BREEDING CLIFF-NESTING SEABIRDS 2013

by

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INTRODUCTION

Lundy is one of the most important sites in South West England for breeding seabirds and is one of the few locations where Puffins and Manx Shearwaters breed. Regular monitoring on a four to five yearly basis was started in 1981, focusing primarily on the cliff-nesting seabirds. Gulls were recorded at the same time, but not through dedicated surveys, and intensive census work on the island's Manx shearwaters began in 2001. From 25-31 May 2013, a repeat survey was undertaken as part of this programme, and the following describes the results of the census work that targeted the cliff-nesting seabirds, specifically Guillemots (*Uria aalge*), Razorbills (*Alca torda*), Puffins (*Fratercula arctica*), Kittiwakes (*Rissa tridactyla*), Fulmars (*Fulmaris glacialis*) and Shags (*Phalacrocorax aristotelis*). Overall, the results for 2013 were remarkably encouraging, with considerable increases for virtually all species since the last full survey in 2008.

METHODOLOGY

The same survey methodology has been used since 1981 and is based upon the *Seabird Monitoring Handbook for Britain and Ireland* (Walsh *et al.* 1995). It involves checking every section of coastal cliff, using a register to record numbers of breeding seabirds at each site. Full details of the approach were described in the *Lundy Field Society Report* for 1996 (Price 1996). For Guillemots and Razorbills the count unit is individual birds occupying breeding sites, as it is very difficult to assess pairs, particularly for Razorbills which typically nest in crevices. Puffins are also counted individually, but for this species birds on the sea adjacent to breeding cliffs are also included. For Kittiwakes and Shags, which construct an obvious nest, the count unit is Apparently Occupied Nests (AON), and for Fulmars (which make no nest but lay their eggs on suitable ledges) it is Apparently Occupied Sites (AOS). In the latter case, distinction must be made between prospecting birds simply sitting on ledges and birds genuinely incubating eggs or young.

RESULTS

Table 1 provides an overview of the distribution and number of seabirds recorded in 2013, broken down into 12 sections (A-L) working clockwise round the coast starting at the south.

The main concentration of breeding birds was from Jenny's Cove up the West Side to North East Point (sections E to G), with 88% of the records coming from these sections. This stretch of the coast has extensive high rugged cliffs, largely comprising tall precipitous buttresses interspersed with deep gullies. Though there are also high cliffs to the south, from Dead Cow Point to Shutter Rock (mainly sections B and C) there is much instability and regular cliff falls such that permanent nest sites are less readily available. The East Side is relatively sheltered with lower and less rugged cliffs (sections I to L) and consequently has much less suitable nesting habitat.

Table 1. Cliff-nesting Seabird Survey 2013: Results by coastal section (AON = apparently occupied nests; AOS = apparently occupied sites)

Section	Guillemot (birds)	Razorbill (birds)	Puffin (birds)	Kittiwake (AON)	Fulmar (AOS)	Shag (AON)
A South Light to Shutter Rock	8	27	0	0	2	3
B Shutter Rock to Old Light	59	87	0	0	1	29
C Old Light to Battery Point	0	23	0	0	0	0
D Battery Point to Needle Rock	145	87	1	0	34	0
E Needle Rock to Pyramid (Jenny's Cove)	1,404	358	61	8	84	7
F Pyramid to St James' Stone	1,471	254	15	119	10	11
G St James' Stone to NW Point	1,014	363	3	0	25	40
H NW Point to NE Point	3	16	0	0	0	0
I NE Point to Gannets' Rock	4	35	0	0	39	1
J Gannets' Rock to Brazen Ward	0	21	0	0	0	0
K Brazen Ward to Halfway Wall	6	34	0	0	14	9
L Halfway Wall to South Light	0	19	0	0	0	12
Totals	**4,114**	**1,324**	**80**	**127**	**209**	**112**

In terms of trends, all species, except for Kittiwake, increased in numbers, with 2013 proving to be a phenomenal year in which the numbers of Guillemots, Razorbills, Fulmars and Shags exceeded all their previous peak counts since 1981. Puffins also rallied considerably since their all time low of just five birds in 2004. Kittiwakes, however, continued their inexorable decline with the count of just 127 AONs in 2013 being their lowest.

Guillemots

In 2008, the survey team were delighted to record Guillemots as exceeding 3,000, the highest count since detailed surveying started. However, we were astonished to find Guillemots were even more numerous in 2013, this time exceeding 4,000. Figure 1 shows this encouraging recent increase of 25% since 2008, to an all time peak of 4,114 birds – a figure that even exceeds the counts of 3,000-4,000 in the 1950s and 60s.

It would appear that the 'take-off' in numbers occurred after 2004, the year in which Lundy was declared rat-free. Whether the two are connected is difficult to say, but it was notable that besides

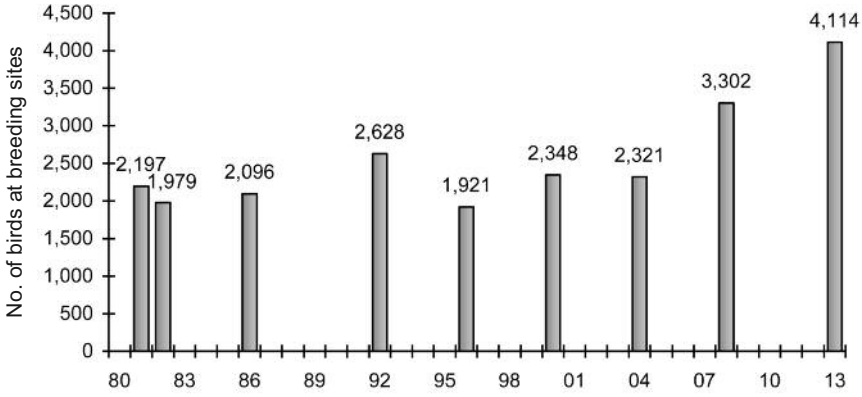

Figure 1. Guillemots, 1981-2013.

the traditional narrow ledges on sheer cliffs, birds were increasingly occupying new areas of broken ground often near the top of the cliffs just below the sidings – places which rats could readily have accessed in the past.

Razorbills

The increase in Razorbills to a peak of 1,324 in 2013, like that of the Guillemots, also came after a previous 'best count' in 2008, with a similar increase of 27% in 2013. Figure 2 shows the continued rise since 2004, posing again the question of whether the removal of rats encouraged this growth. Razorbills often nest close to the top of cliffs, where the sidings give way to broken rocky areas, providing crevices for their nests. It was apparent that some birds had spread to this type of habitat in new areas of coast where they had never been recorded before.

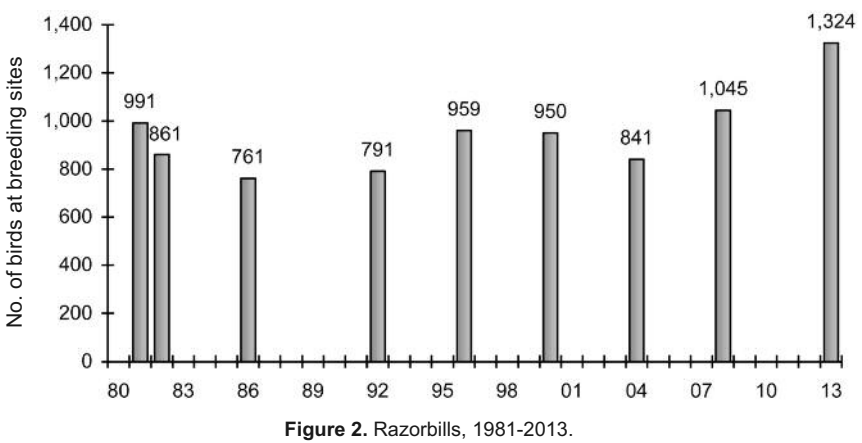

Figure 2. Razorbills, 1981-2013.

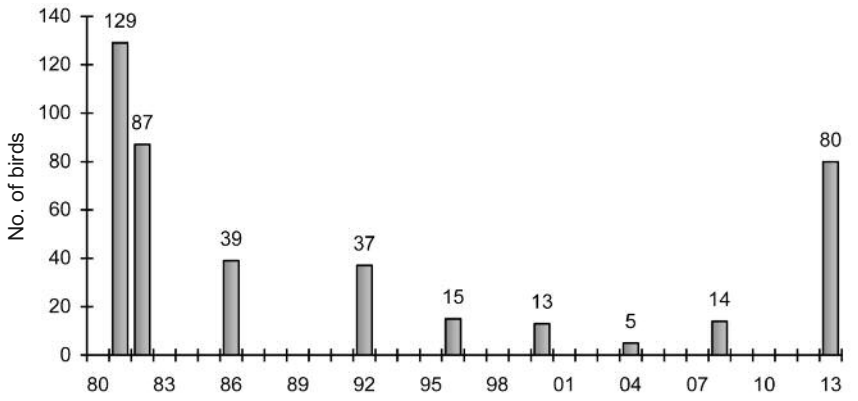

Figure 3. Puffins, 1981-2013.

Puffins

The methodology adopted for censusing cliff-nesting seabirds involves counts in late May or early June – the ideal time for Guillemot and Razorbill surveying. However, it is perhaps less suited to assessing Puffin numbers, as at this time they are typically still incubating eggs and therefore often out of sight in their nest burrows. The Puffin counts therefore may not represent the absolute number of birds present;[1] however, the surveys were all conducted in the same manner so they should be reliable in providing an index of the population. As such, the count of 80 birds in 2013 was a huge increase on the 14 birds recorded in 2008, and Figure 3 demonstrably charts the change in fortune of this species, almost certainly attributable to the removal of rats.

When Puffins were at their lowest ebb, they were confined to the cliffs just north of St Philip's Stone. However, since then they have recolonised Jenny's Cove and the majority are now found here, with a single bird recorded at Battery Point and just three birds seen at burrows at Long Roost. At the latter site a Great Black-backed Gull was recorded eating a Puffin out on one of the rocky stacks just below the cliffs, probably one of the two apparent pairs at the site.

Kittiwakes

Kittiwake numbers were one of the few disappointing aspects of the 2013 survey, and, as shown in Figure 4, despite a slight improvement in 2008, had fallen even further by 2013 to an all time low of 127 AONs – a far cry from the early 1980s when over 400 pairs (more than three times the whole island population now) nested in Puffin Gully alone. Apart from a residual eight pairs in Jenny's Cove, the rest of the Lundy population is now confined to two colonies on the west coast between St James' Stone and St Philip's Stone.

The decline on Lundy parallels that in the UK as whole, with very low productivity in recent years. Between 2007 and 2010, productivity on Lundy averaged only 0.3-0.4 fledged young per pair

[1] More representative estimates of actual breeding Puffin numbers will have been determined by monitoring by the Lundy Wardens and from counts at the end of June when the birds are feeding young and thus more conspicuous, and before too many non-breeding birds start to appear.

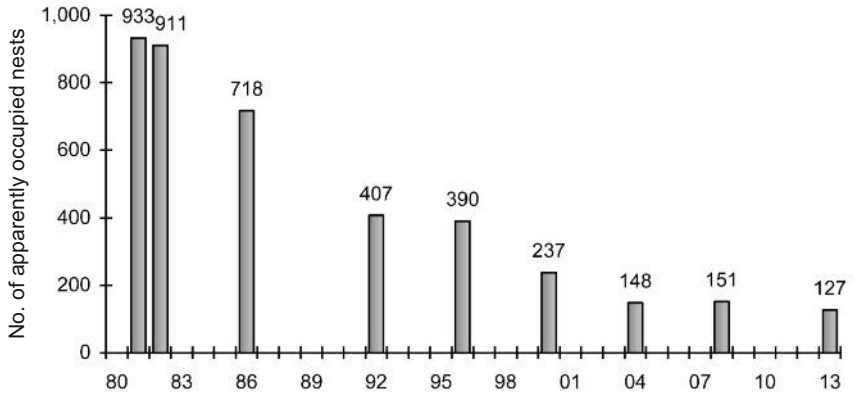

Figure 4. Kittiwakes, 1981-2013.

(Wheatley & Saunders 2010). Food shortages at this time of the year may have been responsible; Kittiwakes are particularly vulnerable compared to other seabirds as they can take prey only when it occurs at or near the surface of the sea (http://jncc.defra.gov.uk/page-2889).

Fulmars

The fortunes of Fulmars over the past three decades have been somewhat mixed, as shown in Figure 5. The first colonists to Lundy nested in Jenny's Cove in 1944, from when there was a gradual increase in numbers through to the mid-1990s. It seemed that a steady decline had set in during the early 2000s, but the overall count for 2013 has shown a remarkable comeback with numbers reaching an all time high.

Most of the early colonists nested in Jenny's Cove and on the north side of Gannets' Rock. Jenny's Cove is still the most important site, but as early as the late 1980s, numbers on Gannets'

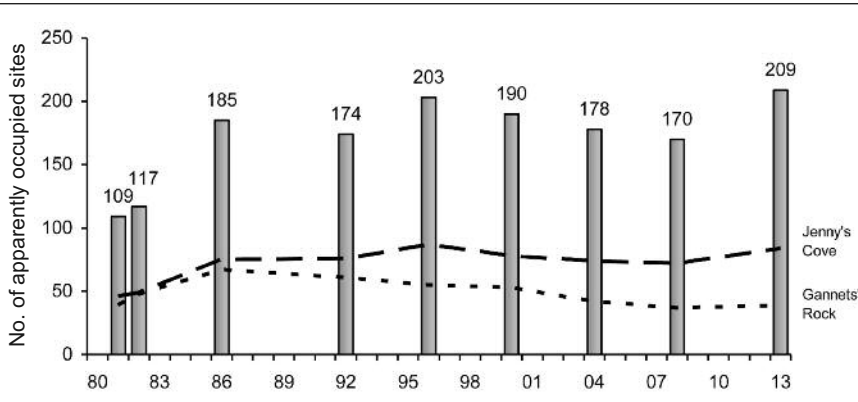

Figure 5. Fulmar, 1981-2013.

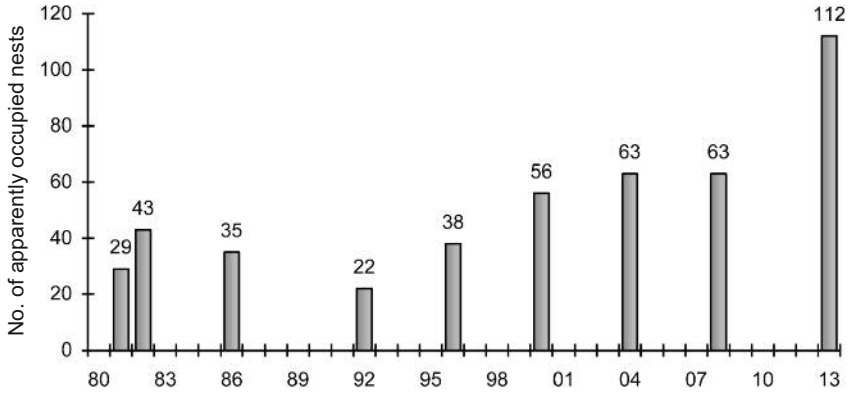

Figure 6. Shags, 1981-2013.

Rock were declining, with birds increasingly colonising the west coast, such that there are now substantial numbers northward up to North Light (mainly in section G) and new sites being established to the south between Battery Point and Needle Rock (section D).

Shags

Monitoring the breeding numbers of Shags is a little problematic in that the timing of their breeding season can be very variable and protracted, depending upon weather and food supply, and some may even choose not to breed in certain years. However, despite this caveat, the apparent increase in numbers since the early 1990s (Figure 6) appears so definitive that it would seem to be genuine. The last report of breeding pairs exceeding 100 was back in the late 1950s.

In 2013, the most favoured locations were Goat Island, a traditional site on the west coast near Shutter Rock, where no less than 14 pairs were nesting, and a concentration of 38 pairs on the broken cliffs north of Long Roost where there are plenty of nooks and crannies under large boulders in which to nest.

Gulls

While the aforementioned six species were the main focus of the survey, at the same time efforts were made to record the likely number of nesting gulls around Lundy's coastline. The counts indicated that Herring Gulls (*Larus argentatus*) and Lesser Black-backed Gulls (*Larus fuscus*) have continued to decline in recent years, emphasising their respective Red and Amber conservation status. After a period of growth to peak numbers in 2000 and 2004 respectively, their subsequent declines may well be a result of better management of waste disposal and limits on fishing reducing their food supply, although the incidence of avian botulism has probably taken its toll (Mitchell *et al*. 2004). The relatively small population of Great Black-backed Gulls (*Larus marinus*) has remained at around 50 pairs over the last decade.

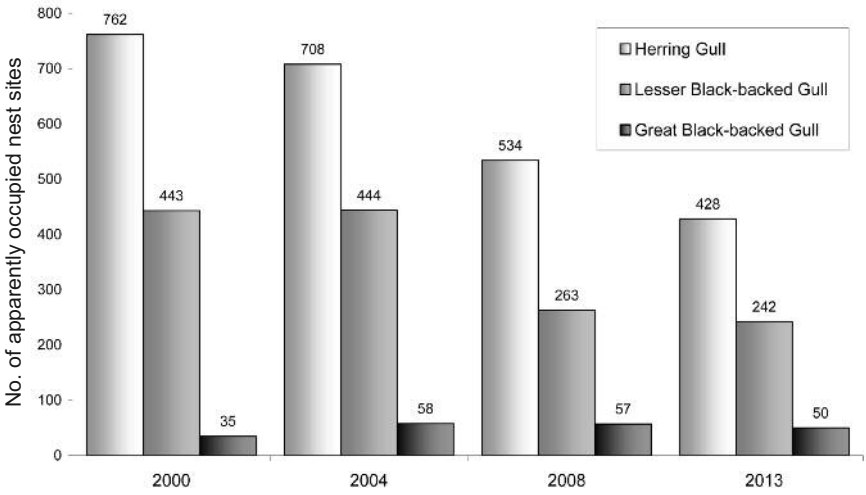

Figure 7. Gulls – breeding pairs, 2000-2013

SUMMARY

The cliff-nesting seabird survey in 2013 was unusual in that, with the exception of the gulls, it produced remarkably positive and encouraging results. The fall in Kittiwake numbers would seem not to be a problem local to Lundy, as the decline mirrors the overall UK pattern and appears to be related to food shortage. The decline in Herring and Lesser Black-backed Gulls is similarly more widespread.

All three auk species had made significant growth since the 2008 survey, and whilst without doubt the Puffin recovery has been attributable to the removal of rats, there is circumstantial evidence to suggest Guillemots and Razorbills may also have benefited. Fulmars appeared to have reversed their decline of the previous decade and are colonising new areas along the west coast, with Jenny's Cove still the species' stronghold. Finally, Shags reached their highest level since the 1950s and, despite the variability in their breeding schedule, genuinely appear to be increasing on the island.

These results, in conjunction with a Manx Shearwater survey[2] – conducted the following week and which revealed an amazing tenfold increase in numbers since rat eradication to over 3,000 pairs – provides considerable encouragement that Lundy is starting to recover its status as one of England's premier seabird sites. In a *British Birds* paper on Lundy's seabirds, Brown *et al.* (2011) stated that 2004 may well prove to have been a pivotal moment in the recovery of Lundy's seabird population. The results from the 2013 survey certainly suggest that this is the case.

[2] A full report on this survey has been published in the *Journal of the Lundy Field Society* (Volume 4, 2014).

ACKNOWLEDGEMENTS

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REFERENCES

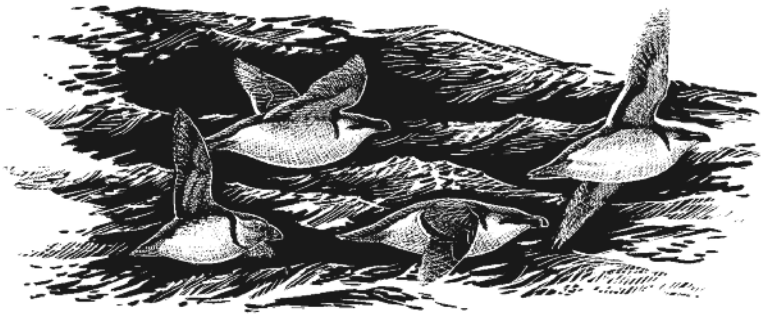
Brown, A., Price, D., Slader, P., Booker, H., Lock, L. & Deveney. D. 2011. Seabirds on Lundy: their current status, recent history and prospects for the restoration of a once-important bird area. *British Birds* 104: 139-158.

Mitchell, P., Newton, S.F., Ratcliffe, N. & Dunn, T.E. 2004. *Seabird Populations of Britain and Ireland*. T. & A.D. Poyser, London.

Price, D. 1996. Surveys of Breeding Seabirds on Lundy: 1981-1996. *LFS Annual Report* 47: 28-35.

Walsh, P.M., Halley, D.J., Harris, M.P., Del Nevo, A., Sim, I. & Tasker, M.L. 1995. *Seabird Monitoring Handbook for Britain and Ireland*. JNCC, RSPB, ITE, The Seabird Group.

Wheatley, S. & Saunders, N. 2010. Cliff-Nesting Seabird Productivity on Lundy 2010. *LFS Annual Report* 60: 67-74.



Razorbills and (left) Puffin, by Mike Langman from 'The Birds of Lundy'