

of over one-third of a square mile. Nearly 40 soundings were taken, the maximum depth observed being 46 feet. The volume of water is estimated at 29,271,000 cubic feet, and the mean depth at 19 feet, or 42 per cent. of the maximum depth. The length of the loch is 40 times the maximum depth and 100 times the mean depth. Loch Hoil consists of a main body, which trends almost north and south, sending out an arm in an easterly direction leading to the outflow. This arm is shallow, while the body of the loch is comparatively deep; at the junction of the arm and body is a heap of stones about 200 feet from the eastern shore. The body of the loch forms a simple basin, the bottom sloping down on all sides towards the deepest part, which is approximately centrally placed, but rather nearer the northern than the southern end. The average slope of the bottom is gentle, the steepest gradient observed being one of 1 in 4·6 off the southern shore, where a sounding of 13 feet was taken 60 feet from the shore. The area of the lake-floor covered by less than 20 feet of water is about 24 acres, or 68 per cent. of the total area of the loch; that covered by water between 20 and 40 feet in depth is about 9 acres, or 26 per cent.; and that covered by more than 40 feet of water is about 2 acres, or 6 per cent. The loch was surveyed on May 28, 1903, and, from spot-levels near the loch, it was calculated that the surface of the water was about 1600 feet above the sea.

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

Surface	57°·0 Fahr.
10 feet .. .	52°·0 „
20 „ . . .	48°·0 „
40 „ .. .	47°·0 „

This series shows a range of 10° from surface to bottom, there being a fall of 5° between the surface and 10 feet, and a further fall of 4° between 10 and 20 feet.

Loch Fender (see Plate XXXI.)—Loch Fender lies to the north of Loch Freuchie, and flows by the Glenfender burn into the river Bran. It contains large trout, but the fishing, which is preserved, is uncertain, sometimes yielding splendid sport, at other times none at all. It was surveyed on the same day as Loch Freuchie by means of a boat kindly supplied by Mr. Bulloch of Kinloch. The Marquis of Breadalbane sounded Loch Fender about 40 years ago from a portable boat, and found a maximum depth of about 30 yards (=90 feet); the maximum depth recorded by the Lake Survey was 78 feet. Loch Fender is thus extremely interesting on account of its great depth, considering its small dimensions. The shores are rocky all round, and the southern shore is a steep slope of bare rock, rising gradually to Creag an Loch;