

Shorebirds shape up and ship out

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Some Canadian shorebirds have had to get fit or die trying. Research published in the open access journal *BMC Ecology* has found that the average Pacific dunlin has lost weight and spends more time in flight as a response to the increased threat of predation from their arch-enemy, the peregrine falcon.

Fortunately for the falcon, the outlawing of the highly [toxic chemical](#) fertilizer [DDT](#) in the 1970s has led to an increase in their population. Bad luck though for Pacific dunlins, which once enjoyed lazy winter afternoons roosting in relative safety on the shore of the Fraser River estuary in British Columbia. Drawing on a pool of data spanning four decades, a team of ecologists led by Ronald Ydenberg from Simon Fraser University has found that the dunlins have had to adapt their behavior - and their diets - in order to survive. Ydenberg says, "In the past, dunlins stored up fat reserves in the autumn months so that they could survive the harsh Canadian winters when food is short. What we're seeing now, however, with the increase in numbers of peregrine falcons, is that the dunlins have to consider the energy trade-off between preparing for starvation and being able to escape quickly".

Starving during the winter is still a very real possibility for Pacific dunlins, but they can no longer rest easy now that peregrine falcons are around. Some dunlins will fly long distances to find safer roosts, but many now choose to take to the air en masse during peak peregrine feeding times instead. "Over-ocean flocking is energetically expensive", says team member Dick Dekker, "but the risk from predators is now greater than the threat of starvation". When a streamlined hunter is hot

on your tail, it doesn't pay to be a fat bird. The average weight of a Pacific dunlin has decreased by 2-4g over the past 40 years. These adaptations, along with spending more time flying out at sea, help the dunlin to escape predators so that they can safely make it through the winter.

More information: The Winter body mass and over-ocean flocking as components of danger management by Pacific dunlins, Ronald C Ydenberg, Dick Dekker, Gary Kaiser, Philippa CF Shepherd, Lesley Evans Ogden, Karen Rickards and David B Lank, *BMC Ecology* (in press), www.biomedcentral.com/bmcecol/

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