

## Avian management at Vancouver International Airport: Painting a landscape of fear with trained raptors

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Vancouver International Airport (CYVR) is located in the Fraser Delta and provides an enticing haven for migratory and wintering birds seeking refuge, compromising aircraft safety and operations. To manage this risk, the Vancouver Airport Authority has invested in innovative and adaptive strategies to reduce bird strikes, including an active daily falconry program conducted during the winter months, when local shorebird and waterfowl populations swell. This presentation discusses the falconry program, initiated in 2011, and the results on one primary target species in particular, the Dunlin (*Calidris alpina*).

The behavior and habitat use of prey species is strongly influenced by predation risk. The landscape at CYVR comprises a complex interplay of multiple species of both predator and prey. Wild raptors are diverse and relatively numerous, and they interact with one another and with a wide range of prey species. The dynamics of these interactions are strongly influenced by an ever-changing palette of managed airside habitats, the vagaries of weather, airport operations (including bird control activities), and climate and landscape level changes. Manipulation of these dynamics – through, for example, effectively increasing the apparent density and hunting activities of a natural local predator, could facilitate the management of problem avian species in and around the airport.

Dunlins are the most abundant wintering shorebirds locally, and a long-time problem species at the airport. Traditional hazing with pyrotechnics and auditory harassment, adequate for many problem species, proved relatively ineffective in deterring Dunlin from seeking refuge on the airfield, especially during high tides and inclement weather. It was our hypothesis that we should be able to influence the behavior of winter resident Dunlins by increasing perceived predation risk. To effect this, trained falcons, primarily Peregrines (*Falco peregrinus*) - a natural predator on Dunlins - are actively flown on the airfield daily to paint a landscape of fear for the shorebirds.

The relative success of the program to date is strongly supported by a decline in strikes involving Dunlins - quantified by mass - as well as by more anecdotal observations of related behavioural changes. Since implementation of the program, the cross-wind runway, historically closed for much of the winter due to shorebird hazard, has remained open and ready for use during poor weather conditions when it is most needed.

Active management using trained predators helps reduce the need for more lethal forms of avian control. Direct and indirect influences on the local predator-prey systems, both within and beyond the boundaries of the airport, are poorly understood. Future exploration and quantification of behavioural adaptations and habitat management, in relation to dynamics of Dunlin populations, may assist in further reducing the occurrence of aircraft / shorebird collisions at Vancouver International Airport, to the benefit of both human and avian species.