



Bird Control at Schiphol

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Welcome to Amsterdam Airport

Bird controller keeps watch over birds and aircraft

Amsterdam Airport Schiphol is located in a polder landscape, with a lot of water, grassy meadows and rich farmland. The Amsterdamse Bos forest area, the coast and the dunes are located nearby, just as the Westeinder, Vinkeveen and Nieuwe Meer lakes. These factors all contribute to Schiphol being a popular roost for birds. However, birds constitute a genuine risk for aircraft.

To ensure an optimum degree of aviation safety, Schiphol takes measures to keep the birds as far away from the aircraft as possible. Schiphol employs 15 'bird controllers' solely for this purpose. Another five employees assist if necessary. These bird controllers work in the runway area to keep the birds away at all hours of the night and day.

Schiphol

The airport has also planted the surrounding area with special varieties of grass, bushes and trees that are unattractive to birds. All of the above measures are designed to prevent 'bird strikes', or collisions between birds and aircraft.

Birds can compromise safety at the airport. They pose a risk to air traffic if they collide with aircraft landing or taking off. As it is essential that the 'aluminium birds' and the real birds are kept strictly separated, bird controllers take a wide range of measures to chase birds away and discourage them from roosting on the airport grounds. Of course, not every collision causes immediate damage to aircraft.

Habitat management

One of the most important measures the airport takes to limit the number of bird strikes is to make the runway area as unattractive to birds as possible. This is called 'habitat management'. Several species of bird like to roost at Schiphol because they can find food here, or because they feel safe in the area. As hardly any people ever enter the runway area, it is a relatively undisturbed spot that attracts birds. Amsterdam Airport Schiphol has been trying to make the area as unattractive as possible for birds by planting grasses, bushes and trees that birds don't like. The grass between the runways at Schiphol is longer than you would normally see in a park or garden, kept approximately 12 to 20 cm high in the airfield. Schiphol applies a special method to mow its grass to ensure it is kept at the desired length. Birds don't like tall grass, as it makes it more difficult for them to find food and spot natural enemies, such as birds of prey. The type of grass grown in the runway area has also been adapted to repel birds. Special blends of coarse grass that birds don't like have been developed especially

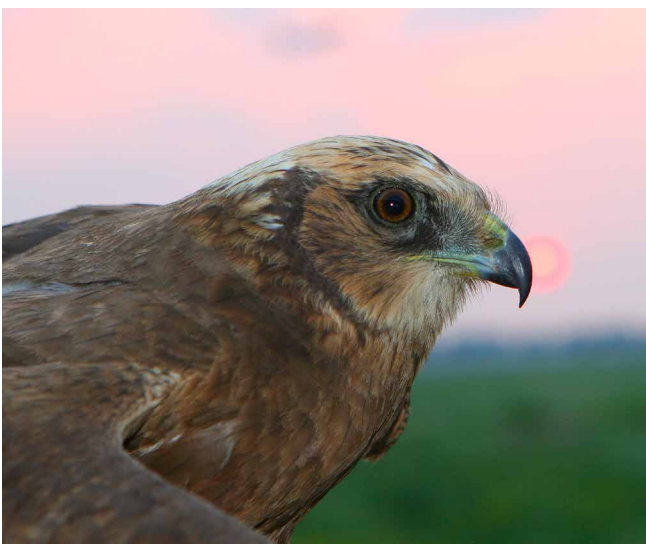
for Schiphol. The airport is also experimenting with grasses that are completely inedible. Additionally, monthly 'hot spot' rounds are held, during which the maintenance staff help identify locations that attract birds. These rounds reveal if and where the management of trees and shrubberies needs to be adapted. The runway area is also kept dry by a special drainage system that prevents puddles from forming after rainfall, as puddles also attract birds. Bird Control also makes waterways around the runway area less attractive to water birds by installing green lasers, fixing ropes and/or netting across ditches and canals or floating hopper balls in them.

Bird controller

Twenty-four hours a day and 365 days a year, the 15 bird controllers employed by Amsterdam Airport Schiphol ensure that air traffic is disturbed as little as possible by birds. Their busiest periods are just after the nesting season when young and inexperienced birds fly out, in summer during harvesting operations in the vicinity of the airport and in autumn when the birds start migrating. The European Aviation Safety Agency (EASA) holds airports responsible for chasing away birds up to a height of 60 metres (200 ft) for landing air traffic and 150 metres (500 ft) for air traffic taking off. The bird controllers use a variety of tools to chase away birds and continually patrol the entire runway area in all-terrain vehicles, dubbed 'lapwings' (Kieviten in Dutch). The runways are always inspected by a bird controller prior to being used. They maintain radio contact with the air traffic controllers in the tower, who warn the bird controllers if pilots report the presence of birds in the vicinity of a runway. Conversely, bird controllers will also notify air traffic control of any birds they encounter that could pose a threat to air traffic. The bird controllers also take note of many other things besides birds. They remove foreign objects from the

Schiphol

You wouldn't normally associate an airport with nature, but Amsterdam Airport Schiphol's 1600-hectare runway area offers a very special natural environment. As people rarely enter this area, its wildlife has flourished: you will find over two hundred species of flowers and plants here, including several protected ones. Over seventy species of birds populate Schiphol as well, all of which receive special attention from a very special Schiphol team: the bird controllers.



runways, which could pose a hazard to aircraft, and report any damage detected to signs, lights and asphalt. They pay extra attention to obstacles such as construction cranes in the vicinity of the runways, which must be parked a certain minimum distance away. During rainy weather, the runway is inspected for puddles and the bird controllers also act as a guide for the snow fleet, driving ahead when the fleet is called into action on the runways.

Bird dispersal equipment

There are various resources a bird controller can use to keep birds away from the runways. Standard equipment includes a flare gun with noise blanks, a bird alarm call system and a green laser.

The flares and noise blanks come in various types, including a number of 'whizzers'. The flare used depends on the bird species and the number of birds the controller wants to scare away. Some species respond better to a loud bang and others to a screeching noise. Bird controllers also have all the most common bird alarm calls at their disposal, which act as a warning for the other members of the species to leave the area as soon as possible. All bird controller vehicles are equipped with a mobile green laser. This is a type of torch that emits a green laser beam to chase water birds away from the surrounding ditches.

Other resources used by bird controllers include stationary bird dispersal equipment such as gas canons, small windmills, bird flashers (little mirrors), irritape (tape that produces a shimmering effect) and scarymen (inflatable scarecrows). However, as birds may get used to the measures taken, Schiphol regularly tests new bird-chasing methods and equipment.

Many different species of birds have more or less adopted Amsterdam Airport Schiphol as their permanent home.



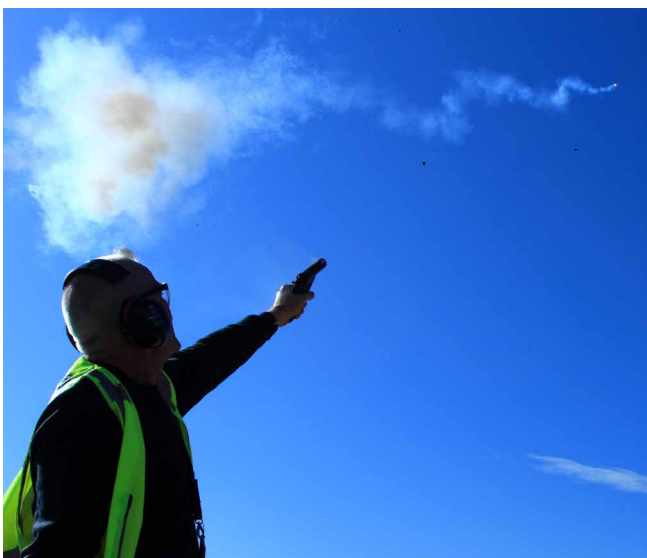
Although the airport would prefer to see its grounds entirely free of birds, there are some that can barely be chased away, if at all. This includes kestrels, buzzards and grey herons, which nest in the vicinity of Schiphol and hunt mice in the runway area.

Geese

The goose population around Amsterdam Airport Schiphol has thanks to all measures taken, remained stable over the past years. Geese continue to pose a serious risk to aviation safety due to their size and tendency to fly in flocks, while even a single goose can do substantial damage to an aircraft. Far-reaching measures have been taken at Schiphol and the surrounding area since 2005 to keep away the geese, which do not actually roost on the Schiphol runway area but cross Schiphol flying at various altitudes. Schiphol regularly tests new extended range noise blanks to repel flocks of geese.

It is also necessary to extend the preventative activities to the area surrounding the airfield. In recent years, Schiphol has conducted a great deal of research into the flight patterns of geese moving between their sleeping, nesting, moulting and feeding areas. These patterns have now been charted, which will enable the airport to take even more targeted measures against geese.

In order to reduce the goose population in the area around Schiphol, the Game Management Units (Wild Beheer Eenheden, WBE), the State Forestry Commission (Staatsbosbeheer), the North Holland Landscape Organisation, the Spaarnwoude Recreational Area and the Amsterdamse Bos forest area treat goose eggs to prevent hatching. Furthermore, geese may now be shot. Geese primarily flock to the Haarlemmermeer area in late summer to feed on field residues in the surrounding farmland. In coming years, nearly all farmers near Schiphol who raise grain crops will plough back their field residues sooner following the harvest. This will eliminate a food



source for geese in the vicinity of Schiphol in August and September. Many geese also fly over from Scandinavia to spend the winter months in the Netherlands.

Control Group for Bird Strikes

In addition to the Ministry of Infrastructure and Water Management and Amsterdam Airport Schiphol, the Netherlands Control Group for Bird Strikes (NRV) includes representatives from the Province of North Holland, the Municipality of Haarlemmermeer, the Netherlands Horticultural and Agricultural Organisation (Land- en Tuinbouworganisatie Nederland, LTO), the Natural Heritage Association (Natuurmonumenten; which acts also on behalf of the Netherlands Association for the Protection of Birds (Vogelbescherming Nederland)), the Ministry of Defence and the Dutch Airline Pilots Association (Vereniging van Nederlandse Verkeersvliegers, VNV).

This control group signed a covenant in April 2012 to jointly tackle the goose issue in the area surrounding Schiphol. In addition to all the measures stated above, the covenant adopted a four-track plan to address the problem: population management, crop adjustment, plans to adapt the surrounding wetlands and innovative systems and measures. With four radar stations we now have radar coverage of the entire airport and some of the adjacent lands as well. Eindhoven Airport also has entire radar coverage. This is unique for Europe.

The NRV in 2017 has made recommendations regarding the crops grown around the airport. On land that belongs to Schiphol, crops are sown that are unattractive to geese. The NRV will hold further talks with farmers about the composition of their crops in 2019.



Bird counts

The bird controllers perform frequent bird counts in the runway area in order to record the most common species and their numbers. Doing this enables the airport to identify trends and take action accordingly. The bird counts also help the airport precisely measure the effectiveness of a particular bird-chasing method on a specific species.

Using tablets, the bird controllers record all runway inspections, dispersal operations and bird sightings. All information is shared digitally. Their vehicles are also fitted to read the radar images, and see registrations on one screen. This enables them to take more effective action.

The Flora and Fauna Act

In the interest of aviation safety, the province of North Holland has declared Amsterdam Airport Schiphol exempt from the Flora and Fauna Act, an act established to protect wild plants and animals. This exemption means that in certain circumstances birds may be chased away and even killed if necessary. Schiphol uses this authorisation as little as possible, and sees it as a last resort when other bird-chasing methods have proven futile.

Reporting

Dead birds (or cadaver parts) are regularly found on or near the runways. The bird's death cannot always be attributed directly to a collision with an aircraft. Often, the turbulence caused by the wings of an aircraft will simply knock birds flying nearby to the ground. In 2018, 6.6 bird strikes were recorded per 10,000 air transport movements (2017: 5.8).

