, and at least 60 pairs in 1956. Possibly 100 pairs in 1958 and 1961, and some 75 pairs in 1969. None in 1979, and no later record.

Cowal, Sgat Mor

Increasingly disturbed by parties from yachts, particularly during the 1960s, and now completely destroyed as suitable nesting site by the recent oil-related developments at Portavadie.

LBB: None reported during 1899 visit. A few pairs nesting in 1924 and 1925. Some 30 pairs breeding in 1948 and 1949. Well over 50 pairs in 1951. Nearly 100 pairs in 1954, at least 100 pairs in 1955, and approximately 125 nests in 1956. Less than 100 nests in 1964, and some 70 nests in 1968 and 1969. None in 1979, and no later record.

HG: None reported during 1899 visit. Several pairs nesting in 1924 and 1925. At least 50 pairs breeding in 1948 and 1949. Over 100 pairs in 1951, nearly 200 pairs in 1954 and 1955, and approximately 250 nests in 1956. Reduced to some 150 nests by 1964, and 100 nests in 1968 and 1969. None in 1979, and no later record.

Cowal, Sgat Beag

Increasingly disturbed by parties from yachts, particularly during the 1960s, and now totally destroyed as suitable nesting site by the recent oil-related developments at Portavadie.

LBB: A few pairs nesting in 1924 and 1925. About twelve pairs in 1948, 1949 and 1951; 25 pairs in 1954 and 1955; 30 pairs in 1956. About 20 nests in 1964 and 1968; 24 nests in 1969. None in 1979, and no later record.

HG: A few pairs nesting in 1924 and 1925. None in 1948 or 1949, but about six pairs in 1951, four pairs in 1954, and five pairs in 1955 and 1956. No evidence of any nesting in 1964, but four pairs in 1968 and 1969. None in 1979, and no later record.

Cowal, mainland

Both gulls long known to be regular nesting species on offshore islands, but very uncommon, and now doubtful, on Cowal mainland.

LBB: In 1944 a few birds were present in the former Black-headed Gull colony at Loch Melldalloch, and I was shown two fresh eggs collected there which could virtually only have been those of the Lesser Black-backed Gull, since no Herring Gulls were present. I have no knowledge of any further records.

HG: In late 1970s reported on apparently good authority to be breeding in small numbers in Glenbranter forest on the high moors between Strachur and Loch Eck, but no recent confirmation and I now have reason to doubt whether the gulls, although present, were genuinely breeding.

Cowal, Eilean Dearg

LBB: Nil.

HG: Four pairs nesting in 1969; apparently the first record. Nesting attempted over the years and still three pairs in 1979, but this well-known island in Loch Riddon receives regular visits from yachtsmen, and any breeding can at best only be intermittent.

Ailsa Craig

The Herring Gull now far outnumbers the Lesser Black-backed Gull on Ailsa Craig, but this was not always the case. A century ago quite the reverse was true, and most of the old accounts refer to the

much greater numbers of the Lesser Black-backed. John Paterson, writing at the turn of the century, was quite specific: "The Herring Gull occurs in small numbers, being greatly exceeded by the Lesser Black-backed Gull", and again "A few pairs of Herring Gulls nest on Ailsa Craig; colonies of Lesser Black-backed Gulls on Ailsa Craig." In 1898, a colony of nearly 50 pairs of Herring Gulls found on Glunimore was considered to be the largest colony in the Clyde area, for "although this species nests on Ailsa Craig, it is there much inferior in numbers to the Lesser Black-backed Gull".

Exactly when the change in relative status took place is not clear, but there seems little doubt that by the 1920s the Herring Gull was steadily increasing and the Lesser Black-backed Gull was decreasing. Detailed figures are impossible to obtain, since no-one was apparently sufficiently interested to count gulls, but by the late 1930s the best available information indicated that Lesser Black-backed Gulls numbered barely a quarter of the Herring Gulls.

The combined population steadily increased, becoming a real threat to other species, and in the late 1940s, early 1950s, and again in the early 1960s, determined attempts were made to reduce the gull population. These efforts were directed mainly at the Herring Gull population, and for a time appeared to be fairly successful, but to the best of my knowledge all serious efforts at population control have now ceased, and the gulls are apparently increasing all the time. Recent information on the population is as follows:

LLB: Some 300 pairs in 1947, 200 pairs in 1950, and 100 pairs in 1951 and 1953. At least 200 pairs in 1958, 250 pairs in 1961 and 1965, and 300 pairs in 1969. An increase, to some 350 pairs by 1979, and present population much the same.

HG: Approximately 1,200 pairs in 1947, some 800 pairs in 1950, but down to 300 pairs in 1951 and 250 pairs in 1953. After attempts at control ceased, the population had increased again to some 750 pairs in 1958. Further control measures had reduced the population to some 400 pairs in 1961, and 250 pairs in 1965. At least 450 pairs in 1969, and then uncontrolled increase to some 1,000 pairs in 1979; apparent slight increase since then.

Pladda

LBB: Two pairs nested in 1964, apparently the first record; three pairs in 1965, and six pairs in 1966 and 1967. Considerable disturbance from casual visitors, however, and no further sign of nesting until mid-1970s,

when several pairs were again breeding. Steady increase and some 30 pairs by 1979.

HG: A pair, one of which was an injured ringed bird, nested on Pladda from 1950 to 1955. Three pairs in 1956, and then slow increase up to 15 nests in 1966. Considerable disturbance from casual visitors, and only three nests in 1969. A steady increase again from the mid-1970s, up to some 50 pairs in 1976 and 75 nests in 1979.

Arran, Loch Garbad

LBB: Nil.

HG: One nest in 1964, and three pairs breeding in 1969, but nests robbed and no later record.

Arran, 'hill lochs'

LBB: Robert Gray (1872) said that the Lesser Black-backed Gull was "very common. It breeds on various lochs in Arran", but it appears to have decreased steadily, for John Paterson did not include it for Arran in 1901, and when it ceased to breed is not known. Nor are the localities of any of its former breeding stations known with any certainty. It seems likely, however, that the present-day large colonies at several moors and hill lochs (see below) would also have been the most likely sites a century ago. The Lesser Black-backed Gull apparently returned to breed on Arran in the mid-1940s.

HG: No known breeding record last century. The Herring Gull apparently first bred on Arran in the mid-1940s.

Locally, the opinion has been expressed that the lack of 'keepering' during the war years enabled the large gulls to gain a breeding foothold, which since then they have never lost and, indeed, have steadily increased.

Arran, Kilpatrick moors

Extensive mixed colony, thinly scattered over some two miles of moorland; much egg collecting.

LBB: Breeding fairly well established by late 1950s. At least 150 pairs in 1969, and some 200 pairs in 1979.

HG: Obviously well established by late 1950s, so presumably had been breeding for previous few years. At least 150 pairs in 1969, and 200 pairs in 1979.

Arran, Machrie to Shiskine moors

LBB: Two pairs in 1964, none in 1968, but one pair breeding in 1969. No other record.

HG: Nil.

Arran, Loch Iorsa to Loch Nuis moors

A widely scattered mixed colony, much disturbed by egg-collecting and recent shooting.

LBB: Breeding in 1944, apparently the first breeding record for Arran (along with Loch Tanna moors) in recent times, although this was possibly one of the stations where the Lesser Black-backed Gull bred last century. About 50 pairs in 1944 and 1955, 75 pairs in 1960, and about 130 pairs in 1969. Much local disturbance thereafter; only 37 nests in 1974, and some 30 pairs in 1979.

HG: Also found breeding in 1944, with some half-dozen scattered pairs beside the more numerous Lesser Black-backed colony. Apparently first breeding record for Arran. Some 30 pairs in 1960, and 60 pairs in 1969, reduced to about 20 nests in 1979.

Arran, Loch Tanna moors

A widely scattered mixed colony, now extending far to the west.

LBB: Breeding in 1944, apparently the first breeding record for Arran (along with Loch Iorsa/Nuis moors) in recent times, although this was possibly one of the stations where the Lesser Black-backed Gull bred last century. Some 30 pairs breeding in 1944, 50 pairs in 1955, and 90 pairs in 1960. At least 100 pairs in 1969, and steady increase thereafter, to at least 250 pairs in 1979.

HG: A fairly well-established colony of at least 50 pairs found breeding in 1944, apparently the first known breeding record for Arran, although it had almost certainly been breeding here for some years; the Herring Gull does not seem to have been recorded as nesting on Arran previously. About 70 pairs in 1955, 120 pairs in 1960, 180 pairs in 1969, and at least 300 pairs in 1979.

Arran, Boguillie hill-lochs

A well-known breeding station of the Great Black-backed Gull, extending well back into last century, but Lesser Black-backed and Herring Gulls only began to nest here in the late 1950s, apparently by

a scattered extension from the neighbouring colonies at Loch Tanna. Most unfortunately, the Great Black-backed colony was virtually exterminated by persistent shooting in the mid-1970s, and the other gulls suffered accordingly.

LBB: No evidence of breeding in 1955. Apparently began to nest in late 1950s, and about 75 pairs in 1960. At least 170 pairs in 1969, but reduced to some 80 pairs by 1979. Present population obviously reduced.

HG: No evidence of breeding in 1955. Apparently began to nest in late 1950s, and well over 100 pairs in 1960. Some 240 pairs in 1969, but reduced to some 70 pairs by 1979, and slight further reduction since then.

Arran, Lochranza

LBB: In 1967 there was at least one pair nesting beside the small Black-headed Gull colony at Loch a' Mhuilinn, Lochranza, but the loch virtually dried out not long after this and I have no later record.

HG: Nil.

Arran, Cock of Arran

LBB: About six scattered pairs in 1964; none in 1969. Vague reports of breeding since then, but no firm evidence.

HG: Possibly ten pairs breeding in 1964; none in 1969. Vague reports of breeding since then, but no firm evidence.

Holy Island

There appears to be no accurate information as to when the large gulls started to breed on Holy Island. Robert Gray made no mention of them in the early 1870s, nor did John Paterson in 1901, and the Rev. J. M. McWilliam was not aware of Holy Island as a gull breeding station in 1936. Both species, however, were reported on good authority to be breeding there in the late 1930s, and I myself can confirm this from 1941, although the first detailed figures I have are for 1944.

LBB: About 50 pairs breeding in 1944, possibly 100 pairs in 1950, and between 150 and 200 pairs in 1954. Certainly 200 pairs by 1960, and 250 pairs in 1969. Some 300 pairs in 1979, and numbers apparently much the same nowadays.

HG: Possibly 100 pairs breeding in 1944, at least 150 pairs in 1950, and some 300 pairs in 1954. Probably 350 pairs by 1960, and certainly 400 pairs in 1969. About 450 pairs in 1979, and numbers apparently maintained since then.

Inchmarnock

This justly famous gullery is now easily the greatest breeding station of the large gulls in the Clyde area, both in sheer size and in density, and undoubtedly has the best documented history, right back to its establishment just before the first world war. The main gullery now stretches for some three-quarters of a mile along the west and south-west shores of the island, with scattered groups elsewhere, and both species breed throughout the entire area of the gullery. The nests are all relatively close to the sea, both above and below the cliffs. The first recognised naturalist to report the gullery was the Rev. J. M. McWilliam, who counted 15 pairs of each species in 1916 and was told that the large gulls "had only recently begun to nest". Summary of population history is as follows:

LBB: Fifteen pairs in 1916. Some 200 pairs in 1924. Approximately 300 pairs in 1937. About 200 pairs in 1953. About 400 pairs in 1958. Some 700 pairs in 1964. Probably 1,000 pairs in 1968, and certainly 1,000 pairs in 1969. At least 1,100 pairs in 1979.

HG: Fifteen pairs in 1916. About 50 pairs in 1924. Approximately 300 to 350 pairs in 1937. About 350 pairs in 1953. Some 650 pairs in 1958. Approximately 850 pairs in 1964 and 1,000 pairs in 1968. At least 1,250 pairs in 1969, and 1,400 pairs in 1979.

This is a simply enormous increase, from 30 pairs to some 2,500 pairs (now close to the limits of estimation with any degree of accuracy) of the combined colony in just over sixty years, and in 1969 I wrote that there was "relatively little predation on the Inchmarnock gulls", so that with abundant territory and food supply there seemed to be "almost no limit to their increase". This, however, is no longer the case. As previously reported in Volume 21 of the *Transactions*, several Ferrets, taken to Inchmarnock to help control the Rabbits, escaped in 1977 and 1978. Feral breeding was soon established, and several young were seen in subsequent years, although because of the dense undergrowth it is difficult to keep track of small mammals, and the present state of this small feral breeding colony of Ferrets is not clear. Within the past few years, however, a good many dead gulls have been found, and if this is the work of the Ferrets then we may soon witness a noticeable reduction in the gull breeding population. Investigations will continue.

Bute, Plan Loch

LBB: Nil.

HG: In 1969 two pairs nested on the marshy island at the Plan Loch, in the midst of the Black-headed Gull colony, but the eggs disappeared and I know of no other record.

Bute, St. Ninian's to Ettrick moors

LBB: At least five pairs in 1960, 20 pairs in 1969, 12 pairs in 1972, and about 10 pairs at present. Eggs collected regularly, however, and breeding success very erratic.

HG: Nil.

Bute, Kildavanan

LBB: Nil.

HG: Three pairs in 1958 and 1969; six pairs in 1979. Eggs collected regularly, however, and breeding success very erratic.

Bute, Dunburgidale

LBB: Nil.

HG: Two pairs in 1958, six pairs in 1969 and 1972, and probably eight pairs in 1979, but eggs collected regularly and breeding success very erratic.

Bute, north-east moors

LBB: In 1969 four pairs were nesting at this site, but the eggs were collected and I know of no other record.

HG: A few pairs commenced nesting here in the mid-1960s; there were at least 20 pairs in 1969 but the eggs were all collected. In 1970 there were still a few pairs, but with no breeding success, and I know of no later record.

Kyles of Bute, Burnt Islands

There are three main islands in the group, straddling the narrows at the Kyles of Bute, and gulls nest on all three islands.

LBB: One pair found breeding in 1952 was apparently the first known record. Birds present the following year but no evidence of breeding, and none in 1955, 1956 or 1957. A few pairs nesting again by 1960,

however, and from then on there were 12 nests in 1964, and some 20 nests in 1965, 1968 and 1969. Only four pairs in 1979, and no subsequent evidence of breeding.

HG: First recorded breeding in 1944, with only a few pairs until early 1950s, when a steady increase commenced. At least 50 pairs in 1955, and 93 nests in 1956. Some 150 pairs in 1960, 187 nests in 1964, 179 nests in 1965, and 243 nests in 1968. Some 250 pairs in 1969, and the increase has continued, with approximately 350 pairs in 1979 and at least this number at present, despite regular disturbance.

Little Cumbrae

Both species certainly known to be breeding by early 1940s; presumably earlier, but no positive information. Apparently no real attempt made to estimate gull populations until early 1950s; summary of details as follows:

LBB: At least 90 pairs in 1952, and about 150 pairs in 1960. Certainly 200 pairs in 1969 and 250 pairs in 1979. Some recent decrease, apparently because of repeated egg-collecting.

HG: Less than 50 pairs in 1952, but nearly 100 pairs in 1960. From then on an obvious increase, to some 300 pairs in 1969 and at least 350 pairs in 1979. Recent decrease, presumably because of repeated egg-collecting.

Great Cumbrae

LBB: Nil.

HG: Up to about a dozen pairs nested, or attempted to nest, at the north-east point of the island from 1942 to 1944, but were apparently exterminated by egg-collecting. No later record.

Ayrshire, south cliffs

This is the only significant breeding station on the mainland of east Clyde. Known since at least the early 1940s, and possibly earlier, as a combined nesting site of both species, but the numbers of Lesser Black-backed Gulls appear to have undergone very marked fluctuations over the years. The Herring Gull population has also fluctuated, but by comparison is much more stable and has not fallen below 100 pairs for the past forty years.

LBB: Small numbers breeding in 1944, some 30 pairs in 1952, and about a dozen pairs in 1955. Only three or four pairs in 1958, however,

and apparently completely absent in 1965, but at least 75 pairs in 1969. Down to some 20 pairs in 1974; 31 pairs in 1976, 22 pairs in 1977, 25 pairs in 1979, and only six pairs in 1980. Possibly 20 pairs breeding in 1983.

HG: At least 100 pairs breeding in 1944, 1952 and 1955. Slightly more in 1958, and 120 to 150 pairs in 1965. Thereafter a substantial increase, to nearly 500 pairs in 1969, at least 400 pairs in 1976, and some 500 pairs in 1979. Then considerable reduction, to some 150 pairs in 1980, but close on 200 pairs in 1982, and around 250 pairs in 1983.

Ayrshire, Ballantrae

LBB: Nil.

HG: In the late 1960s, two or three pairs of Herring Gulls nested, or attempted to nest, beside the tern colonies on the Ballantrae shore, but without any real success. Breeding is still apparently attempted from time to time.

Lady Isle

A few pairs of Lesser Black-backed and Herring Gulls were breeding on Lady Isle in the early 1940s, but unlike the other Clyde colonies, most of which experienced remarkable increases, the Lady Isle population remained relatively small for the next thirty-odd years. In the 1940s, the Scottish Society for the Protection of Wild Birds established Lady Isle as a reserve, largely to protect the colony of Roseate Terns, and the numbers of large gulls were kept under careful control, mainly by constant disturbance and discouragement rather than by direct culling. These measures were carried out unceasingly until the early 1970s and were apparently extremely effective. The early 1970s, however, saw a vast reduction in the numbers of terns all over the Clyde area and, in particular, the Roseate Tern soon completely disappeared as a Clyde breeding species. Shortly after this the S.S.P.W.B. ceased its attempts at gull control, and within the next few years the large gull population increased enormously.

LBB: About 10 pairs known to be breeding in 1942, and population remained very steady over next thirty years; 12 pairs in 1955, some 20 pairs by 1964, 25 pairs in 1969, and 28 pairs in 1972. From then on serious control measures ceased and the gulls increased rapidly; some 250 pairs in 1979, and possibly more since then.

HG: Eight pairs breeding in 1942. Population also remained very steady, with 12 pairs in 1955, under 20 pairs in 1964, and 30 pairs in 1969 and 1972. From then on serious control measures ceased and the Herring Gulls increased even more rapidly. Some 400 pairs in 1979, and apparently still increasing.

Horse Island

Herring Gulls began to nest on Horse Island in 1955, and Lesser Black-backed Gulls in 1956. Horse Island is now a reserve of the R.S.P.B. and an extensive culling programme in the late 1970s has led to recent marked reductions in population.

LBB: Three or four pairs in 1956 and 1958. About 25 pairs in 1959, 40 pairs in 1964, and some 30 pairs in 1969. Very rapid increase thereafter, with some 100 pairs in 1970, over 200 pairs in 1972, 240 pairs in 1974, 342 pairs in 1975, over 600 pairs in 1976, and 872 pairs in 1977. Severe culling then caused marked drop in population, to some 350 pairs in 1979 and 297 pairs in 1980. Population still under some control.

HG: Six pairs breeding in 1955, and 12 pairs in 1958. About 30 pairs in 1959, 100 pairs in 1964, and at least 175 pairs in 1969. Probably 300 pairs in 1970, at least 350 pairs in 1972, 500 pairs in 1974, 617 pairs in 1975, about 700 pairs in 1976, and some 750 pairs in 1977. Severe culling then caused marked drop in population, to some 300 pairs in 1979 and 198 pairs in 1980. Population still under some control.

Ayrshire, inland

LBB: Occasional pairs of Lesser Black-backed Gulls have nested inland in Ayrshire over the years, e.g. at Rowbank reservoir, near Loch Doon, and at Loch Moan on the Kirkcudbrightshire border, but to the best of my knowledge there is no inland nesting at present.

HG: Over the years a few pairs of Herring Gulls have occasionally nested, or attempted to nest, beside the hill lochs on the south moors. The most recent record was apparently two pairs breeding near Loch Riecawr in 1975.

Renfrewshire

LBB: Since at least the mid-1940s, occasional pairs have nested erratically at five known sites, i.e. Harelaw Dam, Rowbank, Castle Semple, Glen Moss, and Loch Thom, often in association with Black-headed Gulls. No really established colony, however, although nowadays Loch Thom usually has a few pairs attempting to breed.

HG: A pair nested at Loch Thom in 1947. No later record known until 1964, when several pairs of Herring Gulls nested at Loch Thom, plus one pair at nearby Gryfe reservoir; seven pairs nested in 1972. Birds still present at Loch Thom most years and attempting to breed, but nests robbed so regularly that any assessment of breeding success is virtually impossible.

Dunbartonshire

LBB: Reported to be breeding in some numbers on the north moors of Rosneath in the years just before the first world war, but no later information. One pair attempted to nest on Ring Point in 1972, but the eggs were taken. Small numbers were reported to be nesting near Burncrooks reservoir in the late 1960s and early 1970s, and any recent information from this site will be very welcome.

HG: A few pairs breeding beside the hill-lochs on the south moors of Rosneath in 1947. Apparently still nesting, and in increased numbers, in 1955, but no later information. One pair nested at the Midross gravel pits in 1974. A few pairs also reported to be nesting near Burncrooks reservoir in late 1960s and early 1970s, and any additional information from this site will be very welcome.

Loch Lomond, Inch Moan

LBB: A very well-known and old-established breeding station. References to the Lesser Black-backed colony on Inch Moan go back to 1864, when there were said to be 150 pairs breeding, and increasing. In 1898 the gulls were reported to be diminishing, because of obvious egg-collecting, but there was still a 'colony' in 1901, and about 100 pairs were breeding in the 1920s. There were certainly 50 pairs in 1942, but extensive egg-collecting substantially reduced the population and only ten pairs remained in 1951. Only six nests in 1969, and any breeding since then has been very erratic; one pair attempted unsuccessfully in 1978. It is now extremely unlikely that there will be any further attempts at nesting, since the previously suitable nesting territory has been covered by a heavy growth of new woodland.

HG: Said to be nesting on Inch Moan in the 1880s, but no later information. A few Herring Gulls began to nest on the island in the late 1940s, and some 20 pairs were breeding by 1951. Numbers steadily declined because of disturbance and only two pairs known in 1969. No further records.

Loch Lomond, other islands

LBB: One or two pairs found breeding on Inchmurrin in the 1890s, after disturbance to Inch Moan colony. On Inchlonaig a nest with eggs was found in 1972 and two pairs nested in 1975. About 22 pairs on the Luss islets in 1980, and one pair on Inchfad in 1980. About 20 nests on Tarbet Isle in 1980, and a few pairs still breeding there.

HG: Three nests on Tarbet Isle in 1980.

West Stirlingshire

LBB: At least one pair breeding on the islands in Loch Arklet in 1955; birds seen in later years but no proof of breeding. One pair nested at Balmaha in 1980.

HG: Nil.

The well-known gull colony at Flanders Moss lies on the extreme fringe of the Clyde area, on the boundary between the Clyde and Forth faunal areas. Both Lesser Black-backed and Herring Gulls are still breeding there in some numbers, but with recent agricultural activity the main gull populations now nest in the east part of Flanders Moss (i.e. in Forth), and so are excluded from this Clyde survey.

Lanarkshire

LBB: Reported to be breeding on moors near Strathaven in late 1960s and early 1970s, but no positive details known to me.

HG: Nil.

Summary

Any attempts to assess the total Clyde breeding population of the large gulls can only be very tentative, with considerable reliance on estimates, but the comparable figures over the years, averaged to the end of each decade, would appear to be as undernoted, and although the approximate nature of these figures must be emphasized, I think the comparisons are valid and useful.

	LBB	HG	Total
1940	752	1,619	2,371
1950	1,061	2,497	3,558
1960	1,819	3,685	5,504
1970	3,177	5,190	8,367
1980	3,977	8,592	12,569

All figures breeding pairs

In summary, the combined Clyde breeding population of the Lesser Black-backed and Herring Gulls has gone from under 250 pairs (at four colonies) at the end of last century to over 12,500 pairs (at nearly forty colonies) at the present day. No sufficiently accurate figures are available to enable valid comparisons to be made for the early years, but from the early 1940s, although there have been some differences between the species – probably because of differential controls and culling, the total combined breeding population of both species has increased by the surprisingly constant factor of some fifty per cent every ten years. Of the three largest Clyde colonies, Ailsa Craig now has a combined total of over 1,350 pairs, the Sanda group some 2,000 pairs, and Inchmarnock 2,500 pairs. Comment is superfluous on increases of this magnitude, but clearly some type of effective population control must be given serious consideration if neighbouring species are not to suffer unduly.

(To be continued)