LARUS GULLS ON LUNDY

By
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Throughout this paper the use of the word 'gulls' refers to the three species Lesser Black-backed Gull *(Larus fuscus)*, Herring Gull *(Larus argentatus)*, and Great Black-backed Gull *(Larus marinus)*.

INTRODUCTION

That populations of breeding gulls have substantially increased in all parts of their West European range during the 20th Century has been well documented (e.g. Cramp *et al* 1974, Harris 1970, Mudge 1978). In the Bristol Channel area during this period Herring Gulls have been increasing at an annual rate of 10.1% and Lesser Black-backed Gulls at 9.1% (Ferns 1982). On the Pembrokeshire Islands of S.W. Wales Herring Gulls increased annually at 10% during the 1960's (Sutcliffe 1986). In common with other areas, these increases have been linked to much reduced human persecution and an increased exploitation of edible refuse (e.g. Harris, Mudge). However in recent years decreases have been described for some gull populations and these have been linked to an unusually high rate of mortality in the breeding season, caused by botulism contracted at the refuse tips. In the inner Bristol Channel area during the period 1975 to 1980 Herring Gulls declined by 67% and Lesser Black-backed Gulls by 30% (Ferns). In S.W. Wales Herring Gulls have been declining at c.16% per annum since the late 1970's and even the Great Black-backed Gulls have shown decreases despite the cessation of control measures; Lesser Black-backed Gulls have however continued to increase at c.9% annually and this was linked to their different feeding habits which brought them less into contact with refuse dumps (Sutcliffe).

On Lundy, gull numbers were last reviewed by Boyd (1956), who lamented the lack of available information. Since that time there have been a number of counts though the most recent census occurred as long ago as 1971. The main objective of this work was to carry out a repeat census and to review changes in the gull populations in the light of all the available information.

METHODS

The census was carried out between May 12th and May 23rd in excellent weather. During this period the gulls had mostly laid eggs and as far as possible counts were made of incubating birds and/or nests. The nature of the terrain frequently made such straightforward sampling difficult. Allowances had to be made for the ground that was invisible so a degree of rounding up was necessary. Lesser Black-backed Gulls were still mostly nest building during the survey period so the degree of guestimating was consequently greater for this species. A few pairs were located by boat.

The methods used in preceding censuses have been largely left unrecorded. Some quoted counts may therefore be little more than speculative guesses. For instance, Perry's (1940) often quoted figures for 1939 seem to be likely to be overestimates for some species (Alexander *et al* 1945). The unknown degree of error attached to many of the results makes their interpretation difficult. Of the nine existing Herring Gull counts only those made in 1967, 1969, 1970 and 1971 claim to be an accurate assessment. On the other hand Great Black-backed Gulls with their more solitary and conspicuous nesting habits might be expected to provide fewer censusing difficulties; indeed counts made in 1954, 1956, 1957, 1969, and 1971 all claim to be accurate nest counts.

RESULTS

Lesser Black-backed Gull

Most early 20th century observers stated that the Lesser Black-backed Gull was present in great numbers and Blathwayt (1900) reckoned it to be not greatly inferior to the Herring Gull. Perry estimated an astonishing 350 pairs and even assuming some exaggeration, a considerable decrease must have taken place over the next 18 years. For in 1954 just 61 nests were located and two years later this had dropped to 36 nests (Fig. 1). Boyd (1956) suggested that the decline of the Lesser Black-backed Gull was linked to its habit of nesting on readily accessible ground which made it particularly vulnerable to egg collecting. At any rate subsequent censuses, the present included, indicate a continuing recovery, the population increasing at approximately 5.4% per annum.

The slopes on the N.E. point and above St. Mark's stone remain the largest colonies (Fig. 2). Perry's large concentration North of St. John's stone has been mainly abandoned but the gullies below Tibbets are gaining importance. All the colonies are found on the sloping sidelands and steep gullies, sometimes only just below the plateau. They are mostly bracken dominated (e.g. N.E. point) but are sometimes in a more open *Armeria/Holcus*-type vegetation (e.g. St. Mark's stone). The remaining pairs are fairly evenly scattered around the coast, often nesting within Herring Gull colonies.

Herring Gull

Early observers in the latter part of the last century and early part of this all referred to the Herring Gull as very numerous (Loyd 1925), the only estimate in 1939 giving 3000 pairs. Subsequently numbers have fluctuated widely, and no clear trends are readily apparent (Fig. 3). Boyd suggested that the absence of the anticipated increase was caused by human disturbance, principally egg persecution and he records that over 10,000 eggs were taken between 1939 and 1949. This practice had clearly been carried on for many years for in 1925 Loyd records that "until recently considerable quantities were taken each year . . . a fact which helped to keep the numbers of birds within reasonable bounds". Egg collecting persisted, principally in the South West of the island until around 1970, though the number collected was unlikely to have been large in recent years. Control measures, principally egg pricking, have also been practised and during the years 1976 to 1983 over 6,500 eggs were affected in this way at all of the island's largest colonies (1958, 1966, and 1979 L.F.S. reports).

Fig. 2 shows that there is a marked nesting preference for the West coast. Here nesting mainly occurs towards the top of short broken cliffs and on the steep boulder slopes. Where they are found nesting on vegetated slopes they tend to occupy a lower position than the Lesser Black-backed Gull. The largest colony was on the steep slope above Pilot's Quay where nearly 100 pairs were nesting.

The 1986 census revealed a little over 1000 pairs and this may represent a recent decline in breeding numbers.

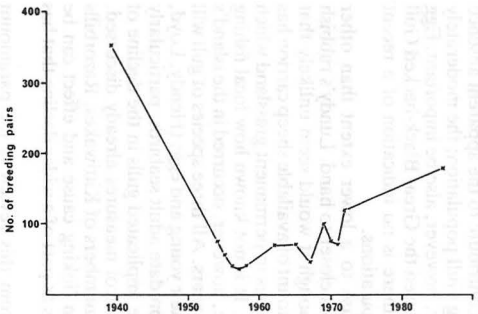
Great Black-backed Gull

Numbers of Great Black-backed Gulls were somewhat precarious at the beginning of the century, and then in common with other island groups a substantial increase took place after 1915 at approximately 14.4% per annum (Davis 1958; Fig. 4). However, this increase was not sustained and a levelling out at between 30 and 50 pairs has occurred since the 1930's. Boyd considered that this was linked to a declining seabird population and a shortage of food, while Davis records that eggs were collected to a considerable extent in the past, and were currently being taken annually. The 1986 census seems to indicate a slight increase from the earlier level and Fig. 2 shows that the largest concentrations occur around St. John's stone and within the N.E. corner. As elsewhere they favour conspicuous nesting sites on stacks, small headlands and prominent ridges.

South West Sample Area

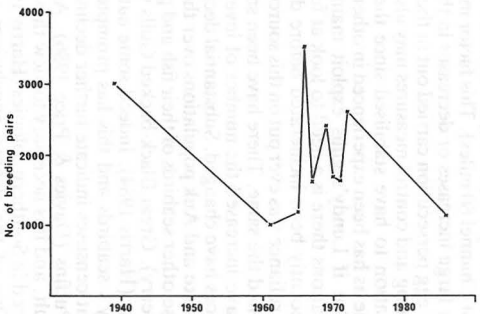
During the early days of the L.F.S. a study area first identified by Alexander *et al* (1945) in 1942 was annually censused for its seabirds. The area is shown in Fig. 2 and extends between Goat Island and the Rattles. It is only possible to refer to those

FIGURE 1:



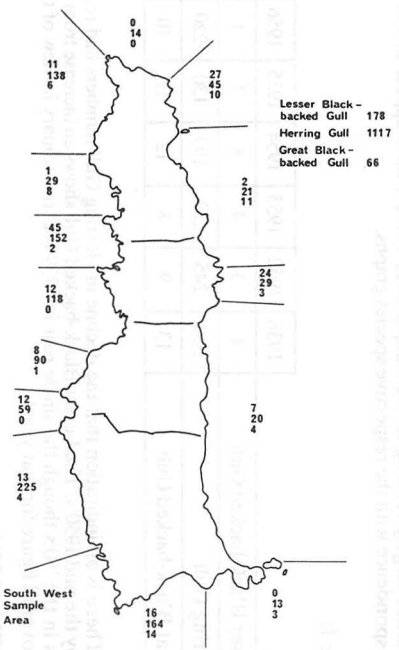
Numbers of Lesser Black-backed Gulls.
Sources: Perry & L.F.S. reports 1954-1972.

FIGURE 3:



Numbers of Herring Gulls.
Sources: Perry & L.F.S. reports 1962-1972

FIGURE 2:



The distribution of breeding gulls around Lundy in 1986

years in which counts of breeding pairs were made; in the remainder adults were counted and these showed wide fluctuations. Bearing in mind interpretative difficulties largely relating to the sample size, Table 1 does appear to show some correspondence with the respective species graphs.

Table 1:

	1938	1952	1953	1954	1955	1956	1986
Lesser Black-backed Gull	1	3	4	8	7	4	16
Herring Gull	500	245	223	199	130	220	164
Great Black-backed Gull	13	9	8	12	12	10	14

There is an indication that the decline in Herring Gull numbers had reached a low by the mid 1950's. The Lesser Black-backed Gull shows an increase from the low levels in the '50's though the single pair in 1939 is extraordinary in view of the very high overall figure for that year!

CONCLUSIONS

The Lesser Black-backed Gull has increased since the late 1950's and this is precisely coincident with increases that have occurred on Skomer and Skokholm (Sutcliffe). Lesser Black-backed Gulls are the most marine gull in their feeding habits and it is possible that this has spared them the recent declines that have occurred in the inner Bristol Channel, where it is believed they contract botulism at rubbish dumps (Ferns). While the English and Welsh coasts (11 and 33 miles away respectively) are within foraging distance it may be that the large population centres and their associated rubbish are a little too far to be conveniently exploited by Lundy's gulls (e.g. Barnstaple 28 miles, Swansea 50 miles, Plymouth/Exeter 70 miles, the inner Bristol Channel 80 miles). This factor might also contribute to the apparent absence of any large increases or decreases in the Herring Gull population; the moderately heavy egg persecution carried out in the past may, however, also be important. Egg collecting and control measures may also have caused the Great Black-backed Gull population to have stabilised since the 1930's; there is no indication of a recent decline as has been experienced in other local populations.

But if Lundy's gulls exploit mainland refuse to a lower extent than other populations there is a need to look at food sources closer to hand. Lundy's rubbish has recently been incinerated before disposal though it would seem unlikely that much reliance was ever put on this source. The amount of available sheep carrion has remained the same. There have been small increases in permanent grassland which will have increased the number of invertebrates. It is not known how local fishing practices have changed. Substantial declines have, however, occurred in the island's Kittiwake and Auk populations over the past 40 years. All three species of gull will piratise other seabirds of their fish and predate their young and eggs (Hendy, Loyd, and Perry). Great Black-backed Gulls will also predate adult seabirds, particularly Puffins (Harris 1984). Indeed some authors have implicated gulls in the decline of Lundy's seabirds and this has prompted the control measures already discussed. Recent censuses indicate further declines in the numbers of Kittiwakes, Razorbills and Puffins (Davies & Price 1986). As so often linking cause and effect can be difficult, and it is necessary to view these declines as part of a wider decline that has occurred in Southern colonies (Harris 1984).

One of the clearest conclusions to arise from this review is the paramount importance of conducting regular counts in the future. Without these it will be impossible to see whether Lundy's gulls decline as other populations are; alternatively now that control measures have ceased they might well be expected to increase. It would be worthwhile supplementing counts with diet studies in order to establish how much reliance Lundy's gulls put on the marine environment during the breeding season.

FIGURE 4:

Numbers of Great Black-backed Gulls.
Sources: Blathwayt, Cummings 1909, Hendy 1922, Loyd, Harrison 1931, Perry, Davis, L.F.S. reports 1952-1972.

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