

LUNDY STORM PETREL SURVEY 2010

by

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INTRODUCTION

The Lundy Seabird Recovery Project, a partnership between English Nature (now Natural England), RSPB, the National Trust and the Landmark Trust, eradicated all rats from the island between November 2002 and March 2004 (Appleton *et al.*, 2006), a project that has given a lifeline to Lundy's burrow-nesting seabirds. The target species for conservation, the Manx Shearwater, has since increased by 250% between surveys in 2001 and 2008, producing a current population estimate of 1,081 pairs (Booker & Price, 2010). As the age of first breeding of a Manx Shearwater is around six years, the increase can only be explained by an influx of immature shearwaters that were born on other islands.

Puffins have also increased in number since the rat eradication and whilst numbers are still low at around eight pairs (N. Saunders, pers. comm.) the outlook for Puffins is looking much more promising.

The third burrow-nesting seabird likely to be hosted by Lundy is the Storm Petrel, which has never been confirmed as a breeding species on the island, although there are several records of remains of birds in the 1950s, 1960s and of live birds in the 1970s at Jenny's Cove. It is therefore very likely that Storm Petrels have bred on Lundy but, given their small size and the presence of rats, they would have been highly vulnerable and it is not surprising they have been lost as a breeding species. More recently, since the 1980s, ringers have caught Storm Petrels using sound lures (Price, 2002; Davis & Jones, 2007) but again these captures do not prove the species is breeding on the island.

From 1 to 5 June 1991, a survey of burrow-nesting seabirds by JNCC (Webb, 1991), which included night watches, found no evidence of breeding Storm Petrels. A similar survey, focusing on tape playback at burrows, was undertaken by David and Elisabeth Price in July 2002 and also found no evidence of breeding (Price, 2002).

Shortly after the rat eradication was completed, in May 2004 Dr Mark Bolton (RSPB) carried out an assessment of Storm Petrel habitat on Lundy and proposed that rock scree at the island's North End, two areas of quarry scree on the East Side, and potentially Rat Island (where artificial nestboxes could be provided) were the most suitable areas for nesting Storm Petrels, based on the size of the boulders and the absence of bracken or rabbits at those locations (Bolton, 2004). Bolton noted that it could be decades before Storm Petrels return to Lundy but advised surveys every five years to check for signs of recolonisation. It is worth noting that Storm Petrels have now returned to Ramsey Island, which was cleared of rats in 2000 (Mark Bolton, pers. comm.).

The current study, six years after completion of the rat eradication (and seven years after the completion of the first year of the eradication when the vast majority of the island was cleared of rats) sought to repeat the 2002 survey, with additional night checks at areas of the most suitable habitat.

STUDY AIM

To repeat the 2002 Storm Petrel survey and conduct night visits to key areas of habitat to determine whether the species is breeding on Lundy.

METHOD

Storm Petrels can breed in crevices of a particular size in drystone walls, boulder beaches, scree and cracks in rocks. As in 2002, the tape-playback approach was used whereby the call of a Storm Petrel, recorded on Mousa, was played at regular intervals (approx every 3 metres) over areas of potential habitat for approximately 10 seconds at a time. It is important to note that areas of boulders and scree that are inaccessible on Lundy have been omitted from this and previous studies.

The survey was undertaken between 1 and 5 June 2010, some five weeks earlier than the previous survey in 2002 but on the same dates as the JNCC survey in 1991. The reason for this was to combine daytime tape-playback checks with nighttime watches (useful as Storm Petrels have a low response rate to taped calls). In July, as non-breeders are likely to be present, detection of birds during nighttime checks cannot reliably prove breeding; however, detection of birds in early June would indicate breeding (Mark Bolton, pers. comm.)

Many of the areas surveyed in 2002 were subsequently deemed unsuitable for nesting Storm Petrels by Mark Bolton in 2004, on the basis of boulder size, the presence of rabbits, bracken or other vegetation. In the 2010 survey, such areas were assessed in daytime only using tape-playback, although areas with thick vegetation (such as dense bracken or nettles at the base of walls) were completely excluded.

Night visits were undertaken on 1 June on the East Side above the suitable area of quarry scree; on the night of 3-4 June at the North End, immediately above the area of suitable scree; and on the night of the 4-5 June at the jetty adjacent to Rat Island. A parabolic reflector, loaned from the RSPB's research department, was used to help exclude wind noise and amplify quieter sounds in the surrounding area, therefore providing a better chance of detecting calling Storm Petrels.

The locations of all surveyed habitat and night visits are given in Figure 1 (see colour plate 14) and a selection of photographs from various survey sites around the island are shown in Figures 2-5 (colour plates 15 and 16).

ADDITIONAL SURVEY WORK

While on the island, a sample check was also made of one of the Manx Shearwater nesting areas at North East Point. This was conducted on 3 June using tape-playback methodology, conducted in the same way as in the main shearwater surveys of 2001 and 2008.

RESULTS

Despite extensive searching, no responses to tape playback were heard and no Storm Petrel calls were heard during the night visits. Conditions were favourable with generally light winds and no moon, producing dark, still nights.

The sample survey of North East Point for Manx Shearwater produced 52 responses compared to 38 in the 2008 survey (six in 2001), indicating a further marked increase.

It is also worth noting that numerous Manx Shearwaters were heard during night visits. While sitting at the North End, above the old rail track near North Light, the constant calls of numerous Manx Shearwaters, many of which landed close by, indicated many birds were breeding in the immediate vicinity. Manx Shearwaters were also abundant on the night of 4-5 June, when it is worth recording that between midnight and 01:00 hrs, while listening for Storm Petrels at the jetty, we heard a call we had not experienced before, but which was similar to that of a Little Shearwater, coming from the sheer bracken slope below the Castle. We recorded the call using the parabolic reflector, along with the calls of passing Manx Shearwaters and intermittent blasts of the South Light foghorn, and after some analysis and consultation with experts were able to confirm that it was a male Little (Barolo's or Macaronesian) Shearwater. A full description of the encounter was submitted to Nicola Saunders, Lundy warden.

DISCUSSION

The nil result for Storm Petrels is perhaps not surprising given the relatively short period of time since the rat eradication. The nearest breeding colonies of Storm Petrels are the Pembrokeshire islands of Skomer and Skokholm, some 40 km away, a distance that may possibly delay any recolonisation of Storm Petrels to Lundy.

Lundy's stone walls, most of which were surveyed, were considered of low potential for Storm Petrels by Bolton in 2004 because of bracken growth. In the current survey, there were areas that were clear of bracken and may perhaps be suitable for future colonisation if they could be kept clear of bracken and other vegetation.

Rock outcrops and boulders were also assessed as being of low suitability because of their size, being either too large or too small, or occupied by high densities of rabbits. Bolton reports that Storm Petrels, whilst occupying the same islands as rabbits, do not occupy the same nest sites. It was noted that, after the crash in the rabbit population due to an outbreak of myxomatosis in 2007, many stone walls and boulder areas are once again occupied by rabbits.

It is also worth reiterating that the current survey could not assess every possible area of potential habitat because of the inaccessible nature of parts of the island. Therefore we cannot be certain that there are no Storm Petrels nesting on Lundy. It is believed, though, that the species is not present in the areas surveyed and it is **recommended that further surveys are undertaken at five-yearly intervals to check for evidence of breeding.**

There is little doubt that the main target species of the Seabird Recovery Project – Manx Shearwater – is continuing to increase. The increase in the number of responses at the sample plot in just two years, combined with the unquantifiable but unmistakable level of nocturnal activity in areas of the island which held very few occupied burrows nine years ago, bodes well for the future of Manx Shearwaters on Lundy. It is impossible to know what brought the vagrant Little Shearwater to the island, other than finding itself amongst an influx of migrating Manx Shearwaters, but maybe this would not have happened had rats still been present.

ACKNOWLEDGEMENTS

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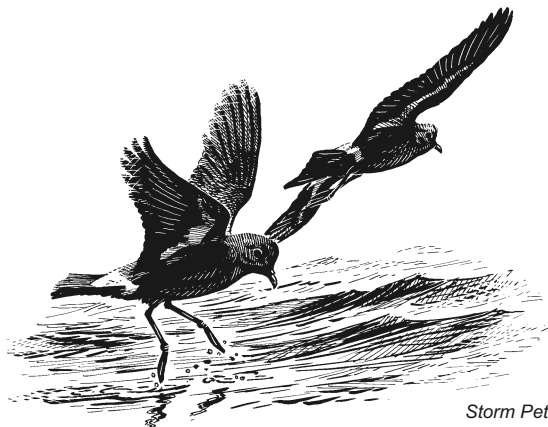
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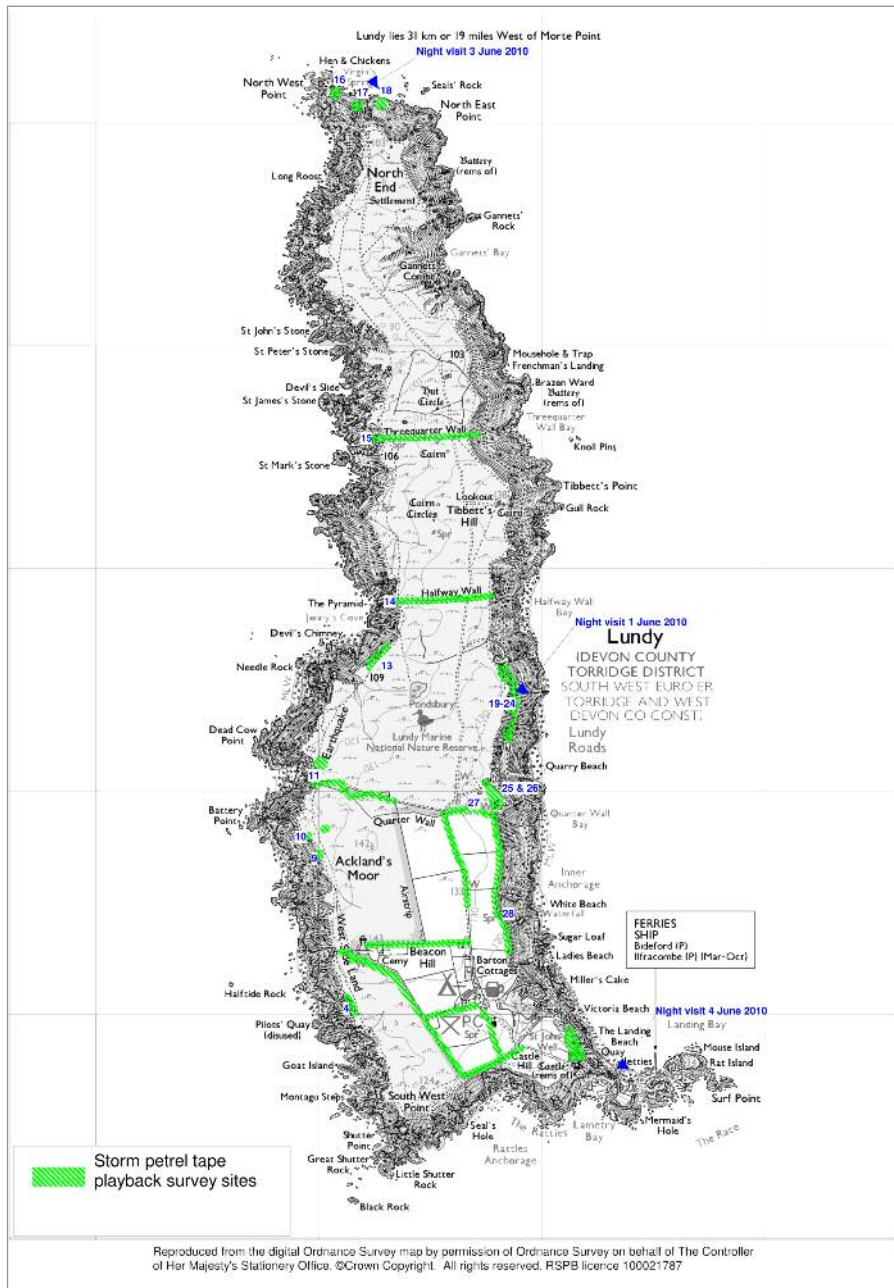
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Footnote

A recent communication from Colin McShane has provided an intriguing postscript to our survey. He and Paul James were ringing at Lundy's South End during the week after our survey. The first and only Storm Petrel they caught was one which Paul had ringed on Lundy during July 2009. Tape lures were used on both occasions, but the chance of this being a wandering bird caught at the same site is very remote – and it being the only bird caught suggests it wasn't part of a group of birds returning to the colony on Skokholm. The bird was caught relatively early in the evening (approximately 23:30 hrs) typical of breeding birds which do tend to return to their nest burrows quite early in the night. Although this is not definitive evidence of Storm Petrel breeding on Lundy, it is another small piece in the jigsaw of our knowledge.



*Storm Petrels by Mike Langman
from 'The Birds of Lundy'*



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Storm Petrels – Figure 1 (page 82). Tape-playback survey areas and night watch locations during the 2010 Storm Petrel survey. The numbers shown relate to the areas assessed for suitability for nesting Storm Petrels by Mark Bolton in 2004.



Figure 2. North Light. The area considered of high potential for nesting Storm Petrels in Mark Bolton's 2004 assessment is shown in the red circle (marked as 17 in Figure 1). The red dot was the location of a night watch on 3-4 June when no Storm Petrels were heard but numerous Manx Shearwaters were passing, arriving and leaving burrows. © Chris Townend



Figure 3. East Side quarry spoil. Parts of this area were considered of high potential for nesting Storm Petrels (marked as 19 to 24 in Figure 1). © Chris Townend



Figure 4. Wall running N-S on the eastern side of the island adjacent to livestock fields, marked as 28 in Figure 1 and considered of moderate suitability in Mark Bolton's assessment. © Chris Townend



Figure 5. Eastern side of Quarter Wall. Not considered suitable owing to extensive bracken growth at the base. © Chris Townend