

composed of fine sand and small fragments of corals and shells mixed with considerable guano ; on the eastern or windward side it is much wider, and formed of coarser fragments of corals and shells; which, in their arrangement, present the appearance of successive beach formations. Encircled by this ridge lies the guano deposit, occupying the central and greater part of the island. The surface of this deposit is nearly even, but the hard coral bottom which forms its bed has a gradual slope from the borders toward the centre, or, perhaps more properly, from north-west to south-east, giving the guano a variable depth from six inches at the edges to several feet at the deepest part.

Howland's Island is situated in lat.  $0^{\circ} 51'$  north, and  $176^{\circ} 32'$  west from Greenwich. It is about a mile and a half long by half a mile wide, containing above the crown of the beach an area of some 400 acres. The highest point is seventeen feet above the reef, and ten or twelve feet above the level of high tide. The general features of the island resemble those of Baker's. Its surface, at least on the western side, is somewhat depressed, and much of it is covered by a growth of purslane, grass, and other vegetation, like that on Baker's Island, but considerably more abundant. Near the centre of the island there are one or two thickets of leafless trees or brushwood, standing eight or ten feet high, and occupying an area of several acres. The tops of these trees, in which the birds roost, are apparently quite dead, but the lower parts, near the roots, show signs of life after every rain. The windward side of the island is formed by a succession of ridges composed of coral débris with some sand and shells, running parallel to the eastern beach, each one of which may, at earlier stages of the island's growth, have successively formed the weather shore. Occasionally among these ridges a sandy bed is met with, in which some little guano is mixed. On the lee side there is also a sandy margin of considerable width. Bits of pumice and pieces of driftwood are scattered all over the island's surface.

The main deposit of guano occupies the middle part of the