



Title: *“Good Morning”*

Description: Canada Geese pair, Tūmai.

Photographer: Henrik Moller

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

Sustainability? I see tenderness and gratitude in this photograph of a dawn greeting of a pair of Canada Geese at Hakapupu Estuary.

Canada geese are ‘Monogamous’ i.e. they have only one sexual partner at a time. This does not strictly mean that they “mate for life”, but it does mean that “divorce rates” are low. Usually long-lived monogamous birds only break partnerships if successive breeding attempts fail – there must be something going wrong if you haven’t given it enough tries, huh?

Do these birds in the photographs love each other then? Maybe not if you want to think of love in spiritual terms, maybe yes if you want to measure love in terms of spending time together. Sociobiologists point out that reproduction is a risky business – a necessity to get your genes into the next generation, but scary from predation risk, energy expenditure and time demand points of view. More food is required first to produce an egg, but especially then to rear the hatchlings. Time and energy spent rearing chicks can zap your prospects of a longer life (as a father of 3 boys, I know!). So pairing up with compatible and helpful mate to share the duties and halve the costs makes good sense ... and when you’ve found a fit, why switch?

The cost of reproduction makes wildlife management, habitat quality and predation control all the more important during the breeding season. In winter animals can get

by with slow foods to sustain low and sheltered activity (think potatoes). In spring, time is short and life is in a hurry. You need to get the kids born and fledged, so high-quality foods that can be gathered quickly (think asparagus) are required. High-nitrogen foods are needed for protein production (essential for growth) and lots of energy is required to feed the family and maintain parental guard.

The flush of spring is a thrill for photographers. It's also a time for reawakening of life's cycles in an amazing regenerative cycle that underpins sustainability of our world – our “natural capital” if you want to use economic speak.

Photo notes: Exposure for 1/2000s, 600 mm focal length, f/6.3, ISO-500.

Digital specs: 5,035 x 3,360 pixels (17 MP).

Key words: Canada Geese, *Branta canadensis*, bird, monogamy, breeding, seasons, 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#020 (Please refer to this reference in orders and correspondence).

Henrik Moller

2 December 2012.