

4 square miles. Castle Loch is simple in conformation, and of a flat-bottomed character, the deeper water, over 15 feet, occupying the central and eastern parts of the loch, three soundings at the maximum depth of 18 feet being recorded to the north-east of the island. Of the entire lake-floor, only 28 per cent. is covered by less than 5 feet of water, while 38 per cent. is covered by more than 10 feet of water. The mean depth is estimated at $8\frac{1}{2}$ feet, and the volume of water at 72 million cubic feet. The loch was surveyed on April 27, 1905, when the elevation was 135·7 feet above the sea, as compared with 137·1 feet determined by the Ordnance Survey on February 22, 1899. The temperature of the water was uniform throughout, readings at the surface giving $46^{\circ}\cdot 9$ Fahr., and at 18 feet $46^{\circ}\cdot 8$.

Hightae Mill Loch (see Plate XLVII.).—A small loch, pyriform in outline, to the south of Castle Loch. Though the smallest of the group, it drains the largest area, the overflow being carried by the Mill burn into the Valison burn just before entering the river Annan. The loch trends from north-west to south-east, tapering gradually towards the outflow at the southern end, and nearly one-third of a mile in length, the superficial area being about 19 acres, and the drainage area about $6\frac{1}{2}$ square miles—an area over two hundred times greater than that of the loch. The basin is simple, the deeper water lying in the broadest part of the loch towards the upper end, the maximum depth of 13 feet having been found a short distance from the north-eastern shore. The mean depth is $7\frac{1}{3}$ feet, or more than half the maximum, and the volume of water 6 million cubic feet. The elevation was 137·2 feet above the sea on the date of the survey (April 29, 1905), when identical readings of $49^{\circ}\cdot 0$ Fahr. were taken at the surface and at 12 feet.

From the following table it will be seen that in the fourteen lochs under consideration, 599 soundings were taken, and that the aggregate area of the water-surface is about $1\frac{3}{4}$ square miles, so that the average number of soundings per square mile of surface is 335. The aggregate volume of water contained in the lochs is estimated at 652 millions of cubic feet. The area drained by these lochs is about $24\frac{3}{4}$ square miles, or $13\frac{1}{2}$ times the area of the lochs.