

NORDIC BIRD STRIKE ADVISORY GROUP (NBSAG)
17th meeting, Helsinki 13-14 June 2018

Half a century of bird strike prevention in Europe

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Observation of marine mammals and seabirds

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Abstract

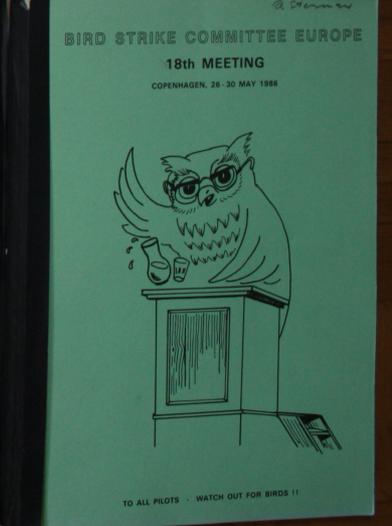
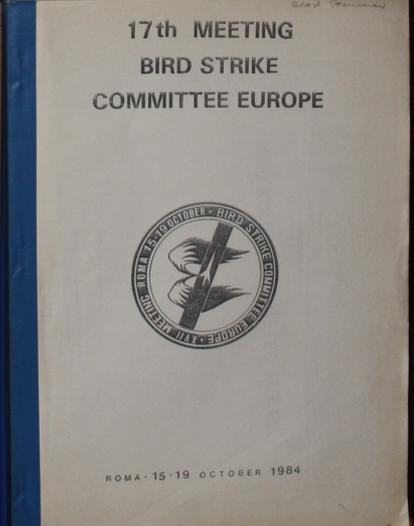
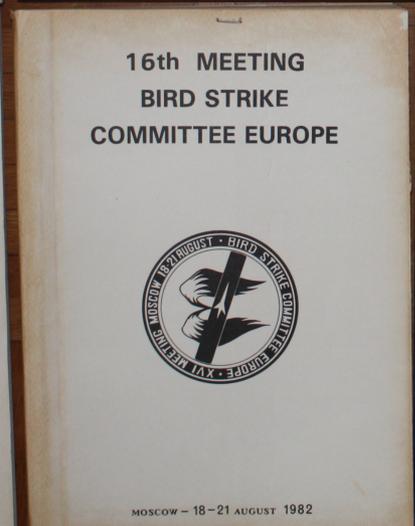
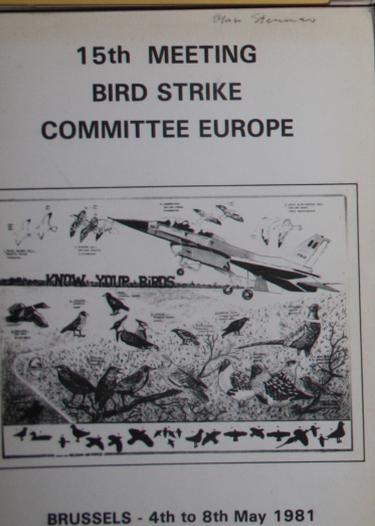
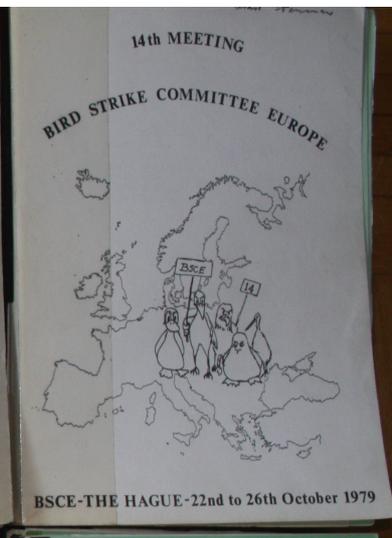
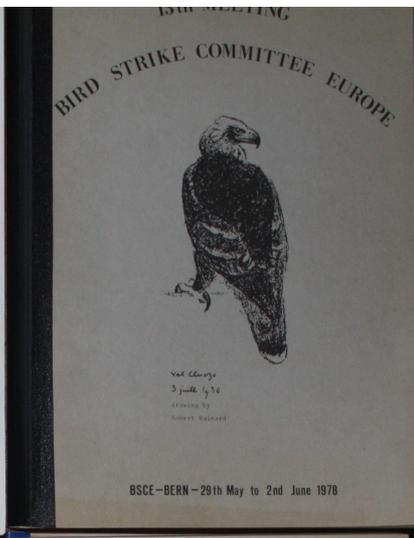
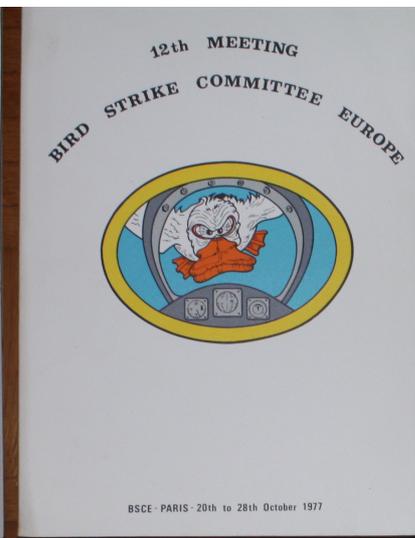
The presentation gives mostly information on the work of the Bird Strike Committee Europe (BSCE) and of the International Bird Strike Committee (IBSC) with the help of meeting proceedings and different types of other publications on the item. The meetings have been divided into different working groups. Some of these are named in different ways during the half a century. The main task of the meetings has been to give recommendations on the basis of research papers. Some information is given also about the history of the Nordic Bird Strike Advisory Group (NBSAG).

Bird Strike Committee Europe (BSCE) 1966-1975

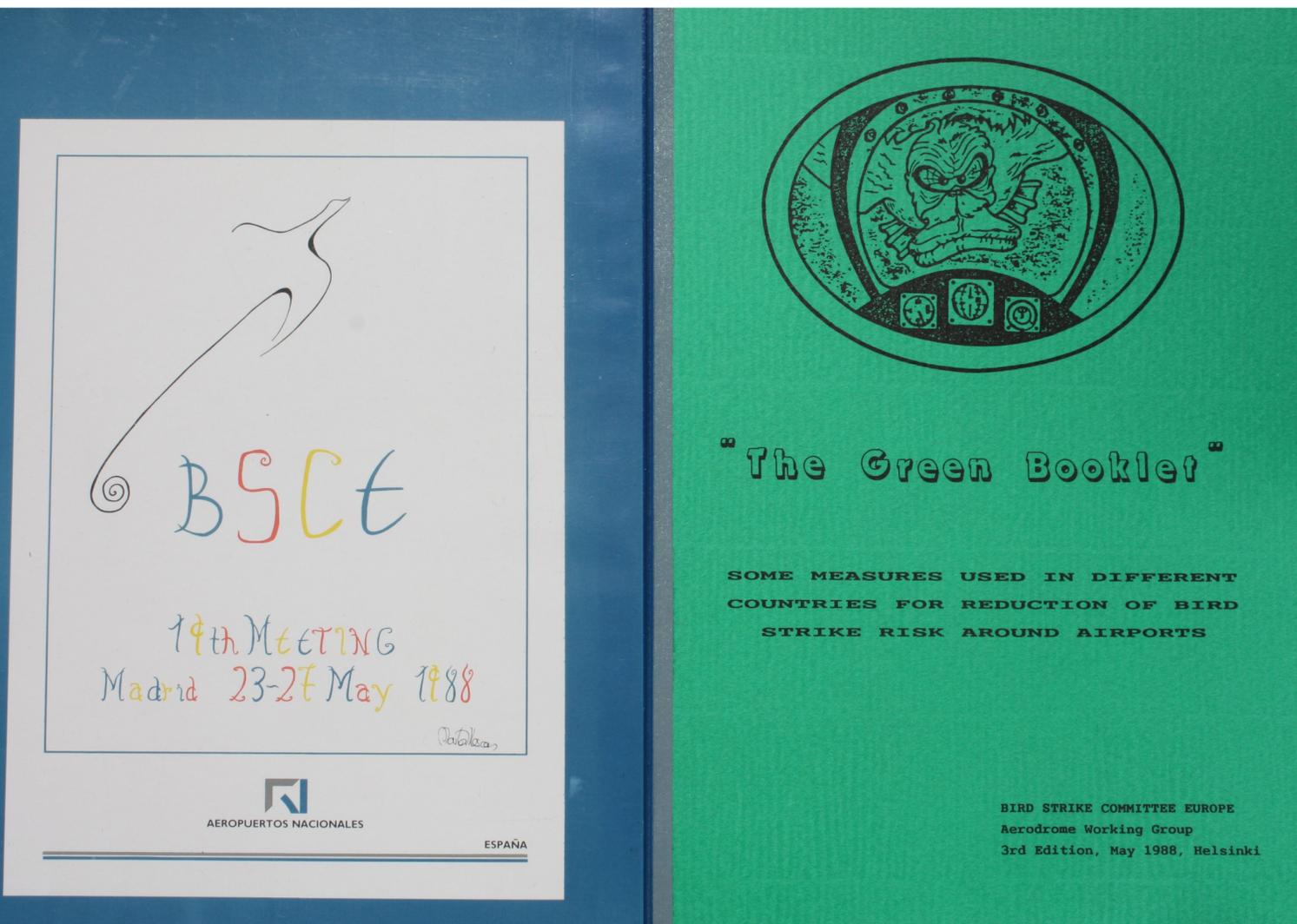
(From the paper of Vital Ferry: BSCE 1979)

- 1. 1966 Frankfurt am Main**
 - * **Representatives of airforces from Europe invited**
- 2. 1967 Den Haag**
 - * **23 participants, 5 lectures**
 - * **Working group Bird/Radar/Weather established**
- 3. 1968 Brussels**
 - * **40 participants, 13 lectures, 1 film**
 - * **Working group Bird Movement established**
- 4. 1969 Den Haag**
 - * **29 participants, 12 lectures**
- 5. 1970 Köln**
 - * **36 participants, 6 lectures, 3 films**
 - * **NATO grant sought**
 - * **Transmission working group established**
- 6. 1971 Copenhagen**
 - * **46 participants, 14 lectures, 1 film**
 - * **Radar working group officially formed**
- 7. 1972 London**
 - * **57 participants, 13 lectures**
 - * **Aerodrome working group and Analysis working group formed**
- 8. 1973 Paris**
 - * **70 participants, 16 lectures, 1 film**
 - * **Reports of activities of BSCE and working groups**
 - * **Working group Transmission changed: Communications**
- 9. 1974 Frankfurt am Main**
 - * **71 participants, 16 lectures**
- 10. 1975 Stockholm**
 - * **81 participants, 23 lectures**
 - * **Structural testing working group formed**

The proceedings of the eight meetings of the Bird Strike Committee Europe (BSCE) from the years 1976 - 1986. The size of the books was A-4 and the amount of working papers comprised totally about 2000 pages. In addition more than one hundred recommendations were made on the basis of the research results presented in the working papers.



The proceeding of the 19th BSCE meeting, Madrid 1988, was given in a solid loose-leaf covers. It contained 32 working papers. In the meeting also the 3rd edition of "The Green Booklet" was published after the revision work conducted in Finland.



The proceeding was published for the first time in a book-form after the Helsinki meeting 1990. The London meeting 1996 worked already under the name International Bird Strike Committee (IBSC). During these eight meetings 487 working papers, in total about 4000 pages, were presented.



The last IBSC-meeting was hold in Stavanger, Norway, in 2012. It was preceded by two meetings outside Europe, Brasil 2008 and Australia 2010. The 51 abstracts from the Stavanger meeting were given in a booklet. After the meeting a new organization World Birdstrike Association (WBA) was founded.



A German series "Vogel und Luftverkehr" has taken into account of the research results from the BSCE proceedings. On the other hand it has given a lot of knowledge about the bird strike prevention work done in Germany.

**VOGEL
UND
LUFTVERKEHR**
Informationen zum Vogelschlagproblem



16. Jahrgang - 2. Halbjahr 1996

**Vogel
und
Luftverkehr**



23. Jahrgang – 1. Halbjahr 2003

Many special papers on the bird strike prevention work have been published by the members of BSCE and IBSC or by the institutions they are working for.



The role of Israel has been very important for the research of the bird migration between Europe and Africa. In addition Israel has been able to build a co-operation with the neighbour countries in the field of bird strike prevention, in particularly for the safety of the military low level flights.

African International Seminar on Bird Migration
 Research, Conservation, Education & Flight Safety
 Israel, April 29 - May 11, 2001

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הציפורים המודדות אינן יודעות גבולות
Migrating Birds Know No Boundaries
 الطيور المهاجرة لا تعترف بالحدود

International Seminar on Birds and Flight Safety in the Middle East
 Israel, April 25-29, 1999

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The bird strike work specialists from USA and Canada have traditionally given very important contributions for BSCE and IBSC. On the other hand, the colleagues from Europe have received invitations to their bird strike meetings, which have always given new and important information on the item.

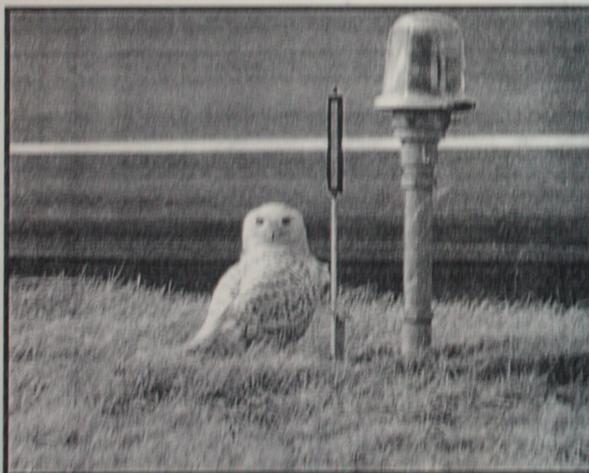
Dean Stearns /

Seventh Annual Meeting of
BIRD STRIKE COMMITTEE -

"Bird strike prevention: blending old and new technology"

Ramada Inn
Logan Int'l Airport, Boston, Massachusetts

August 12-14, 1997



Snowy owl beside a taxiway at Logan International Airport

Photo by Jim Powers (IBSC)

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BIRD STRIKE USA

The fourth edition of "The Green Booklet" was published in the BSCE-meeting, Helsinki 1990. It had been done after the revision work conducted again in Finland.



"The Green Booklet"

**SOME MEASURES USED IN DIFFERENT
COUNTRIES FOR REDUCTION OF BIRD
STRIKE RISK AROUND AIRPORTS**

Sixty years ago the barnacle geese were among the rearest migrating birds in the Baltic area. Now their number is huge during the arctic migration. The local breeding population has also increased to a level that causes problems. For instance Helsinki-Vantaa Airport has given a zero tolerance for the species already in the early 2000's.



Photo: Olavi Stenman

The lesser black-backed gull was recarded as a harmful bird in the Gulf of Finland sixty years ago because of the damage that it caused among the ducklings of the breeding water fowl. Now the species is known to suffer because of the environmental toxins in fishes both in the Baltic and in the East Africa, the wintering area of the species. Therefore special attention must be taken with lesser black-backed gulls in the strike prevention work on the airfields in Finland.



Photo: Olavi Stenman

Advancements in measures of the working groups of BSCE and IBSC

Aerodrome

Both ecological and scaring methods have been described in "The Green Booklet" edited according to the information received from different countries. A particular attention has continued in order to close garbage dumps near airports and to change the environment of the airfields to be unpleasant for birds. Bird patrol has remained as a fundamental working method by using many kind of constantly developed devices, among them laser equipments and bird radars.

Statistics

Detailed bird strike statistics have been published yearly in many countries, covering huge numbers of cases on civil and military flights. A special attention has been paid to describe the fatal accidents. The difference between impacts caused by one or many birds on aircraft has been pointed out. Also the aim has been and still is to make statistics in a manner that gives a possibility for better comparisons. The honorary chairman of BSCE, John Thorpe from United Kingdom, has contributed the working group with statistics without interruption since the early years of BSCE.

Bird movement/Radar

To make a bird avoidance model (BAM) both visual and radar observations have been used together with meteorological data. The mass migration of birds has been a research target, for instance, in the Baltic area and in Israel. To warn air traffic, meteorological forecasts have been given with the help of a weather radar. Using different types of radars has been traditionally used in the Western Europe and in Russia. Among the several specialists of radar ornithology, in particularly Luit S. Buurma from the Netherlands, should be mentioned because of his continuous participation in the working group also since the early years of BSCE.

Advancements in measures of the working groups of BSCE and IBSC (contin.)

Structural testing

Several members of BSCE and IBSC, representing aircraft industries both in Europe and in USA, have often given information on item with papers that have lot of highest technical data. They have tried to show to laymen how an impact of a bird causes damage on different part of an aircraft and how the effect could be minimised.

Feather identification

The big feather collections in different museums both in Europe and USA have formed the basis for the identification work. The methods for investigating feathers have developed from a visual comparison to the microscopic analyses of the microstructures or to the keratin protein electrophoresis. Finally the DNA-method has been used, if needed.

Communication and flight procedures

In many meetings there has been lot of discussion on the item that is very important for the pilots. The aim has been to standardize the information about birds to the pilots, to help them to make best decisions for avoiding an eventual threat caused by birds.

A brief history of the Nordic Bird Strike Advisory Group (NBSAG)

After two less formal meetings, Sweden 1993 and Oslo 1994, NBSAG was founded in Helsinki in April 1995. The next meetings were kept as follows: 2. Reykjavik in October 1995, 3. Copenhagen 1996, 4. Oslo 1997, 5. Oslo 2000, 6. Kalmar 2001, 7. Helsinki 2002, 8. Keflavik 2003, 9. Billund 2004, 10. Stavanger 2005, 11. Stockholm 2006, 12. Helsinki 2007, 13. Nuuk 2009, 14. Reykjavik 2011, 15. Copenhagen 2014 and 16. Trondheim 2016. Now we have in Helsinki the meeting # 17.

Some important results from the meetings (in addition to the highlights of feeling to be a Nordic team both on field and in the meeting room):

After the discussion that was made about standardisation of bird strike statistics, Mogens Hansen from Denmark and Christian K. Aas from Norway presented carefully made data in the meeting of Kalmar.

The presentation of the Hawk crash in the western coast of Finland, September 2006, was made in the help of an video animation. The accident happened during the time when the forcast of arctic migration given by Jarmo Koistinen by means of weather radar was "heavy".

Birdbook of Martin Ekenstierna giving model on risk assesment for bird strike prevention work on airports.

The use of bird radar in the Trondheim airport.

Finally two aphorisms:

***”To create solutions of a rather more bird-evasive
than a destructive kind.”***

***(Mrs. Smit-Kroes in her opening speech for the BSCE-meeting
in the Hague 1979.)***

***”Chasser le plus possible tout en tuant le moins
possible”***

(A French hunter P. Malbec?)