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## ***Bird control at Helsinki-Vantaa Airport in 1978-2007***

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***Helsinki-Vantaa Airport in the early 1980s***



***Helsinki-Vantaa Airport in 2007***

***-Surface area:***

- in total 1700 hectares***
- inside the fence 1400 hectares (in 2002, before the 3<sup>rd</sup> runway, 800 hectares)***

## **1978**

***On June 11<sup>th</sup> and July 22<sup>nd</sup> , a DC-8 and a Caravelle, respectively, were struck by gulls. The damage cost approximately U.S. \$ 250 000 to repair.***

## **1979**

***A bird strike committee was established at the airport on January 9<sup>th</sup>. It was represented by:***

- ***Airport Authority***
- ***Air Traffic Control***
- ***Fire Department***
- ***Traffic Area Maintenance***
- ***Finnair Flight Department***
- ***Ornithological experts: 1) The Finnish Game and Fisheries Research Institute and 2) The Zoological Museum of the University of Helsinki***
- ***Later: Finnish Air Force and The Hunters' Central Organization***

# *Car patrolling during 30 years of activity*



*At present*

## ***Measures to make the airport environment unattractive to birds, deers and mooses***



***Covering and filling the ponds***



***Cutting down trees favoured by birds***



***Long grass policy***



***Fencing against deers and mooses***

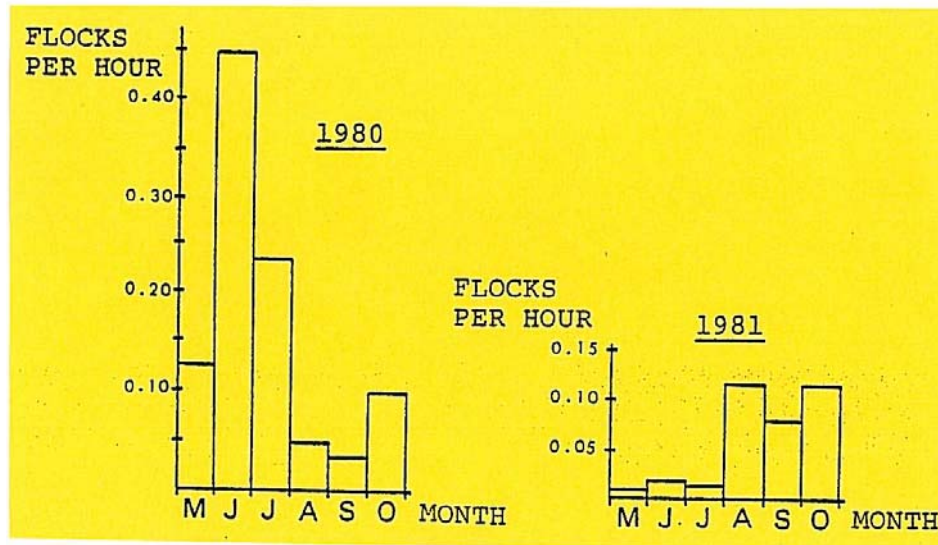
# Control of the herring gull (*Larus argentatus*) population

**Shooting of gulls in the airport area and in the nearest big garbage dump**

**Controlling the breeding colonies in the archipelago**



**One method: spraying of eggs**



**Number of dispersed flocks of gulls per hour in 1980 and 1981 in May-October in one month periods.**

*Closing the garbage dump near the airport took 10 years*



## ***Earthworm control experiment with Benomyl in 1983***

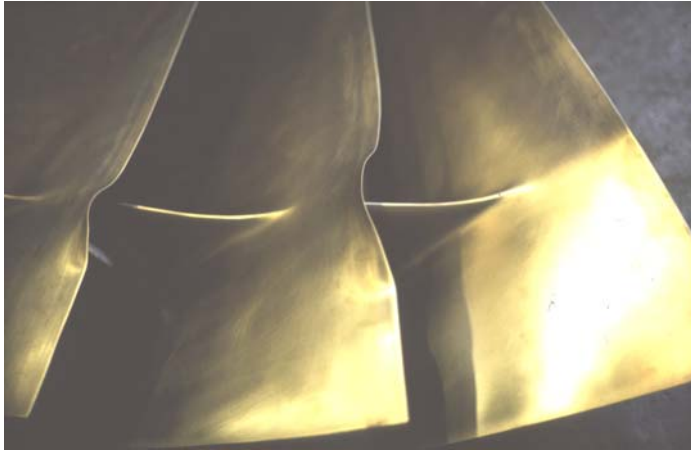
***Total application area 1,3 hectares (consists of 22 areas on the side of a taxiway)***

***Total control area 1,3 hectares (consists of 22 areas between the before-mentioned treatment areas)***

***The target species was the common gull (Larus canus)***

***The results showed that there was a statistically significant different (square-test,  $p < 0.001$ ) in the numbers of earthworms between the experiment and control areas. However, it was not possible to draw conclusions about the influence of the treatment on the future occurrence of the common gulls. No experiments were made on the sides of the runways.***

## *Repairing an engine damaged by gulls*





## ***Reports on the bird control activity***

***Kuusela, S. 1980: Lintujen esiintyminen ja torjunta Helsinki-Vantaan lentoasemalla 1979, 59 s.***

***Vickholm, M. 1982: Lintujen esiintyminen ja torjunta Helsinki-Vantaan lentoasemalla 1981, 89 s.***

***Rauhala, T. 1983: Lintujen esiintyminen ja torjunta Helsinki-Vantaan lentoasemalla ja sen ympäristössä 1982, 18 s.***

***Paakkinen, M. 1984: Lintujen esiintyminen ja torjunta Helsinki-Vantaan lentoasemalla ja sen ympäristössä 1983, 36 s.***

***Kunttu, H. 1985: Lintujen esiintyminen ja torjunta Helsinki-Vantaan lentoasemalla 1984, 26 s.***

***Kauppinen, S. 1986: Lintujen esiintyminen ja torjunta Helsinki-Vantaan lentoasemalla 1985, 25 s.***

***Julkunen, A. 1987: Lintujen esiintyminen ja torjunta Helsinki-Vantaan lentoasemalla 1986, 21 s.***

***Vickholm, J. & Julkunen, A. 1988: Lintujen esiintyminen ja torjunta Helsinki-Vantaan lentoasemalla 1987, 25 s.***

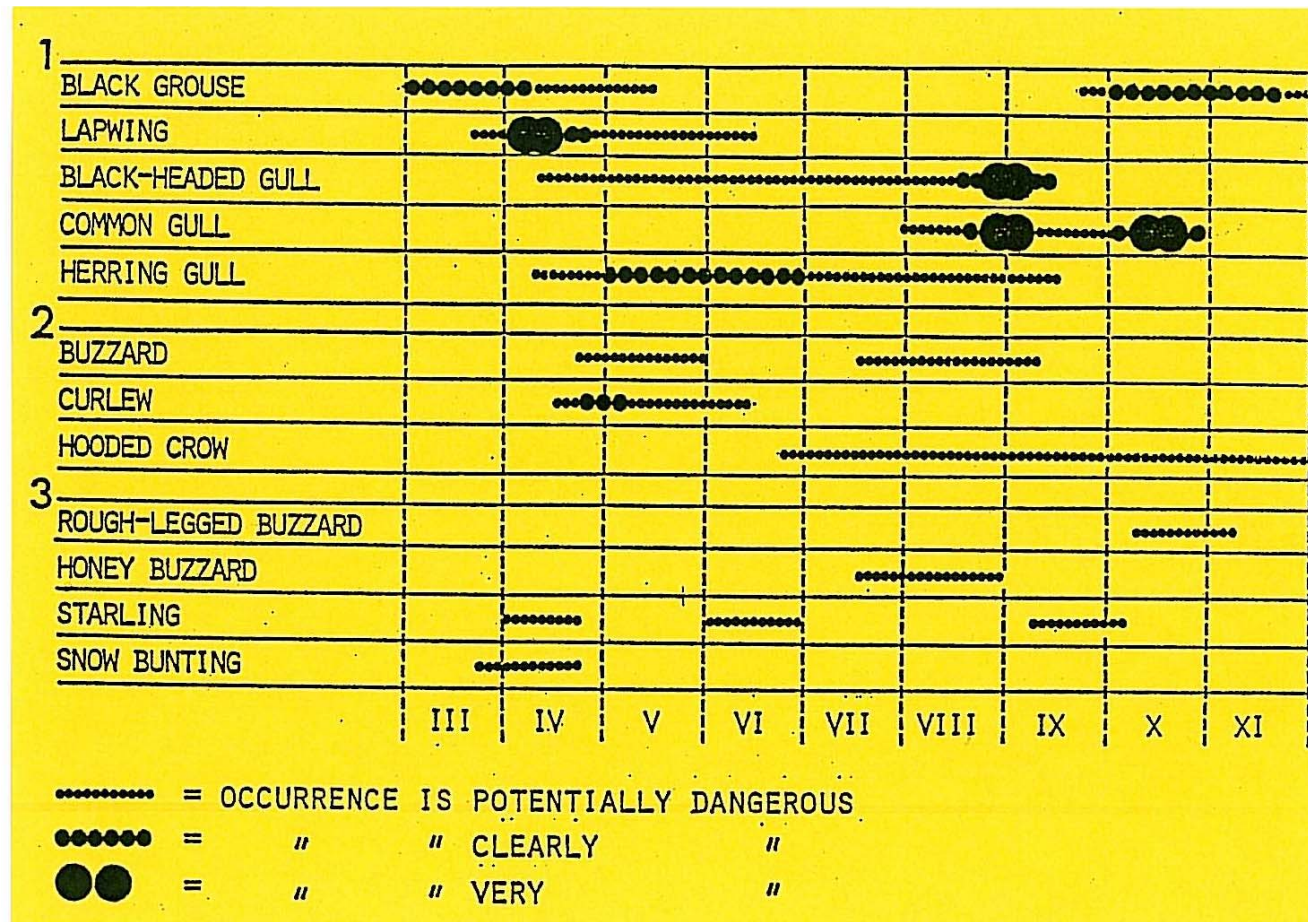
***Lindberg, R., Piipari, S. & Turtola, J. 1994: Lintujen torjunta Helsinki-Vantaan lentoasemalla 1988 – 1993, 23 s.***

***Niemi, M. 2005: Eläimet lentoturvallisuusriskinä ja eläinvahinkojen vähentäminen Helsinki-Vantaan lentokentällä, 41 s.***

***Koivisto, A. 2007: Eläinten aiheuttaman lentoturvallisuusriskin pienentäminen Helsinki-Vantaan lentokentällä, 39 s.***

***In total 406 pages (including short summaries)***

## Risk analysis (an example from 1981)



**Occurrence and hazardousness of twelve bird species at Helsinki-Vantaa Airport in March-November 1981 on the basis of dispersals and observations by the bird patrol. The bird species have been divided into three hazard categories.**

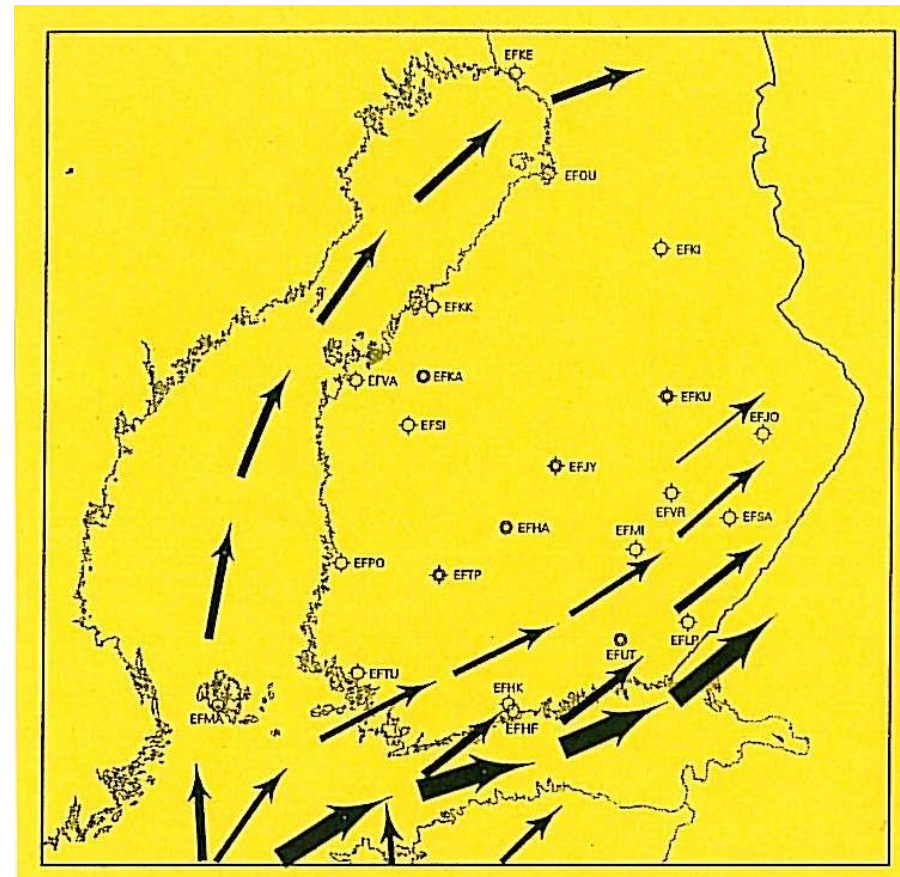
# Warning for a heavy migration of arctic birds

Visual observation + radar observation  
should result:

**a warning for heavy migration!**

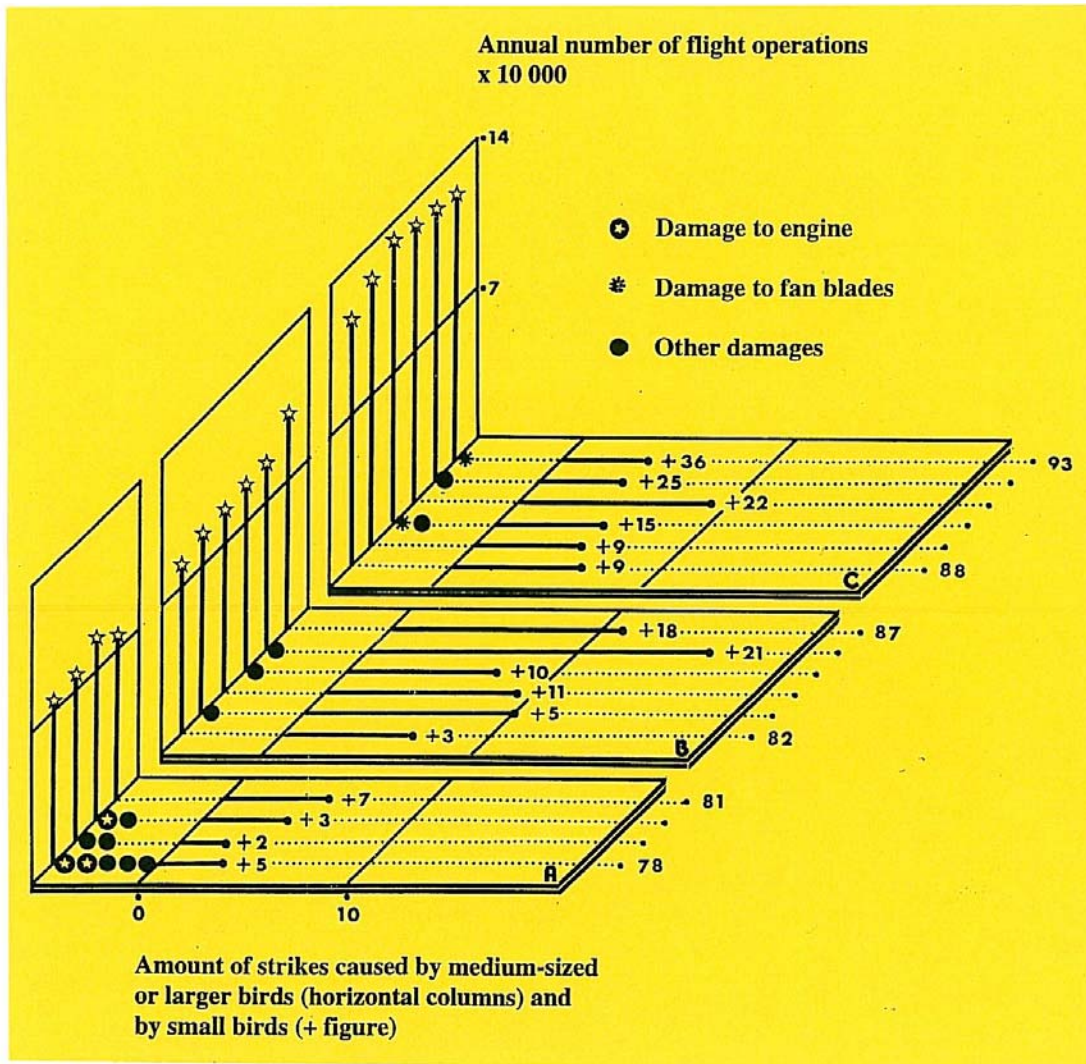


**Observing the migration of arctic birds  
in the archipelago of the Gulf of Finland**



**The arctic spring migration**

# Amount of flight operations and bird strikes at Helsinki-Vantaa Airport in 1978-93

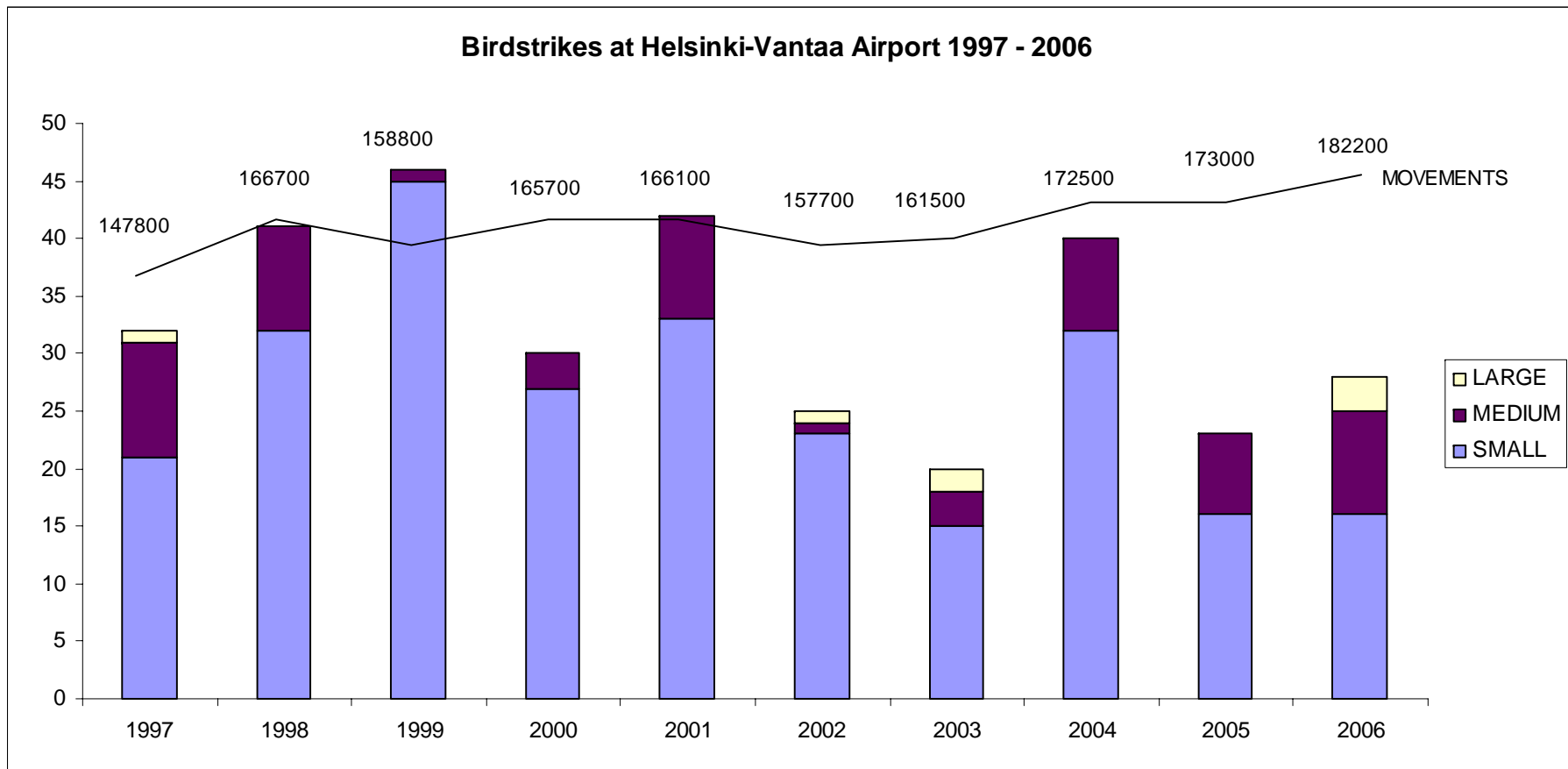


**A** = a period when pilots were not obliged to give a standardized report on the strikes.

**B** = the figures include both the strikes reported by the pilots and the cases where the only evidence was a dead bird found on runway.

**C** = only strikes reported by pilots.

# Amount of flight operations and bird strikes at Helsinki-Vantaa Airport in 1997-2006



## Conclusions

*During 30 years several radical measures have been carried out at the airport in order to change the environment in such a way that it will not attract birds.*

*In order to reduce the number of gulls in the surrounding regions of the airport the co-operation with the near-by towns has continued regularly.*

*Bird patrolling at the airport has been changed step by step from an ornithological expertise to a practical bird control work.*

*Bird strike statistics from the years 1978-2006 show that in eight strikes damages were caused to the fan blades or the engine at the airport.*

*The national bird strike committee has had regular meetings at least twice a year and followed closely the bird control work carried out at the Helsinki-Vantaa Airport, the main international airport of Finland. Suggestions have been made to improve, in particular, the co-operation with radar stations in order to give warnings for heavy bird activity.*