



**Title:** *“Dawn Patrol”*

**Description:** Canada Geese flock on water, Tūmai.

**Photographer:** Henrik Moller

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

**Sustainability?** Lots of animals gather together in flocks or herds. This grouping can make finding food easier (in some cases the competition for food can do the reverse), but the biggest advantage is thought to be around shared protection from predators. Flocking birds share surveillance duties, so they are more likely to see approaching danger – the “many eyes and ears” approach. Also, if your team has its eye out for danger, you can concentrate on feeding. This is a photograph of a flock of Canada Geese cruising up and down Te Hakapupu estuary adjacent to breeding sites in the nearby marram grass and dunes.

Many geese flocks are extended multi-generation family groups and remain close to their breeding locations. Others, however, may undertake extensive moult migrations to larger waters where they undergo their annual wing moult. The bulk of these migrating birds are non-breeders or failed breeders; successful breeders usually moult their wing feathers on the breeding sites while still guarding their young.

Understanding the aggregations and dispersal patterns of a species is sometimes very important for conservation (restoring or maintaining numbers), pest control (suppressing numbers to realise other ecosystem benefits) and harvest management (maintaining numbers at an optimum level for harvest). These three main applications (conservation, pest control, harvest management) are the focus of “wildlife management” and are often conducted by the Department of Conservation

and Regional Councils, but increasingly by Non-Governmental Organisations (NGOs) like conservation agencies, community groups, businesses, farmers, families and individuals. New Zealand as a whole is swinging increasingly round to “bottom-up” rather than just “top-down” approaches to environmental care and restoration. Both are needed. Each has their strengths and weaknesses.

Since we are featuring Canada geese here, an introduced game bird, we should mention the Fish & Game councils. They do much more than manage the hunting – they advocate strongly for habitat retention and water care in courts and in public, they educate, and they encourage New Zealanders to get out into the New Zealand outdoors and experience nature. For way too long New Zealand has synonymised conservation with preservation, and seen hunting and shooting as different from conservation. They are joined at the hip. In Europe there is little such distinction and wildlife harvesting by humans, if done sustainably, is conservation in action.

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

**Digital specs:** 5,216 x 3,480 pixels (19 MP).

**Key words:** Canada Geese, *Branta canadensis*, bird, pest management, harvest management, conservation management, Henrik Moller, Aotearoa, New Zealand, Sustainability.

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

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**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#019 (Please refer to this reference in orders and correspondence).

**Henrik Moller**

2 December 2012.