

ORDNANCE SURVEY BENCHMARKS ON LUNDY

By

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INTRODUCTION

Benchmarks are the national network of survey marks made by the Ordnance Survey to record elevation on vertical surfaces. Other survey marks include triangulation points which mark horizontal positions. The height of a benchmark is calculated relative to the heights of nearby benchmarks in a network extending from a fundamental benchmark. The process is called levelling and records height based on the Ordnance Datum Newlyn (ODN) from which all heights are derived (Ordnance Survey, 2013a).

The benchmark is most commonly found as a cut mark on walls, posts and stones (Figure 1). Others are bolts, rivets and flush brackets which are often found on the sides of buildings and at triangulation points.

Early 20th century maps of Lundy show dozens of benchmarks (Ordnance Survey, 1903). The island is too far away from mainland benchmarks, preventing linking to the ODN, so Lundy, like other offshore islands, has a local datum from which the other island benchmarks are levelled. Elevations on Lundy are calculated from the mean sea level at the Trinity House landing place, as observed in 1885 (Ordnance Survey, 2013b).

The benchmark network has been superseded by the Global Positioning System (GPS). The network has not been maintained for over 30 years, when only 18 benchmarks were recorded in the Ordnance Survey database for Lundy, all as stone cut marks. Since erosion, development and land movement continually reduce the number of benchmarks, the aim of this paper is to provide a snapshot of the benchmarks that can still be found.

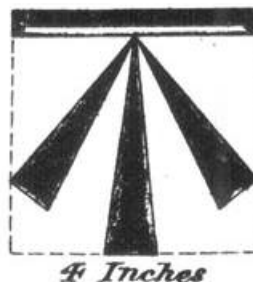


Figure 1. An Ordnance Survey benchmark

METHOD

During a week's stay on Lundy between 18 and 25 August 2012, an attempt was made to locate the 18 benchmarks and record their state. Information about the benchmarks can be found on the Ordnance Survey website (Ordnance Survey, 2013a) by entering the kilometre grid square references. Lundy is covered by several grid squares and benchmarks are recorded in squares: SS1343, SS1344, SS1345, SS1347, SS1443, SS1444. Remarkably, none are recorded in grid square SS1346 – the area just north of Halfway Wall, including Tibbetts and as far as the Devil's Slide – although benchmarks are marked on the Ordnance Survey map of 1903.

A handheld GPS device was used to guide the author to the location and a thorough inspection of the area was undertaken using the Ordnance Survey's descriptive notes. The results are recorded in Table 1.

Table 1. Location and condition of Ordnance Survey stone cut benchmarks on Lundy, 2012

No.	Grid Reference	Description	Height (m)	Levelling year	Metres above ground	Located?	Comments
1	SS13074446	Rock 8.5m west of bank	127.3	1904	0.3	Yes	Overgrown
2	SS13194427	Stone base of south side lighthouse (disused)	143.4	1904	0.5	Yes	Good
3	SS13224725	Living rock south-west track 37.0m 253 degrees bearing from 2nd stone north issues	82.6	1904	0.0	No	No vertical surface found
4	SS13334789	Stone east face north-east angle John O'Groats house (ruin)	106.1	1904	0.3	No	Stones moved
5	SS13364585	North face Halfway Wall 0.3m east centre bottom step of stile	110.9	1904	0.3	Yes	Good
6	SS13394760	Stone east edge stone circle	91.0	1904	0.6	No	No evidence found
7	SS13414707	Living rock south-west track 10.7m west 7th stone south issues	89.6	1904	0.0	No	No evidence found
8	SS13574489	Stone north face wall 2.4m east wall junction	132.6	1904	0.2	No	No evidence found
9	SS13604378	Stone wall south-west face 66.0m south-east junction wall and fence	121.8	1885	0.5	Yes	Near gate
10	SS13664455	Stone west face wall 5.4m north wall junction east side track	132.3	1904	0.5	Yes	High Street Field
11	SS13684586	Gatepost west side track	122.9	1904	0.3	Yes	Gatepost fallen
12	SS13754406	North face north-east angle Marisco Tavern	112.9	1885	0.7	Yes	Good
13	SS13784506	East face north-east angle building	116.4	1904	0.5	Yes	Timekeeper's Hut
14	SS13814513	Living rock west path 56.5m south-west south wall junction	96.5	1904	1.1	Yes	Very worn
15	SS13824378	Stone wall north end south-west face south-east side track	111.4	1885	0.5	Yes	Covered with lichen
16	SS13834558	Stone west side track centre quarry (disused) entrance	100.0	1904	1.3	No	No evidence found
17	SS14004403	East stone gatepost entrance Millicombe House	60.6	1885	0.5	Yes	Good
18	SS14264380	South end north-east face wall Trinity House landing place	7.3	1885	0.9	No	Assumed lost

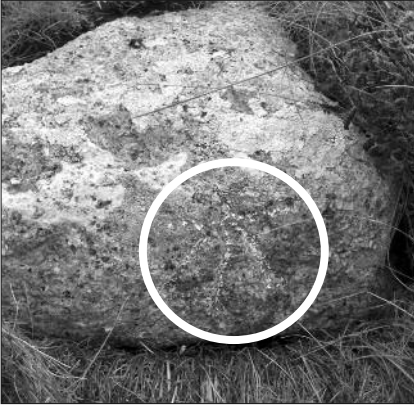


Figure 2. Benchmark on the West Side



Figure 3. Benchmark on the fallen gatepost at Halfway Wall

DISCUSSION

Eleven benchmarks were found – 61% of the number recorded in the database. Of those found some were exceptionally eroded and very difficult to distinguish; for example, the very worn benchmark at SS13814513 was eventually distinguished amongst the lichen on a naturally occurring stone (i.e. not placed by man) alongside the path between the Timekeeper's Hut and the Quarry Terrace.

Others were still clearly conspicuous, especially those on the Marisco Tavern and the tower of the Old Light. The benchmark at SS13074446 can be seen in Figure 2; chalk has been used to delineate the benchmark. The gatepost at Halfway Wall (SS13684586) has fallen, but the benchmark can still be seen in Figure 3.

Landslips and reconstructions of the landing place have resulted in the loss of the local datum and benchmark at SS14264380.

ACKNOWLEDGEMENTS

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