

There is thus little evidence for migration away from coasts, but indication of more pelagic habits, possibly resting ashore at night. Mangowai: 24/11/39, one colony of 20 pairs, all with eggs, was adjoining a Caspian tern colony. A second colony, of about 170-200 birds with eggs, was about  $\frac{1}{4}$  mile distant and isolated from others.

#### Additional Observations.

The trips from Muriwai to South Kaipara Heads begun in February, 1940, are a much more satisfactory index of tern movements than the 1939 records:

Feb. 21	March 10	March 23	March 31	April 7	April 21	May 5
662	7	(19)	350	(80)	300	800

The population is larger than that which the only breeding colony at present known within 30 miles could support. Variation in numbers present on the beach seems somewhat dependent on weather conditions. Strong westerlies appear to force larger numbers of birds on to the beach than are present in calm weather. As before ( ) indicate incomplete counts. (C.A.F.).

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#### 11. PUKEKO (*Porphyrio melanotus*).

The following study was made by P. C. Bull:

**Mangere:** 30 acres swamp and 20 acres rush-covered flat. Whole swamp practically dry in January.

Population before shooting season: 1939, about 24; after shooting, 16.

Population before shooting season: 1940, about 35; after shooting, 22.

Another small swamp a mile to the west often has about 12 birds not included in above figures though birds probably move from one to the other. When swamp dries in summer many leave and spread over countryside, many to rushes bordering the harbour, others frequently seen along hedgerows.

Food: Gizzards of birds shot in May, 1939, invariably contained vegetable matter—mainly roots of swamp plants, some young grass, and grass roots.

Nesting: Dates and clutches:

Aug. 24, 1938 .....	5 eggs	Dec. 21, 1938 .....	1 egg
Dec. 18, 1938 .....	5 eggs	Dec. 21, 1938 .....	4 eggs
Dec. 18, 1938 .....	2 eggs	Feb. 15, 1940 .....	9 eggs

Adaptation to Open Shooting Season: Before May are in open paddocks and wander to edge of swamp if approached. If followed, fly up in ones and twos from the swamp at close range. Since shooting started they cannot be approached within 200 yards and when surprised in the swamp run rather than fly. Also the population has become more scattered.

#### 12. HEDGEHOGS AND GROUND-NESTING BIRDS.

From observations made by P. C. Bull.

The hedgehog was unknown in Mangere before 1932, but since then has become very numerous throughout the district. During December, 1938, I located about 12 lark's nests in my immediate neighbourhood to see if hedgehogs destroyed any appreciable number. Of the 12 nests for which I have complete results:—

- 1 was destroyed by a hedgehog (I actually discovered the animal eating the eggs, in mid-afternoon).
- 6 were raised successfully
- 2 fell victims to their situation,
- 3 were destroyed by unknown agencies.

As rats are numerous in the district these last cannot be all attributed to hedgehog depredations.