

at other places the shores are less steep, and surrounded by smooth, rounded, heather-covered hills. The water was very dark in colour, and, though there was apparently no great amount of inflow, there was a considerable outflow. Loch Fender is one-third of a mile in length from north-east to south-west, and one-fifth of a mile in maximum breadth, the mean breadth being over one-tenth of a mile, or 32 per cent. of the length. Its waters cover an area of over 22 acres, and it drains an area nine times greater—an area of over one-third of a square mile. Nearly 60 soundings were taken, the maximum depth observed being 78 feet. The volume of water contained in the loch is estimated at 30,998,000 cubic feet, and the mean depth at $31\frac{3}{4}$ feet, or 41 per cent. of the maximum depth. The length of the loch is 22 times the maximum depth and 55 times the mean depth. Loch Fender forms a simple basin, the bottom sloping down on all sides to the deepest part, which is approximately centrally placed, but nearer the north-east than the south-west end, the maximum depth of 78 feet having been observed about 300 feet from the north-eastern shore. The average slope of the bottom is very steep, especially off the south-eastern shore, where were recorded soundings of 29 feet 20 feet from shore, 26 feet 30 feet from shore, and 17 feet 20 feet from shore, giving gradients of 1 in 0.7 and 1 in 1.2. Off the north-western shore the gradient is gentler, and the north-west angle, where the burn flows into the loch, is comparatively shallow and obstructed by weeds. The area of the lake-floor covered by less than 25 feet of water is about 11 acres, or 51 per cent. of the total area of the loch; that covered by water between 25 and 50 feet in depth is about 5 acres, or 21 per cent.; and that covered by more than 50 feet of water is about 6 acres, or 28 per cent. of the entire area of the loch. Loch Fender was surveyed on June 5, 1903, and, from spot-levels near the loch, it was estimated that the elevation of its surface was approximately 1888 feet above sea-level.

Temperature Observations—Temperatures taken in the deepest part of the loch at 1 p.m. gave the following results:—

Surface	58 0 Fahr.
5 feet	57° 8 ,,
10 ,,	52° 0 ,,
15 ,,	45° 0 ,,
25 ,,	44° 0 ,,
50 ,,	43° 0 ,,
75 ,,	42 4 ,,

This series shows a range of temperature from surface to bottom amounting to $15^{\circ}6$, there being a fall of $12^{\circ}8$ between 5 and 15 feet (*i.e.* $5^{\circ}8$ between 5 and 10 feet, and $7^{\circ}0$ between 10 and 15 feet). The decrease of temperature in the layer of water between 10 and 15 feet is thus equal to $1^{\circ}4$ per foot, whereas the fall is only 1° in the underlying layer between 15 and 25 feet.