

- P23. Millcombe well (1401.4402) Dipping well beside the main track by the entrance to Millcombe House drive, probably taking the entire flow of stream E12.
- P24. Hotel leat (1376.4400) Leat running across the field below the Church starting by the Hotel and ultimately ending in St. John's valley. Liable to dry up.
- P25. Church Pond (1368.4396) Rather overgrown pond in field due west of the Church.
- P26. Hammers Reservoir (1409.4391) Underground storage tank supplying Hammers cliffside bungalow. Rainwater supplied from roof.
- P27. St. John's well (1390.4389) Covered well at junction of roads at top of St. John's valley.
- P28. Bensons borehole (1351.4388) A small concrete depression about three feet square, being a concrete cover to borehole made in search of reputed treasure. No flora or fauna.
- P29. Golden well (1385.4384) Fairly large fenced pool near reputed site of Golden well at the source of stream E12.
- P30. Castle Hill Reservoir (1395.4380) Concrete reservoir built on summit of Castle Hill in 196 to supply water to Castle cottages.
- P31. Rocket ponds. There are four sites, here numbered from west to east. Only P31b (1348|4366) is a permanent pond and this is fairly deep with strong granite sides in places. P31a (1344.4368) is a depression to the west of it which is usually dry. P31c (1354.4369) and P31d (1355.4372) are two parts of a depression to the west, divided by a path over a fairly solid causeway.

#### Additions to Lundy Field Society Library 1968

### GLACIAL GRAVEL ON LUNDY ISLAND

by G. F. MITCGELL

*Trans. Royal Geolog. Soc. of Cornwall*

Vol. XX, part 1, 1965-6 (Pubd. 1968)

This most interesting paper contains the following discussion:-

As further evidence of the former presence of ice on this part of the island, there are indications that the upper parts of some tors were carried away by ice, and their bases rounded into roches moutonnées. On the west side of the island, just north of St. James's Stone, at the top of the coastal slope (i.e. on the line where tors usually occur) there were seven smooth hog-backed ridges of granite running approximately west-north-west—east-south-east. St. James's Stone is the detached end of a granite ridge which runs down the coastal slope. A little further north, again north of a granite ridge which ran south-westwards, there were some further hog-backed masses of granite with the same orientation. Ice moving along the west coast may have been deflected eastwards and upwards by the granite ridges and so carried away to the tors at the top of the slope.

I am of the opinion that when ice filled the southern part of the Irish Sea as far south as the Isles of Scilly (Mitchell and Orme 1967), there was a movement eastwards into the Bristol Channel. The Channel was filled at least as far as Pencoed (Strahan and Cantrill 1904) on the north and Fremington (Maw 1864) on the south.

Ice surrounded Lundy Island, but those parts of the island that were above 350 feet stood up as a nunatak. Where at the north end of the island the west coast fell below 350 feet ice pressed up onto the plateau, carrying away some tors and moulding their bases into roches moutonnées. Outwash or kame gravel was deposited over an area of about twenty-five acres. The only organised valley system on the island runs downwards and eastwards from this area, and the valleys may have been cut by melt-water escaping to the east.

If the ice that reached the Isles of Scilly was of Gipping age (Mitchell and Orme 1967), then the glacial gravels on Lundy are almost certainly of the same

age. They may have had some structure as kames or outwash when first deposited, but if so this structure was destroyed by frost action during the last glaciation, and as in the Isles of Scilly the gravels now appear as a thin and featureless spread.

## ECOLOGICAL EXPEDITIONS TO LUNDY BY BARNSTAPLE GRAMMAR SCHOOL

For the past four summers students of the Barnstaple Grammar School have been using the Old Light as a centre for ecological work, supplementing the accommodation with tents, and this year, with the additional occupation of Signal Cottage.

Ecological study is essential in the 'A' level Biology Syllabus, and it has been found worthwhile to give sixth-formers a week of introduction to biological field studies, far from parental and academic distractions. Some of our students came to the island without even the ability to recognise a woodlouse, apart from having a limited knowledge of the most common of birds (so much for the advantages of living in a rural area!).

The advantages of doing this sort of exercise were soon apparent, and although we could have visited one of the mainland Field Centres, these are just as hard to get to as Lundy is from Barnstaple, and certainly do not have the same attractions.

We have visited the island each year in May, and because of our numbers, twenty-four plus staff, it has been necessary to travel by "Campbells" rather than the "Lundy Gannet". The numbers of sixth-form biologists are continually increasing, indicating Lundy's recruiting powers for the biological department. Time, weather and enthusiasm dictate the amount of work achieved on an expedition. The students are divided into parties of five or six for working, and for domestic duties. Each group must be composed of both boys and girls, and be balanced between those with strictly botanical or zoological interests. Groups take it in turn to be responsible for the day's cooking, cleaning, taking weather readings, etc. Less is expected of them in the field if they have been involved in such duties that day.

The first day is spent in making a tour of the island to get a mental picture of the island's features. A packed lunch is taken, as it is on most fine days. A wet first day can present a problem, but somehow we get out, if not on the full tour. Subsequent days are spent on making a detailed survey of a very limited area of the island. The area is mapped in some detail with main vegetation zones and any relevant matter. Various techniques of analysis of abundance are used and they learn trapping methods etc. The conservancy angle is stressed. An attempt is made to construct hypotheses, and as far as possible, devise experiments to test them, which might account for any limitation on colonisation in their area, or in their area compared with a previous year's findings, or with that of another group in a different area. Worksheets are provided to help them and staff (on at least a 1:10 basis) walk around to visit students and help them where necessary.

They are encouraged to make detailed records, keeping a personal log. (An informal, social log is also kept—but not for publication!) A herbarium and animal collection is built up year by year from abundant specimens and photographs and identification pressing and tracking through the various keys available goes on mainly in the evening by artificial light in the Old Light, when records are written up, using statistical methods, belt transect histograms (showing soil depth/pH/ground cover/etc.) metre by metre.

Day by day arrangements are dependent largely on the weather and a daily programming is discussed. Students bring other work across to the island in case the weather does become really bad.

After their rather formal introduction to ecology students are encouraged for the remainder of their stay on the island to make more varied investigations. In the past, some littoral investigations have been carried out, also the study of the movement of deer around the island. Sea watches, the counting bird passage