



Title: “*Bouyant*”

Description: Canada Goose afloat, Tūmai.

Photographer: Henrik Moller

Where, when: Hakapupu (Pleasant River estuary), September 2021

Sustainability? Despite their bulk, the Canada Geese sit high in the water when afloat. Birds have 9-11 air sacs in different parts of their body – really extensions to their lungs. They don’t have a diaphragm to breath like mammals, so the sacs are important for storing air and maintaining a one-way flow of air through the lungs. This is very important for maintaining efficient oxygen exchange to their lungs to fuel the high energy required for flight. Birds even have hollow bones, partly for reducing weight, but also for storing air. The air sacs are crucial for regulating buoyancy and absorbing shock in diving birds.

For me, a shutterbug, their sacs are also useful for keeping the geese high in the water for a better chance to take a good photograph!

Clearance of forest for farming has had a detrimental impact on the populations of most native bird species (Paradise Shelduck and Harrier Hawks are notable exceptions). Instead, it is mainly the introduced species that have taken up the ecological opportunities and lifestyles (‘ecological niche’) in the open farmed landscapes. Pastoral land adjacent to a lake or large pond provides preferred habitat of geese, but they may also be found in well-forested mountain valleys, especially in Fiordland, and around alpine tarns. Communal moult gatherings at secluded or very large lakes with grazing available at the immediate margins.

Just as most native birds cannot maintain thriving populations in open farmed landscapes, relatively few introduced bird species can prosper in intact native forests of New Zealand. This shows a broad association between habitat and species origin, or more generally, a co-evolution of plants and animals to survive and reproduce together in the ecological environment that they co-create and co-maintain. It is this coupling of species survival and indigenous habitat that drives the preservation of native forests (and native grasslands) in reserves.

Photo notes: Exposure for 1/800s, 600 mm focal length, f/6.3, ISO-200.

Digital specs: 2,318 x 1,547 pixels (3.6 MP).

Key words: Canada Geese, *Branta canadensis*, bird, air sacs, habitat requirements, Henrik Moller, Aotearoa, New Zealand, Sustainability.

Price: \$120 (incl. GST) for use of the digital image.

Visit www.ecosystemsphotography/sales for details & to order, and to get a quote if you want a high-quality print.

Donation: The price includes a \$100 donation to a sustainability organisation or project of your choice, or otherwise for the *East Otago Catchment Group*, <https://www.facebook.com/groups/1547310312019600>.

We recommend that the donation goes to *East Otago Catchment Group* because they work in a community-led, collaborative bottom-up way to improve land and water care. Catchment groups draw town and country people together and find practical solutions based on local knowledge and energy.

Image Ref: HM#018 (Please refer to this reference in orders and correspondence).

Henrik Moller
2 December 2012.