

Aquatic birds with a small rounded head, short flattened bill, rounded body, short legs, webbed feet and a waddling gait on land. They fly strongly with neck outstretched. Sexes alike in swans and geese, but male ducks are usually more colourful than females. Lay large clutches. Chicks leave the nest within days but are guarded for several months until they can fly.

CANADA GOOSE *Branta canadensis*

Common North American introduction

83 cm; ♂ 5.4 kg, ♀ 4.5 kg. Large brown goose with pale brown and white barring below; black neck and head with conspicuous white patch on cheeks and chin. Loud honking call given when alarmed and in flight. Flocks fly in V formation. Grazes on pasture, young crops and aquatic plants. **Habitat:** High-country pasture, freshwater lakes and margins, and coastal lagoons. **Breeding:** Sep–Dec. [Sp 123]



WATERFOWL

Anatidae

Swans, geese and ducks are found worldwide in freshwater and marine habitats. There are about 160 species, of which 14 (4 endemic, 4 native and 6 introduced) breed or have bred in the wild in the New Zealand region since 1920. A further endemic species (*Mergus australis*) became extinct in the early years of the 1900s, and another 6 species are vagrants to the region.

In New Zealand, most introduced and some native species of waterfowl are legally harvested during a strictly controlled shooting season. Each year, Fish and Game Councils determine the length and timing of the season and the allowable bag for each species, and monitor the licensing of hunters and annual hunting statistics. A voluntary organisation, Ducks Unlimited, works to create and protect wetland habitats suitable for waterfowl and is also involved in captive breeding programmes for some threatened and rare species.

All species have webbed feet for swimming in freshwater rivers and lakes, or in coastal waters. Their bill is modified for filter-feeding; water and food is sucked in at the tip of the bill and expelled through fine comb-like lamellae at the sides, which catch minute seeds and invertebrates. Although most feed in this way, some species mainly graze on aquatic or terrestrial vegetation and pick seeds (e.g. peas or wheat) off the ground, and the mergansers have serrated bills for catching fish.

Reading Frith, H.J. 1982. *Waterfowl in Australia*. Sydney: Angus & Robertson. Madge, S. & Burn, H. 1988. *Wildfowl: An Identification Guide to the Ducks, Geese and Swans of the World*. London: Christopher Helm. Johnsgard, P.A. 1978. *Ducks, Geese and Swans of the World*. Lincoln: Univ Nebraska Press. Williams, M. 1981. *The Duckshooter's Bag*. Wellington: Wetland Press.

123. CANADA GOOSE *Branta canadensis*

Plate 29

Size: 83 cm; males 5.4 kg, females 4.5 kg. **Geographical variation:** 12 subspecies; the form in New Zealand is the Giant Canada Goose *maxima* from northern and central states of the USA (North Dakota to Arkansas), although other subspecies (*tavernii* and *canadensis*) from other parts of North America may have mixed with it. **Distribution:** Natural range is North America and northeastern Asia (Kamchatka Peninsula and Japan). They were first introduced to New Zealand from North America in 1876, but only with 50 birds introduced in 1905 and other liberations up to 1920 did the present population become established. They are abundant in the wild in the eastern South Island from Marlborough to North Otago (especially at Lake Ellesmere) and common in drier tussock country of eastern Fiordland. Early attempts to introduce Canada Geese to the North Island failed, but they have become well established in the wild since the 1970s in the Waikato, Taupo-Ohakune area, northern Hawke's Bay, coastal Manawatu, and especially near Lake Wairarapa.

on coastal lakes such as Whakaki Lagoons (near Wairoa) and Lake Wairarapa. Vagrants have been recorded from the Kermadec, Chatham and Auckland Islands.

Population: The post-shooting season population is c. 50,000 birds: 10,000 in the North Island and 40,000 in the South Island, including 10,000–15,000 overwintering on Lake Ellesmere.

Conservation: Partially protected introduced species. Up to 30,000 birds are legally shot during the normal May–July shooting season and in special seasons in late summer. Others are legally shot when they damage arable crops such as peas and grain and when they eat grass and fowl pastures. Sometimes special culls of moulting birds or egg-pricking have been necessary to keep numbers under control in some districts.

Breeding: Birds return to their breeding sites in early September, and the gander aggressively defends a territory of about a hectare while the female builds the nest in a site with good visibility. Laying is from mid-September to late October, but replacement clutches are laid into November. They lay 2–4–5–10 white eggs (88 x 58 mm, 200 g), daily in a shallow bowl in a pile of grass and rushes gathered from within reach of the nest. The bowl is lined with feathers. Incubation, by the female only, takes c. 28 days and the eggs hatch synchronously.

The goslings, which are initially covered in yellow and brown down, are led from the nest within a day of hatching and are guarded by both parents or join crèches of up to 50 goslings during the 80 days to fledging. Family groups remain together until the next

breeding season, when the young are driven away. They usually start breeding at 3 years old. Most pairs remain together from year to year and return to the same nesting area each year unless nesting is disrupted. About 30% of adult Canada Geese die each year (20% shot and 10% of natural causes), giving a life expectancy of 2.8 years, but the oldest banded bird lived over 30 years.

constant chorus of honking as birds maintain contact, especially when they are flying. The main flight call is a musical double honk 'ah-honk'.

Feeding: Mainly graze on land on plants such as grass, clover, lucerne and brassicas. They also eat wetland and aquatic plants, especially rushes and *Potamogeton*. Sometimes feed on stubble or standing crops of peas or grain, and flocks can cause considerable damage.

Behaviour: When not breeding, they form flocks of up to 2000 birds and are usually very wary. Flocks are often noisy, with a

Reading: Imber, M.J. 1971. *Notornis* 18: 253–261.