



NORDIC BIRD STRIKE ADVISORY GROUP
(NBSAG)

Nordic Birdstrike Advisory Group (NBSAG) meeting in Helsinki, Finland, 13.-14. 2018

Agenda:

13.6.2018

- 9.00 – 9.15 Opening the meeting
- 9.15 – 9.45 Who are we? Short introduction
- 9.45 – 10.30 News from Finland
- 10.30 – 10.45 Coffee break
- 10.45 – 11.30 News from Norway
- 11.30 – 12.15 News from Denmark
- 12.15 – 13.15 Lunch
- 13.15 – 14.00 News from Sweden
- 14.00 – 14.45 News from Faroe Island
- 14.45 – 15.15 Coffee break
- 15.15 – 17.00 Open discussion about interesting topics popped up
- 19.00 – Dinner

14.6.2018

- 9.00 – 9.30 Olavi Stenman: *"Half a century of bird strike prevention work in Europe"*
- 10.30 – 10.50 Jarmo Koistinen: *"Automatic diagnosis and quantification of bird migration with weather radars"*
- 10.50 – 11.10 Coffee break
- 11.10 – 11.30 Riku Paloniitty: *"Helicopters and bird strikes"*
- 11.30 – 12.45 Lunch and time to check out hotel rooms
- 12.45 - 13.05 Kalle Rainio: *"The role of grass species in reducing vertebrate visits to airfields"*
- 13.05 – 13.25 News from WBA
- 13.25 – 14.00 Open discussion about interesting topics popped up
- 14.00 Next meeting and closing the meeting

Attendees:

Jukka-Pekka Nikolajeff	CAA Finland
Pentti Korkalainen	CAA Finland
Jussi Sorsa	CAA Finland
Juha Joutsen	Finavia, EFHK, Finland
Ville Kempainen	Finnair, Finland
Visa Eronen	Finnish Wildlife Agency, Finland
Jarmo Koistinen	Finnish Meteorological Institute, Finland
Riku Paloniitty	Finnish Border Guards, Finland
Jussi Ekman	Finnair, Finland
Kalle Rainio	Finland
Nadja Weissaupt	Finnish Meteorological Institute, Finland
Linda Kartano	Finavia, EFHK, Finland
Olavi Stenman	Finland
Clas-Göran Malm	Swedish Airforce, Sweden

Martin Ekenstierna	Swedavia AB MMX, Sweden
Jens Erik Ditlevsen	CAA Denmark
Per Hansen	Danish Airforce, Denmark
Michael Olsen	Copenhagen airport, Denmark
Christian Kierulf Aas	Natural History Museum, Oslo Uni, Norway
Jan Andersen	Avinor, Norway
Rúni Emil Johansen	Vagar Airport, Faroe Island

1. Welcome

- Jukka-Pekka Nikolajeff (FIN) opened the 17th NBSAG meeting and introduced the agenda and timetable.

2. Introduction

- Participants introduced themselves and their organizations

3. Finland, Jukka-Pekka Nikolajeff

- Presentation on webpage (Appendix 1, NBSAG2018 Trafi)
- Comments and discussion
 - Information on economic impacts to airlines that was shown in the presentation raised lively discussion
 - Usually economic information is considered sensitive and rarely published. This kind of information was first time published in this forum.
 - NO: Some effort has been made in Norway to collect such information with no success.
 - It was proposed that NBSAG could make a recommendation to collect information on economical impacts of bird strikes (BS) to airlines.
 - The meeting agreed that Finland will make a draft proposal to gather economical information of BS impacts as an annex to this memo
 - A final decision to whom the proposal should be addressed was not yet made. Suggestions were EASA, Nordic CAAs, ICAO
 - DK: Denmark Cooperation with operators could be better
 - information is difficult to get
 - EKCH (Copenhagen airport) has DNA tests done to determine and confirm species so that prevention measures can be targeted to correct species.
 - Traditional measures are hardly in use
 - Feathers and parts of birds are occasionally sent to a museum of natural science to be inspected.
 - DNA tests are more affordable if multiple test are done at the same time (5-10 test=25-50€)
 - If tested biannually cost may be 20€/sample
 - one-off test may be even 10 times more expensive
 - special care must be taken to prevent the contamination of the sample
 - Age cannot be defined by a DNA test
 - all measures taken to define the species give information to aerodromes to plan and perform mitigation actions
 - FI: Finland uses traditional measures in species and size definition
 - University of Turku has capability of a DNA tests

- DNA test used in wolf studies
- results in 1 week =>1000€/test
- larger test batch =>100€/test
- NO: Norway uses the expertise of natural history museum
 - Cost estimations in line with Denmark and Finland

4. Norway, Jan Andersen and Christian Kierulf Aas

- Presentation on webpage (Appendix 2A, News from Norway NBSAG Helsinki 2018 and Appendix 2B, Birdstrikes RNORAF 2017))
- Comments and discussion
 - ENGM (Oslo- Gardermoen) has own reporting system and only few reports
 - There were 417 bird strikes in 2017
 - Aim to connect operations to statistics
 - in test phase
 - identification based on pictures and feathers
 - DNA test has been done to airforce`s use
 - Strive to make 5 riskanalyse /year to aerodromes
 - Ornithological visits to aerodromes
 - Aerodrome birdstrike control
 - Bird control seminar (annual)
 - no goose strikes 2017-2018
 - Spreading of parasite used in Norway, was efficient 7-8 years, effect dried up.
 - no more manufacturing
 - approval of similar product took years and now the product is defined as natural material
 - now in use again
 - Norway has also a Camden Chaffers problem because they wheedle gulls to the aerodrome
 - SWE, Malmö aerodrome has had also problems with insects, butterflies and beetles. Spraying resolved the problem
 - DK has plans to restrict the goose population. In addition to aviation also farming has challenges with geese.

5. Denmark, Jens Erik Ditlevsen and Per Hansen

- Presentation on webpage (Appendix 3A, DK statistics 2017 and Appendix 3B, DK New guidance)
- Comments and discussion
 - Near CPH there is an island with a large bird population. The aim is to keep the birds locally on the island and prevent them to fly in the aerodrome airspace.
 - Action model is based on risk assessment and estimated to be the safest way to deal with the problem.
 - All actions and plans are carefully documented as evidence for later use.
 - Meeting discussed about the low number of small and medium sized birds in Danish reports and the interpretation was that the statistics were placed in the “non-specified” class

- DK is preparing guide to aerodromes based on EU139/2014 and gather feedback on the functionality of the guidelines.
 - main focus on risk assessments
- DK is preparing “Goose management system”
 - difficult and laborious task
 - only few goose strikes
- DK BS-group meeting twice a year
- EKCH (Copenhagen airport) has a fulltime wildlife consultant and smaller aerodromes use shared part-time consults.
- EKCH has a good understanding of the municipal developments in the vicinity of the aerodrome and can give expert opinions and those opinions are taken into account.
- **DK MIL (Per Hansen, Appendix 3C, RDAF presentation)**
 - low number of bird strikes => funding of proactive measures difficult
 - Wild life consultant= ranger (15 years' experience)
 - 2-day seminar every year (aim to change information)
 - problem species: Geese, swallow, gulls, hare, deer, badger
 - FLIR (Forward Looking Infrared) in use
 - expensive and if for military use => even more expensive
 - From the USA and only used during the nights
 - Green Lasers tested (TOMTOM) big units, too much reflection effects
 - ND 3x50 Subzero=> good experiences
 - usable distance 400-500 meters
 - originally meant for hunting purposes
 - Purpose is to use as many methods as possible in order to minimize risks
 - Gas guns (different sizes, situated on trailers)
 - 11kg gas is enough for a year in small remote controlled guns (even if ample use)
 - Thermal sights (temporary license to the end of 2019)
 - ASCEND XYZ
 - expectations positive
 - costs 800€/month
 - satellite pictures update twice a week
 - possibility to produce risk assessment
 - experiences of the monthly report good
 - not use in towers
 - if needed, agreement can be cancelled in a month
 - Military aerodromes have 15-years vegetation plan
 - use of endophytes (possible starting 8/2018)
 - Trees on safety areas cut down
 - Daily foraging place of geese removed by guiding people walk through the area for a 2-3 weeks period.
 - Risk management
 - every aerodrome has a matrix where the risk animals are listed and classified

6. Sweden, Martin Ekenstierna

- Presentation on webpage (Appendix 4, NBSAG 2018 SWE)
- Comments and discussions
 - JOB WELL DONE= SELDOM REWARDED
 - appreciation towards BS-work should be higher
 - incidents= all reported information (not only strikes)
 - Earlier two daily inspections ,from 2013 constant surveillance
 - 9/2015 ATIS-practices revised
 - inspector notifies tower
 - Based on reports a peak of strikes has moved from August/September to July/August.
 - No knowledge of the reason
 - weather has not been noticed to be a clear factor to bird strikes
 - FIN comment: exceptionally wet summer 2017=>lots of food on aerodromes=> record amount of bird strikes
 - Malmö aerodrome has developed their own applied risk assessment software
 - presentation of matrix and reporting methods
 - training programme
 - instruction for identifying species (picture)
 - modified Smith&Wesson revolver used in expulsion
 - found most durable
 - no need for special permit for guns used in expulsion
 - ESIB (Sätenäs aerodrome)
 - Geese fly daily over airport to farmed areas
 - old grass/ mowed 1-2 times a year
 - southwest wind bring bugs from waterbodies to aerodrome
 - Plan to change the biotype of the aerodrome
 - cultivation of the soil
 - plowed with a plate plough
 - fertilized
 - whitewashed
 - situation improved significantly in two years (swallows left the aerodrome)
 - number of small birds increased
 - crop rotation was put into operation (same method as the nearby farmers use)
 - During the cultivation birds are under surveillance and if necessary they will be expelled
 - The number of birds reduced significantly
 - no extra cost to aerodrome (farmers take care of the cost)

7. Faroe islands, Rúni Emil Johansen

- Presentation on webpage (Appendix 5, Vagar Airport – Helsinki 2018)
- Comments and discussions
 - Near aerodrome the professional fishermen are required to keep fish under cover or otherwise shield containers to mitigate attraction to gulls

- invest in training and equipment
- improvement of drainage
- rescue chief is responsible for the expulsion, elimination and documentation

8. History of European BS activities, Olavi Stenman

- Presentation on webpage (Appendix 6, NBSAG2018 Olavi esitelmä)
- Comments and discussions
 - The current meeting is 17th NBSAG meeting
 - The Green Booklet, "Some measures used in different countries for reduction of bird strike risk around airports"
 - 1st edition issued by the Aerodrome Working Group in 1979
 - 4th edition issued 1990
 - 2012 working group published only abstract and announced that IBSC will be run down.
 - Proposal of updating the Nordic Green Booklet was made and endorsed
 - FIN has scanned the 4th issue and saved in on the NBSAG webpage
 - Future of BS work
 - Bird strike prevention by itself is important
 - Nordic cooperation was found important and it is necessary to continue and develop this cooperation.
 - The function and operation of the new WBSA is not clear at the moment.

9. Use of Weather radars in Aviation, Jarmo Koistinen

- Presentation on webpage (Appendix 7, BirdMigrationWeatherRadars_June2018_Koistinen)
- Comments and discussions
 - Large insect occurrence can be detected on radar and insects can also be regarded as an indicator of wind direction and speed.
 - Such insect occurrences can also be a hazard to aviation
 - First Nordic radar data exchange was in NORAD
 - now possible via EU-Balrad
 - system gives the altitude of the object from ground
 - Radar expresses the intensity=> two big birds can have the same intensity as a flock of small birds
 - Analyzing based on experience is slow and that is why automatic interpretation methods are under progress
 - Can be taken into use when a sufficient reliability level has been achieved.

10. Helicopters and birdstrikes, Riku Paloniitty

- Presentation on webpage (Appendix 8, NBSAG2018_Raja)
- Comments and discussions

- When a bird strike occurs to Finnish Border Guard helicopter, the procedure is to land immediately after bird strike and inspect the copter and possible damages.
- In Finland an operation with two pilots has been found safer (except Koala)
- No occurrences with eagles (eagles don't dodge)
- Based on information from Switzerland eagles have defended their territory and attacked helicopters

11. The role of off grass species in reducing vertebrate visits to airfields, Kalle Rainio (Appendix 9, The role of grass species in reducing vertebrate)

- Presentation on webpage
- Comments and discussions
 - No camera surveillance on the point of comparison area
 - Game cameras were used in the study
 - 3 pictures=> 30sec pause=> 3 pictures
 - pictures recorded in memory cards, précised manually, no internet connection
 - Endophytes were not used in this study
 - In Denmark tests on three airports and follow up organized via radar
 - Endophytes have impact on insects and so small birds can't find food.
 - Endophyte is a natural product, nontoxic, tastes bad.

12. News from World Birdstrike Association WBA, behalf of Albert de Hoon, J-P Nikolajeff (Appendix 10, 2018-06-11, WBA ppt at NBSAG meeting Helsinki June 2018)

13. Any Other Business

- Next meeting:
 - Swedish attendees proposed that Sweden could host the next meeting in 2020.
 - The meeting approved proposal.
- J-P Nikolajeff thanked the attendees for a fruitful meeting and ended the meeting.