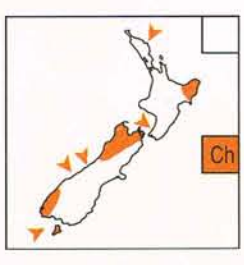
Text and images extracted from Heather, B.D. & Robertson, H.A. (2005) *The Field Guide to the Birds of New Zealand*. Penguin Books, Auckland. Pages 88, 89, 283, 285, 286.

Most are secretive birds of wetlands and are rarely seen except when attracted by taped calls. Plumage is usually a pattern of black, white, brown and chestnut. Immatures are duller. Sexes alike. Body is narrow, for slipping through dense vegetation. Long unwebbed toes spread their weight. The short tail flicks as they walk. Bill stout and dagger-like in rails, shorter in crakes. Fly reluctantly when disturbed but are capable of sustained flight, mainly at night.

WEKA *Gallirallus australis* **Locally common endemic**



53 cm; ♂ 1000 g, ♀ 700 g. *Flightless. Brown, streaked black.* Sturdy short bill and legs. The 4 subspecies are separated by plumage colour. Rare North I Weka is greyer below and has brown legs; Buff Weka, introduced to Chatham Is, is the palest; Western Weka (Nelson to Fiordland) is noticeably chestnut, except in Fiordland, where a dark form is common; Stewart I Weka is the smallest and also has a dark form, but paler than Western Weka. Sometimes very inquisitive. Walks quietly, flicking leaves aside with bill in search of food. Runs fast, neck outstretched. *Territorial call a loud repeated 'coo-eet', rising in pitch.* **Habitat:** Forests, scrub and open country with good cover. **Breeding:** Aug–Feb. **[Sp 158]**

RAILS, GALLINULES and COOTS Rallidae

About 140 species, of which 8 breed in New Zealand. Midden evidence shows that 8 other endemic species became extinct between the arrival of Maori, and European settlement, and the Chatham Island Rail *Rallus modestus* became extinct in about 1900. Two other species are vagrants to New Zealand, and a Corncrake *Crex crex* was reputedly killed near Nelson in 1865, but this record has not been officially accepted.

The rails are mainly aquatic birds, all capable of swimming well. In New Zealand, they range in size from the small Marsh Crake to the large flightless Takahe. Apart from the Pukeko and Weka, rails and crakes are secretive birds, usually skulking in freshwater swamps, and estuarine mangroves and reedbeds. On some mammal-free islands, however, they live on the forest floor. Rails have slim bodies that help them move through dense vegetation, moderately long powerful legs with long unwebbed toes that help them walk in wetlands, a short tail, which is flicked up and down as they walk or swim, and short broad wings. Apart from the flightless Weka and Takahe, rails have low, laboured flight by day, but at night they fly higher and show good ability to colonise isolated islands. Island forms tend to become flightless.

The two species of gallinule breeding in New Zealand, the Takahe and the Pukeko, are believed to represent two invasions from Australia of the cosmopolitan Purple Swamphen *Porphyrio porphyrio*; the Takahe arrived several million years ago, and the Pukeko much more recently. Typical of ancient New Zealand birds, the Takahe has become larger and flightless.

The gallinules and coots have a bony frontal shield extending from the bill to cover the forehead. The legs of coots are quite short, and the toes have lobes of skin that help them swim.

Most species nest solitarily, but Pukeko form groups and several females can lay in the same nest. The cup-shaped nest is generally well concealed in dense swamp vegetation or among *Carex* clumps; however, coots construct an exposed floating platform attached to raupo or rushes. The downy young are capable of walking, running and swimming within days of hatching.

Reading: Ripley, S.D. 1977. *Rails of the World*. Toronto: M.F. Feheley.

158. WEKA *Gallirallus australis* Plate 36

Other name: Woodhen
Size: 53 cm; males 1000 g, females 700 g
Geographical variation: Four subspecies: the North Island Weka *greyi* breeds in the North Island, the Western Weka *australis* breeds in the northern and western South Island, the Buff Weka *hectori* was introduced to the Chatham Islands before it died out from the eastern South Island, and the Stewart Island Weka *scotti* is largely confined to the islands around Stewart Island.
Distribution: Formerly bred throughout the mainland of New Zealand, but in the 1920s and 1930s disappeared from most of the North Island, where they are now confined mainly to the Opotiki district, although they have been successfully introduced to the Bay of Islands, Kawau, Rakitu and Mokoia Islands.

In the South Island, Western Weka remain locally common in the Marlborough Sounds, Golden Bay and northwestern Nelson, northern Westland south to about Hokitika, and on some Fiordland islands; uncommon in Tasman Bay, from Hokitika to Fiordland and inland Southland. They have been introduced to D'Urville and smaller islands in the Marlborough Sounds, and to Kapiti Island.

Buff Weka became extinct in the eastern South Island by the late 1920s, but they had been introduced to the Chathams, where they thrived and have become very common throughout Chatham and Pitt Islands. They have been introduced to Banks Peninsula and Stevensons Island in Lake Wanaka.

Stewart Island Weka are scarce on Stewart Island but have been introduced to many of the nearby islands and to Macquarie Island, where they have since been eradicated. The origin of Weka introduced to several islands (e.g. Solander and Open Bay) has not been established.
Conservation: Protected threatened endemic, except on the Chatham Islands, where a legal harvest is permitted. Maori and early European settlers used Weka for food, oil and feathers, and carried them to many offshore islands. Weka declined dramatically between 1900 and 1940, and became extinct in most of the North Island and disappeared from the eastern South Island. The causes of the rapid decline are not clear, but habitat changes during the conversion of forest and scrubland to farmland, the use of poison baits and the introduction of mammalian predators such as cats, dogs and mustelids may have contributed.

With the exception of a reintroduction to the Bay of Islands, the many attempts to reintroduce Weka back into their former range on the mainland have been unsuccessful, despite some birds persisting and even breeding for a few years. Populations undergo major fluctuations and some become locally extinct for several years before reinvasion and becoming common again. These declines are often attributed to disease, but there is no supporting evidence and it seems more likely that they are due to widespread breeding failure and adult mortality during periods when food is scarce.

The North Island Weka is regarded as threatened because of its very restricted and declining distribution, and because of its failure to re-establish in apparently suitable habitat elsewhere. The Royal Forest and Bird Protection Society and Otorohanga Kiwi House have a successful captive breeding programme aimed at release into suitable North Island habitats. The other subspecies are more secure but remain at risk until the causes of the rapid declines are better understood.
Breeding: Pairs remain on territory or in fixed home ranges all year. The breeding season is highly variable and depends on local weather patterns, food availability and population size. Weka can breed all year if conditions are suitable, and can raise up to four broods in a year. The nest is a bowl of grasses, sedges, rushes and cabbage-tree leaves, lined with finer grasses, feathers, moss or wool. It is on the ground at the hollow base of a tree, in a short burrow, under or inside fallen logs, or in a dry site under tussock, sedges or fern. They lay mostly in August–January, 1–**2–3**–6 creamy white or pinkish eggs (58 x 41 mm) about 2–3 days apart.

Both sexes incubate, the female for most of the day, the male from late afternoon to early morning. They incubate for 26–28 days from after the last egg is laid; the chicks hatch over several days and leave the nest at 2–3 days old when still covered in dark brown down. Both adults brood the chicks during cold weather in the first week and feed the chicks until they are nearly fully grown at 6–10 weeks old. The young disperse at 3–4 months old and can breed at 5 months old. The oldest Weka recorded in the wild lived over 15 years.
Behaviour: Adult Weka stay on their territory or home range all year, but juveniles disperse from their natal area. Although Weka are flightless, they can swim across a kilometre or more of river, lake or sea. Weka are usually shy and retiring, and are seen only fleetingly as they run from one patch of cover to another, but some birds, especially those on islands or living around tramping huts, become very bold and readily take food from the hand.

Weka are more often heard than seen. Their main call is a shrill, far-carrying, double-note 'coo-eet', normally heard at dusk and in the early evening. Often when one Weka starts calling, others respond and the hills come alive with calls. Other calls include soft, deep, resonant booming and high-pitched peeping from young begging for food.
Feeding: Diet is mainly invertebrates and fruit, but they take seeds, small vertebrates and carrion. The main invertebrates are worms, beetles, orthopteran larvae, snails, amphipods and isopods found in leaf litter, in long grass or along the tideline. They feed by flicking the litter aside with their bill (surprisingly, not with their feet). They can sometimes become serious pests by feeding on newly sown crops, and come into conflict with conservation programmes by killing invertebrates, reptiles and seabirds, and eating eggs of seabirds and other ground-nesting birds.

Reading: Beauchamp, A.J. 1987. *Notornis* 34: 317–325. Beauchamp, A.J. 1988. *Notornis* 35: 282–284. Beauchamp, A.J. *et al*. 1993. *Notornis* 40: 309–312. Carroll, A.L.K. 1963. *Notornis* 10: 281–300. Coleman, J.D. *et al*. 1983. *Notornis* 30: 93–107.