

**WILDLIFE CONTROL AT VANCOUVER INTERNATIONAL AIRPORT:
INTRODUCING BORDER COLLIES**

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Abstract

Situated on an island located along a major Pacific Flyway, Vancouver International Airport (YVR) has developed a comprehensive wildlife management program in order to maintain a safe aircraft operating environment. YVR attracts a diverse range of birds, including ducks; gulls; herons; geese (Canada and Snow); sparrows; swallows; crows; starlings; owls; hawks; and eagles. The airport's Wildlife Management Program consists of a Habitat Management Program and a Wildlife Control Program which are both based on a database of knowledge the airport continues to build regarding the behaviour patterns of wildlife common to the airport.

Operating 24-hours-per-day 365 days of the year, YVR's Wildlife Control Program annually moves close to one million birds from the aircraft operating area. Innovation and adaptability have been critical to the success of YVR's program. On foot, in trucks, or in their Zodiacs YVR's Wildlife Control Officers employ many tools in their trade, including: gas cannons; pyrotechnics (including Ruggieri pistols); live ammunition; night vision goggles; high power lights; sirens; nets and wires; traps; and wailers.

In November 1999, YVR introduced two Border Collies to its wildlife control program.

The introduction of these dogs was a carefully researched and orchestrated event, as the airport recognized that their success would be based on many key factors. Before any commitments were made to introduce the dogs, the airport conducted climate surveys of its staff, initiated site visits, consulted with local veterinarians and animal care specialists and held numerous discussions with the dog trainer/supplier. The program the airport initiated based on this research included the development of a comprehensive dog handler training and certification program, the establishment of policies and

procedures for the care and handling of the dogs, and a detailed communications plan.

The airport has seen a drop in the use of pyrotechnics and as a consequence earned recognition from the community for reducing noise as a result. The goal of employing Border Collies in YVR's wildlife control program is to reduce the risk of bird strikes at the airport and observations to date indicate this is in fact happening. In the first quarter of 2000 bird counts on the airfield were down 40% from the same quarter in 1999 with the only change in control techniques being the use of the Border Collies Fleet and Sky. With only three full months of service experience with Fleet and Sky it is too early to make a complete objective assessment of the dogs' effectiveness, however preliminary results like these are very encouraging.

Key Words: Vancouver International Airport, Control methods, Predators

Environment

YVR (Vancouver International Airport) is situated on Sea Island at the mouth of the Fraser River in Southwest British Columbia. Formed by the silt washed out of the mountains and valleys of the Fraser River system, Sea Island is both a natural and historical habitat for millions of migrating and resident birds annually. The more famous of these birds are the Snow Goose and the American Bald Eagle. Snow Geese summer in the Arctic and migrate south in the tens of thousands to winter (October through April) in the major river estuaries along the Pacific Northwest including the nearby Skagit Valley of north-western Washington State and the Boundary Bay area of British Columbia. The American Bald Eagle is native to the area and can be found all year round in addition to the thousands that gather north of the airport in the Squamish River Valley every January and February.

In addition to the Snow Geese and Bald Eagles the airport's most common large birds include Canada Geese; Blue Heron; Red Tailed Hawk; Gulls; and the Snowy Owl. The most common medium and small birds include ducks; Crow; Pheasant; Barn Owl; Northern Harrier; Starling; Dunlin; Killdeer; Swallow; and, Sparrow.

YVR's Wildlife Management Program

History

Given its location, wildlife control at YVR has always been a major concern and a priority in airport operations. Until 1988 trained Airside Duty Managers carried out the airport's wildlife control program and although effective it was only one of several key responsibilities they held. In response to growth in aircraft movements and expanding responsibilities for the Airside Duty Managers, in 1988 the airport initiated a full-time dedicated dawn to dusk wildlife control program.

Six years later in March of 1994 a fully loaded B767 departing YVR's runway 08 struck an estimated 20 to 30 ducks just after rotation, it was 2006 hours, just over one hour after dusk and there was no Wildlife Control Officer on-duty at the time. Three hours after the B767 landed safely, and without further incident, the airport began a 24-hour wildlife control program that it has had to this day.

In 1997, again in response to growing aircraft movements and the increased risk of bird strikes the airport supplemented its 24-hour 7-day per week airfield wildlife control program with a seasonal snow goose control program that operates from October through April.

Background of the Program

While this paper focuses on the Wildlife Control Program it is important to recognize that wildlife management at YVR consists of both a control program and a habitat management program. The focus of habitat management at YVR has been to make the airport less attractive to wildlife and establish a safe aircraft operating area. Among the key elements of the habitat management program are: a mandatory review of all new airport facilities for wildlife (in)compatibility as part of the building permit process; an airfield drainage remediation program; and, a program to install Nixolite on all airfield signs.

Twelve permanent full-time and part-time Wildlife Control Officers provide 24-hour wildlife control on the airfield in 2-person shifts. A full-time Supervisor supports these officers. In addition, between October and April as long as there are snow geese in the vicinity of the airport a third control officer is scheduled to work from dawn to dusk exclusively on the western foreshore of the airport to control the geese.

Each Wildlife Control Officer must possess a Firearms Control Permit and undergo up to three months of training and job shadowing before being qualified to work alone on the airfield. Training includes airfield knowledge, bird identification, bird surveying and counting techniques and training in the specific tools used in wildlife control at YVR.

The airport is in a continuous process of evaluating existing and new tools that will be effective in its wildlife control program. At the present time these tools include five types of pyrotechnics; three types of guns – pistol, shotgun and Ruggieri pistol; live ammunition; portable remote controlled gas cannons; 3rd generation night vision goggles; high power spot lights; electronic wailers; traps; and sirens. To employ these tools the officers make use of a fleet of four pick-up trucks and two Zodiac boats.

Bird Strike Statistics (Before the Introduction of Border Collies)

Year	Birds Controlled	Bird Strikes	Bird Strike Rate Strikes/10,000 aircraft movements
1997	949,000	59	1.72
1998	954,000	46	1.24
1999	831,000	54	1.46

Border Collie Program

Southwest Florida International Airport in Fort Myers, Florida was the first known airport to use a Border Collie in its wildlife control program and deserves credit for their initiative in this regard. Following the well publicized success of 'Jet' in ridding the Fort Myers' airport of birds YVR was introduced to Dr. Nicholas Carter of Border Collie Rescue, the trainer and supplier of the dogs, at the 1999 Bird Strike Canada/Bird Strike USA conference in Vancouver. At that time Dr. Carter demonstrated the capabilities of Border Collies in a field exercise at YVR.

Impressed with the field demonstration, YVR representatives embarked on a trip to Fort Myers to meet with airport officials and to see firsthand the facilities of Border Collie Rescue in order to determine the feasibility of employing Border Collies at YVR. The decision to pursue the purchase of Border Collies was made based on the knowledge that even with the variety of control tools used at YVR birds were becoming habituated to these tools and thus more difficult to control. Perceived as a predator to birds, the employment of Border Collies in the airport's wildlife control program was thought to be a logical progression.

Based the experiences of Southwest Florida International Airport, the knowledge of Dr. Carter from Border Collie Rescue and local dog handling experts an implementation strategy was formed for the introduction of Border Collies at YVR. The first step in this strategy, and perhaps the most critical one, was to get the commitment of the airport's Wildlife Control Officers to a

Border Collie program. A survey, which was completed in anonymity, was distributed to each Officer and the results reviewed to discover if there were any underlying issues which might indicate less than 100% commitment to the program. There being no significant issues, the airport made a commitment to purchase two dogs and initiated the remaining steps in its implementation strategy.

Border Collies are extremely intelligent animals, however they do not work alone. The fact that YVR's wildlife control program is a 24-hour per day operation meant that the dogs and the Wildlife Control Officers would have to be able to work equally well with each other. These were not police dogs trained to work with only one partner. Thus it was identified that a comprehensive training program was required for all Wildlife Control Officers. Furthermore, it was determined that each Officer would be required to pass both a written and practical field examination to be certified as a Dog Handler before they would be permitted to work alone on the airfield with the dogs. Certification served three purposes: (1) to give the Officers confidence in their abilities; (2) to provide airport management with documented assurance of a high level of competency; and, (3) to ensure all handlers applied consistent techniques in working with the dogs.

In advance of the training program a policy and procedures manual was developed which spelled out the high standards for care and use of the dogs. Elements of this manual include feeding, exercising, behaviour observation, cleaning, kennel maintenance and policy on using the dogs on the airfield. Also spelled out in this manual is the requirement to document all activities and interactions with the dogs. The Supervisor reviews these records and irregularities – i.e. diet – are monitored closely.

YVR staff worked with the local SPCA in the design of kennel facilities for the dogs. The result was a state-of-the-art kennel for two dogs with full washing facilities, adjoining runs, appropriate security, separate rest areas and premium ventilation and heating systems. It has been described as the Taj Mahal of kennels by animal handling experts.

Training of the dogs, Fleet and Sky, began even before YVR purchased them and lasted for several months. The comprehensive training program the dogs underwent at Border Collie Rescue exposes them to aircraft and an airport environment to ensure their inbred discipline meets stringent and uncompromising airside safety standards. Then approximately one month before their final arrival the dogs were flown into YVR for one week of training on the airfield that would eventually be their home. This visit allowed the dogs to get acclimatized and provided Dr. Carter of Border Collie Rescue the opportunity to understand any 'issues' that required particular attention during their final month of training.

As a final step in the introduction of the dogs to work at the airport a communications plan was developed with the assistance of media relations and corporate communications experts in the organization. Border Collies are a real good news story as Southwest Florida International Airport pointed out and their advice to ensure a detailed communications plan was in place was very sound. The plan was driven around the dogs and not vice versa. The work routine of the dogs was identified as critical to maintain in order to smooth their integration into the program. This meant that access to the dogs for other than work related purposes was closely monitored and at no time were the dogs asked to perform for any media for fear of causing them any confusion. The establishment of the Supervisor, Wildlife Control as having ultimate authority over the dogs was critical to the plan. Original interest in the dogs came from, and continues to come from, local, national and international levels of print, radio and television media.

While many of the elements of the implementation program are now complete the airport anticipates it will take two to three years before a full assessment of the success of introducing Border Collies can be evaluated. During this period the airport will continue to work closely with Border Collie Rescue. YVR also hopes to develop a user group of airports using the dogs in their programs with the goal of sharing information and learning ways to make the most effective use of the dogs in controlling wildlife at the airport.

Border Collie Program Results

'Fleet' and 'Sky' arrived at YVR in October 1999 and immediately began training with Wildlife Control Officers lead by Dr. Carter of Border Collie Rescue. On November 12, after more than one hundred hours of training each, the first of twelve Officers was certified as a Dog Handler.

During the first three months of their use on the airfield the dogs have had a noticeable impact on the numbers of birds spotted on both the airfield and western foreshore with total bird counts dropping 40% over the same period a year ago. Of note is the fact that, Canada Geese have all but been eliminated from the airfield and the numbers of Snow Geese on the foreshore dropped to an all time low. The drop in Snow Goose numbers has no doubt been a contributing factor in there having been no incidents involving Snow Geese since 'Fleet' and 'Sky' arrived whereas in the two previous years the airport recorded two confirmed strikes and two occurrences involving Snow Geese.

The airport has also seen a drop in the use of pyrotechnics and as a consequence earned recognition from the community for reducing noise as a result. With only three months of real data since the Border Collie Program

commenced it is too early to give a complete objective assessment of their performance however these early results are encouraging.

YVR does not expect to see bird strikes drop as drastically as was the experience of Southwest Florida International Airport given the comprehensiveness of the wildlife control program in effect at YVR before the Border Collies arrived. The goal of employing Border Collies in YVR's wildlife control program is to reduce the risk of bird strikes at the airport and observations to date indicate this is in fact happening.